RESIDENTIAL DEVELOPMENT COUNTESS ROAD, KILLARNEY, CO. KERRY

Natura Impact Statement

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Document Control Sheet

Client	Dipharma Unlimited Company
Project Title	Countess Road LRD
Document Title	Natura Impact Statement
Project Number	WS0950
Document No.	WS0950_CountessRoad_NIS_FINAL_02

Revision	Status	Author	Review	Approved	Date
00	DRAFT	PC	CD	PC	28/11/2025
01	FINAL		PC	PC	12/05/2026
02	FINAL		PC	PC	02/06/2026
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Contents

1 INTRODUCTION 1
1.1 Statement of Authority 1
1.2 Statutory Context 2
2 METHODOLOGY 3
2.1 Appropriate Assessment 3
2.2 Baseline Ecological Surveys 5
3 APPROPRIATE ASSESSMENT SCREENING 6
3.1 Project Description 6
3.2 Existing Ecological environment 11
3.3 Is the Project Necessary to the Management of European Sites 21
3.4 Identification of European Sites 22
3.5 Identification and Description of Potential Impacts 31
3.6 Direct, Indirect or Secondary Impacts 32
3.7 Outcome of Screening 33
4 STAGE 2 APPROPRIATE ASSESSMENT 36
4.1 Killarney National Park, MacGillycuddy's Reeks and Caragh River Catchment SAC .36
4.2 Potential for Significant Effects 37
4.3 Assessment of Impact Significance 37
5 MITIGATION 56
5.1 Mitigation Relating to Lesser Horseshoe Bat 56
5.2 Water Quality Mitigation 58
6 IN-COMBINATION / CUMULATIVE IMPACTS 65
6.1 Review of Existing Threats and Pressures of SAC 65
6.2 Review of County Development Plan and Local Area Plan 66
6.3 Other Local Development Projects 67
7 CONCLUSION 70
8 REFERENCES 71

List of Tables

Table 1: Text of selected target notes collected during field survey. 15
Table 2: Summary of European Sites within 5km of the proposed development site..... 22
Table 3: Qualifying interests of Killarney National Park, MacGillycuddy's Reeks and Caragh River Catchment SAC (source: www.npws.ie)..... 26
Table 4: Qualifying interests of Sheheree (Ardagh) Bog SAC (source: www.npws.ie)..... 29
Table 5: Special conservation interests of the Killarney National Park SPA (source: www.npws.ie) 31
Table 6: Summary of AA Screening of proposed residential development at Countess Road, Killarney..... 34
Table 7: Site Specific Conservation Objectives (SSCOs) attributes and targets relevant to Lesser Horseshoe Bat NPWS(2017)..... 38
Table 8: Potential for likely significant effects on the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC in the absence of mitigation. 43
Table 9: Assessment of impacts on relevant Qualifying Interests when mitigation measures are considered..... 62
Table 10: Potential for proposed development to contribute cumulatively to existing identified threats and pressures reported for the European site. 65
Table 11: Assessment of potential in-combination effects with other projects..... 67

List of Figures

Figure 1: Overview of the landscape master plan for the site. 8
Figure 2: Habitat map of the proposed residential development site at Drumhale, Killarney..... 14
Figure 3: European sites within a 5km radius of the proposed development site. 24

List of Appendices

APPENDIX I – NPWS Published Site Descriptions
APPENDIX II – Bat Survey Report (Greenleaf Ecology)

1 INTRODUCTION

*Wetland Surveys Ireland Lt*d. were commissioned by Dipharma Unlimited Company to determine the potential impacts, if any, of a newly proposed Residential Development at Countess Road, Dromhale, Killarney, County Kerry on sites designated as European conservation areas known as Natura 2000 sites (hereafter referred to as European sites).

The proposed development will consist of the construction of a residential development of 259 no. residential units with ancillary single storey creche, landscaping and all associated site development works. The proposed development includes the demolition of 2 no. existing two-storey semi-detached dwelling houses and an existing ruinous structure on the site and construction of 103 no. two storey houses (3-bed units), comprising of 27 no. terraced units, 62 no. end of terrace units, and 14 no. side entry units, 82 no. courtyard apartment units over 2 no. storeys (42 no. 1-bed units, 40 no. 2-bed units), and 74 no. apartment units (34 no. 1-bed units, 40 no. 2-bed units) in 2 no. part 3 storey and part 4 storey blocks.

Vehicular access to the proposed development will be via one entrance from Countess Road (L3904) to the north, with the entrance design including improvement works on the public road inclusive of a raised crossing point. The design includes pedestrian/cycle infrastructure to/from Countess Road and internally within the development site and to adjoining areas.

Ancillary site works include car parking, provision of bicycle parking and bin storage facilities serving the proposed apartment/courtyard apartment buildings and creche, 2 no. ESB substations, landscaping, water services and drainage infrastructure (including foul and storm network upgrades in Countess Grove), and all associated site development works. The proposed development also provides for the demolition of existing site boundary walls along Countess Road.

The nearest European sites to the proposed development are the Killarney National Park, Macgillycuddy's Reeks And Caragh River Catchment SAC (NPWS Site Code: 000365) located at its nearest point ca 500m to the west of the proposed development site and the Killarney National Park SPA (NPWS Site Code: 004038) also located ca 500m to the west of the proposed development site. A third European site, Sheheree (Ardagh) Bog SAC (NPWS Site Code: 000382) also occurs within 5km of the proposed development site.

The aim of this assessment is to determine the appropriateness, or otherwise, of the proposed development in the context of the conservation objectives of relevant European sites. The potential impacts on biodiversity outside of European sites are assessed in the standalone Ecological Impact Assessment that accompanies the planning application.

1.1 Statement of Authority

This report was prepared by Dr Patrick Crushell, a professional ecologist with Wetland Surveys Ireland Ltd, a summary of his relevant qualifications and experience is presented below:

Name	Project role	Experience
Dr Patrick Crushell, BSc, MSc, PhD, C Ecol, MCIEEM	Director and Principal Ecologist	Patrick has been working in the area of nature conservation and ecological impact assessment for over twenty years. He has led the ecological team on a wide range development led projects across various sectors including large scale infrastructure (renewable energy, roads, water, energy) housing, and tourism. Patrick has expertise in the survey and assessment of semi-natural habitats throughout Ireland.

1.2 Statutory Context

This Natura Impact Statement has been prepared in accordance with the European Commission Methodological Guidance on the provision of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC (European Commission 2002, 2021), the European Commission Guidance Managing Natura 2000 Sites (European Commission 2018) and with reference to the Department of the Environment and Heritage and Local Government guidance on Appropriate Assessment (AA) of plans and projects in Ireland (DEHLG 2009) and guidance from the Office of the Planning Regulator (OPR) (2021).

The EU Habitats Directive (92/43/EEC) provides the framework of legal protection for habitats and species of European importance. The directive provides the legislative means to establish a network of sites (known as the Natura 2000 network) throughout the EU with the objective of conserving habitats and species deemed to be of Community interest. These sites include Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Birds Directive (formally known as the Conservation of Wild Birds Directive 79/409/EEC).

Article 6(3) and 6(4) of the Habitats Directive lay down the procedure to be followed when planning new developments that might affect a Natura 2000 site. This stepwise procedure requires that a plan or project having a likely significant negative effect on a Natura 2000 site undergoes an 'Appropriate Assessment' to study these effects in detail and to see how they relate to the site's conservation objectives.

Depending on the findings of the Appropriate Assessment, the competent authority agrees to the plan or project as it stands if it has ascertained that it will not adversely affect the integrity of the site concerned.

However, should this assessment have determined that there will be an adverse effect it may require one or more of the following, depending on the degree of impact:

- specific mitigation measures are introduced to remove the negative effects;
- certain conditions are respected during the construction, operational or decommissioning phases of the project, again to remove the likelihood of negative effects or to reduce them to an insignificant level where they no longer affect the integrity of the site;
- feasible alternatives are explored instead.

In exceptional circumstances, a plan or project may still be allowed to go ahead under certain conditions, in spite of being assessed as having negative effects on the site provided the procedural safeguards laid down in the Habitats Directive are followed. This may be possible, for instance, if the plan or project is considered to be of overriding public interest and there are no alternatives available. In such cases, compensation measures will need to be implemented to ensure that the overall coherence of the Natura 2000 network is protected.

2 METHODOLOGY

2.1 Appropriate Assessment

This Natura Impact Statement has been prepared in accordance with the following guidance:

- *Appropriate Assessment of Plans and Projects in Ireland.* Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government, 2010.
- Assessment of plans and projects in relation to Natura 2000 sites – Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC. European Commission, 2021.
- *Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EECA* European Commission Environment DG, 2002.
- *Managing Natura 2000 sites: The Provisions of Article 6 of the Habitats Directive 92/43/EECA* European Commission, 2018.
- Office of the Planning Regulator (OPR) (2021). Practice Note PN01. Appropriate Assessment Screening for Development Management. Dublin.

There are three main stages involved in the Appropriate Assessment (AA) process (European Commission 2021). The outcome at each stage determines whether the next stage in the process is required. The following describes each of the stages:

Stage 1 – Screening

This is the first stage in the process and is carried out to determine the necessity for a more detailed Stage 2 Appropriate Assessment where the possibility of likely significant effects on European sites is identified. The following question needs to be addressed in the AA screening stage:

Is the project likely to have a significant effect, either individually or in-combination with other plans or projects, on European site(s) in view of the site's conservation objectives?

The following steps are involved in Stage 1 Screening:

- Description of the project / plan and site characteristics (existing environment)
- Determination of whether the project is directly connected with, or necessary to, the management of a Natura 2000 site
- Identification and description of European sites that could potentially be affected

- Identification and description of potential impacts
- Assessment of potential impacts
- Exclusion of sites where no likelihood of significant effects arising

Stage 2 – Appropriate Assessment
If there is a possibility of significant effects then the project must undergo Stage 2 Appropriate Assessment. The following question needs to be addressed in the Stage 2 Appropriate Assessment:

Will the project adversely affect the integrity of a European site(s) either individually or in-combination with other plans and projects in view of the site's conservation objectives?

This stage involves assessing the impact of the plan or project on the integrity of the European site, either alone or in combination with other plans or projects, with respect to the structure and function of the site and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts is carried out. If adequate mitigation is proposed to ensure no significant adverse effects on European sites, then the process may end at this stage. However, if there remains a significant effect on the integrity of a European site(s), then planning permission may not be granted and the process must proceed to Stage 3.

Stage 3 – Procedure under Article 6(4) Assessment where no Alternative Solutions Exist and where Adverse Impacts Remain
This final stage only comes into play if, despite a negative assessment, in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the project or plan should proceed. The plan or project process examines alternative ways of achieving the objectives of the plan or project that may avoid adverse impacts on the integrity of the European site. This is only possible if there are no alternative solutions, the imperative reasons of overriding public interest are duly justified, and if suitable compensatory measures are adopted to ensure that the overall coherence of the Natura 2000 network is protected.

The Habitats Directive promotes a hierarchy of avoidance, mitigation and compensatory measures. First, the project or plan should aim to avoid any impacts on European sites by identifying possible impacts early in the process and designing / writing the project or plan in order to avoid such impacts. Second, mitigation measures should be applied, if necessary, during the AA process to the point where no adverse impacts on the site(s) remain. If the project or plan is still likely to result in impacts on European sites, and no further practicable mitigation is possible, then it must be rejected. If no alternative solutions are identified and the plan is required for imperative reasons of overriding public interest (IROPI test) under Article 6(4) of the Habitats Directive, then compensation measures are required for any remaining adverse effect.

In the case of this Natura Impact Statement, it was found that the Project requires Stage 2 Appropriate Assessment as the likelihood of significant effects could not be ruled out at screening stage.

2.2 Baseline Ecological Surveys

This Natura Impact Statement was informed by both desktop and field-based surveys as outlined below.

2.2.1 Desktop Review and Consultation

A desktop review of existing datasets and published reports was undertaken. This review included reference the following resources:

- OSI Aerial photography mapping
- National Parks and Wildlife Service (NPWS) Data including; designated sites, conservation objectives, and habitats and species distribution
- National Biodiversity Data Centre (NBDC)
- Geological Survey Ireland (GSI) maps
- Environmental Protection Agency (EPA) catchment maps
- Other information sources and reports as referenced throughout the document
- A targeted desktop assessment relating to bat usage of the study area was undertaken to inform the standalone bat report (see report presented in Appendix II). The data search comprised the following information sources:
    - Collation of known bat records from within a 4km radius[1] of the site from the National Bat Database held by the National Biodiversity Data Centre (www.biodiversityireland.ie);
    - Review of Ordnance Survey mapping and aerial photography of the site and its environs; and
    - Records of European and nationally designated sites from within a 4km radius of the site where bats form part or all of the reason for designation

2.2.2 Field Surveys

The following targeted field surveys were undertaken to inform the existing ecological environment and potential connectivity with designated European sites:

- Multidisciplinary ecological walkover surveys of the development site were undertaken on the 26th of February and the 1st of November 2025. Methods followed during the multi-disciplinary survey are NRA (2009), observations on habitats, flora, and fauna occurring within the site were recorded. The habitats were assessed for their potential to support species of conservation concern. The outcome of the surveys informed the evaluation of the baseline ecological environment. Habitats were classified according to Fossitt (2000) and mapping was undertaken according to Smith *et al.* (2011).
- Bat surveys were undertaken by a bat specialist (Ms Karen Banks BSc, MCIEEM, Greenleaf Ecology) on various dates from June through September 2025 as described in the standalone Bat Survey Report that is also submitted as part of the application (see Appendix II). The surveys included the following:
    - Preliminary Ecological Appraisal

[1] A 4km radius search distance was selected to encompass records of bat roosts within Core Sustenance Zones (CSZ) of the study area for Irish species of bat. A CSZ refers to the area surrounding a communal bat roost within which habitat availability and quality will have a significant influence on the conservation status of the colony using the roost (Collins, 2016).

- Bat Roost Inspection Survey (Trees & Structures)
- Bat Roost Emergence Survey
- Bat Activity Survey

Further details on the survey approach taken during the bat surveys is in Appendix II.

3 APPROPRIATE ASSESSMENT SCREENING

3.1 Project Description

The proposed development will consist of the construction of a residential development of 259 no. residential units with ancillary single storey creche, landscaping and all associated site development works. The proposed development includes the demolition of 2 no. existing two-storey semi-detached dwelling houses and an existing ruinous structure on the site and construction of 103 no. two storey houses (3-bed units), comprising of 27 no. terraced units, 62 no. end of terrace units, and 14 no. side entry units, 82 no. courtyard apartment units over 2 no. storeys (42 no. 1-bed units, 40 no. 2-bed units), and 74 no. apartment units (34 no. 1-bed units, 40 no. 2-bed units) in 2 no. part 3 storey and part 4 storey blocks.

Vehicular access to the proposed development will be via one entrance from Countess Road (L3904) to the north, with the entrance design including improvement works on the public road inclusive of a raised crossing point. The design includes pedestrian/cycle infrastructure to/from Countess Road and internally within the development site and to adjoining areas.

Ancillary site works include car parking, provision of bicycle parking and bin storage facilities serving the proposed apartment/courtyard apartment buildings and creche, 2 no. ESB substations, landscaping, water services and drainage infrastructure (including foul and storm network upgrades in Countess Grove), and all associated site development works. The proposed development also provides for the demolition of existing site boundary walls along Countess Road.

Surface water runoff from the entire developed site will be conveyed through a proposed on-site network incorporating Sustainable Urban Drainage System (SuDS) features and will be attenuated and managed prior to final discharge at restricted predevelopment greenfield run-off rates (28.5 l/s). The on-site SuDS treatment train comprises source control (rainwater butts, tree pits), site control (swales, bioretention areas, hydrocarbon interceptors, silt traps) and regional control (lined attenuation tanks designed to the 1-in-100 year event with a 20% climate change allowance). Discharge from the site at the controlled outfall will be made to the public stormwater network. Two outfall options are under consideration in the Drainage Impact Assessment (DOSA Consulting Engineers, April 2026):

Option 1 (preferred): discharge to the existing Kerry County Council public stormwater network on Countess Road via the Countess Grove estate. The receiving waterbody is Lough Leane (within SAC 000365) under either of the two possible flow paths: (i) via Killarney WWTP for treatment under an EPA-issued wastewater discharge licence prior to discharge to the Folly Stream and thence Lough

Leane ca 1 km downstream of the WWTP outfall; or (ii) via a direct stormwater outfall to Lough Leane without WWTP treatment.

Option 2 (alternative): discharge to an existing 600mm public stormwater pipe traversing the site, which conveys flows southwards via adjoining lands and discharges to the River Flesk (within SAC 000365) ca 650m to the south of the site.

The on-site drainage infrastructure is identical under both options; the difference is the receiving public network. The new connection to the chosen public stormwater network will be made at the end of the construction phase, prior to handover of the first units in Phase 1. For the duration of the construction programme, surface water within the site will be managed on-site through temporary controls, including proactive bunding to prevent any discharge to the existing 600mm overflow network that traverses the site (described in further detail in Section 3.1.3.1).

Wastewater from the site will be connected to the public foul sewer network which conveys wastewater to Killarney WWTP for treatment. The foul sewer and watermain connections will be in accordance with the Uisce Éireann requirements outlined in their Code of Practice for Water & Wastewater Infrastructure.

A Construction and Environmental Management Plan has been prepared as part of the proposal. Details are included on the management of surface water during the construction phase to minimise any potential impacts on surrounding surface waters.

A detailed Landscaping Plan has been developed by Cunnane Stratton Reynolds (CSR) for the project. The plan aims to deliver high-quality, functional and biodiverse open spaces that contribute positively to placemaking, environmental sustainability, and community well-being.

The project ecologist has reviewed the landscape plan to ensure appropriateness of the planting regime in relation to local biodiversity benefits. Key aspects of the plan that are of most relevance to the ecological assessment of the proposal include:

- Planting of 190 native trees as part of the development, with an additional 15 fruit trees that form an orchard are included.
- Establishment of 360m of new native hedgerow is to be planted across the site.
- Sustainable Urban Drainage Design Systems are incorporated into the landscape plan including; permeable paving, raingardens and attenuation basins are incorporated into the landscape.
- Planting design supports biodiversity through the use of native plant species suited to local conditions wherever possible.

The suburban site is located approximately 0.6 km south-east of Killarney Town Centre. It currently consists of agricultural land, predominantly improved agricultural grassland, with an area of wet grassland at its western extent. Field boundaries comprise a mix of treelines, hedgerows, and earth

banks. The site is bounded to the north by Countess Road, with urban residential land use to the west and south, and agricultural land use to the east.

An overview of the landscape plan for the proposed development is illustrated in Figure 1 below.



Figure 1: Overview of the landscape master plan for the site.

3.1.1 Construction Phase

Construction works will be undertaken on a phased basis (four phases) with each phase running subsequent to the next. All works will comply with relevant legislation, construction industry guidelines and best practice in order to reduce potential environmental effects. A Construction

Environmental Management Plan (CEMP) has been prepared and is submitted as part of the planning documentation.

The construction phase will involve the preparation of the site, excavation of on-site material, construction of site roads and building of the proposed dwellings. The construction compound for the development will be located within the green space area to the north of the development, so that it will not need to be moved from phase to phase. Further details on the construction activities are set out in the Construction and Environmental Management Plan submitted with the proposal. Surface and ground water protection measures during the construction phase are summarised in 3.1.3 below.

3.1.2 Operational Phase

The development will provide a permanent residence for a significant local population. The site will therefore be subject to increased human activity. This will lead to increased levels of noise, light and other disturbance associated with the use of the site as a residential development. The surface and foul water management during the operational phase are summarised in Section 3.1.3 below.

3.1.3 Drainage and Water Management

3.1.3.1 Surface water management

There is an absence of permanent surface water drainage features on the site, with no rivers, streams or drains present within or directly adjacent to the site. Surface water generated within the site predominantly ponds temporarily at the lowest point at the western end of the site and infiltrates to ground. An existing standpipe at the lowest point of the site is connected to the existing 600mm public stormwater network that traverses the site and discharges south to the River Flesk; this provides an overflow pathway to the southern stormwater network. The overflow sits 300–400mm above the existing ground level and above any proposed finished floor level. Under normal hydrological conditions, surface water within the site does not reach this level and the dominant discharge mode is infiltration to ground; only in extreme events would the existing overflow be activated. The existing baseline therefore comprises predominant infiltration with a rarely activated partial pathway to the River Flesk.

During the construction phase, the site will not yet be connected to the chosen Option 1 or Option 2 outfall, and surface water generated within the site will be managed entirely on-site through temporary controls (perimeter silt fencing, earthen bunds, interceptor trenches, and lined settlement lagoons). DOSA has confirmed that the existing 600mm overflow will be proactively bunded throughout the construction phase to prevent any discharge of construction-phase surface water to the southern stormwater network. The dominant discharge mode during construction will therefore be infiltration to ground (mirroring the existing baseline), with the existing partial overflow pathway temporarily deactivated. Further details on surface and ground water protection during construction (use of sediment traps and silt fencing, management of fuels, concrete washout etc.) are presented in the Construction & Environmental Management Plan submitted with the planning application.
The new connection to the chosen public stormwater network — under either Option 1 or Option 2 — will be made at the end of the construction phase, prior to handover of the first units in Phase 1,

after the on-site SuDS management train and attenuation system have been commissioned and confirmed operational.

The proposed surface water drainage plan for the operational phase of the development is detailed in the Drainage Impact Assessment (DOSA Consulting Engineers) and the Infrastructure Report accompanying the planning application. Surface water generated from the proposed residential development will be conveyed through the on-site network including SuDS components and attenuated and managed on-site prior to final discharge at restricted predevelopment greenfield run-off rates (28.5 l/s). Two outfall options to the public stormwater network are under consideration:

Option 1 (preferred): discharge to the KCC public stormwater network on Countess Road via the Countess Grove estate. The downstream destination of this network the receiving waterbody is Lough Leane (within SAC 000365) under either of the two possible flow paths — via Killarney WWTP for treatment under EPA licence, or via a direct stormwater outfall to Lough Leane without WWTP treatment.

Option 2 (alternative): discharge to the existing 600mm public stormwater pipe that traverses the site, with flows conveyed southwards via adjoining lands to the River Flesk (within SAC 000365) ca 650m to the south of the site. This option establishes a direct surface water pathway between the site and a qualifying watercourse of the SAC, without intermediate treatment beyond the on-site SuDS management train and attenuation system.

The drainage design has incorporated nature-based solutions to achieve its objectives of regulating and providing for water quality, water quantity, and biodiversity/amenity. The storm water drainage strategy for the proposed development utilises Sustainable Drainage System (SuDS) features to intercept and convey surface water runoff, attenuate runoff and encourage infiltration where ground conditions permit.

3.1.3.2 Waste water management

The proposed foul water drainage system is described in the Infrastructure Report. The foul waste within the development will be collected via an internal gravity network and will discharge to the public foul sewer via a gravity connection. All works will be in accordance with Uisce Eireann Code of Practice for Wastewater Supply & the Wastewater Infrastructure Standard Details Document Number: IW-CDS-5030-01.

A Pre-Connection Enquiry was submitted to Uisce Éireann. The Confirmation of Feasibility document was subsequently received from Uisce Éireann (see Infrastructure Report for copy of same). This confirmed that, subject to a valid connection agreement being put in place, the proposed connection to the Uisce Éireann network could be facilitated.

3.2 Existing Ecological environment

The following description of the existing ecological environment at the proposed development site was informed by a series of ecological surveys as described in Section 2.2 above. The ecological characteristics of the site with particular relevance to designated European sites in the surroundings is presented below.

3.2.1 Terrestrial Habitats and flora

A habitat map of the proposed development site following the Fossitt (2000) classification scheme is presented in Figure 2. Target notes recorded during the survey are presented in Table 1 and their corresponding locations shown in Figure 2

The proposed development site is situated approximately 0.6km southeast of Killarney town centre. It occupies lands directly south of Countess Road. The N71 is located to the west.

Despite its sub-urban setting, the site is greenfield and currently being occupied by two adjoining dwellings facing onto Countess Road. The main part of the development site extends south from the dwellings and comprise agricultural fields bounded by hedgerows, scrub vegetation and mature trees. There is a low-lying damp wet area located in the northern central area of the site.

The topography is relatively flat and lowers gently towards the west. The site is surrounded on the west and south by existing residential developments consisting of semi detached housing. To the east there is less development and the lands are more agricultural offering connectivity to wider rural habitats. The Dublin/Cork to Killarney train line is located just north of the site. The River Flesk is located 650m south of the site.

The principal terrestrial habitat within the site is Improved Agricultural Grassland (GA1) (see Plate 1). The habitat is managed for grazing cattle and occurs as two distinct land parcels, to the north and to the south (see Plate 2). The sward is species poor having been recently reseeded with a complete dominance of Perennial Rye-grass (*Lolium perenne*).

There is a low-lying area of Wet Grassland (GS4) occurring in the western part of the northern land parcel (Plate 3 and Plate 4). This wet grassland area is fenced off (temporary electrical fencing) from the dry improved grassland to the east. At the time of survey the wet grassland area was being grazed by horses.

The grassland is dominated by Yorkshire Fog (*Holcus lanatus*) with an abundance of Creeping Bent (*Agrostis stolonifera*). Creeping Buttercup (*Ranunculus repens*), Soft Rush (*Juncus effusus*), Marsh Thistle (*Cirsium palustre*) are common throughout. Other wetland indicators that occur frequently include Grey Willow (*Salix cinerea*), Meadowsweet (*Filipendula ulmaria*), Yellow Flag-iris (*Iris pseudacorus*), and Common Duckweed (*Lemna minor*) in wetter areas of ponding water.

The wet grassland grades into Dry Meadow and Grassy Verge (GS3) grassland on more elevated lands to the south where a rank sward dominated by Cock's-foot (*Dactylis glomerata*) and Creeping Buttercup (*Ranunculus repens*) dominate. Agricultural weeds are common throughout the area with Broad-leaved Dock (*Rumex obtusifolius*), Ragwort (*Jacobaea vulgaris*), Spear Thistle (*Cirsium vulgare*), and Common Nettle (*Urtica dioica*) all represented.

Areas of encroaching Willow Scrub (*Salix cinerea*) amongst the wet grassland has recently been cut back to ground level, with significant regrowth occurring. A low voltage overhead line oversails the wet grassland (see Plate 4).

A review of old six-inch mapping together with sub-soil mapping suggests that the site was not part of a natural wetland feature indicating that the wet grassland may be a relatively recent feature due to impeded drainage.

There are two built structures occurring within the site (Buildings and artificial Surfaces (BL3). Two adjoining unoccupied dwellings at the northern extent and a former concrete built out house (no roof, with abundant Ivy (*Hedera helix*) and Bramble (*Rubus fruticosus* agg.) along the main farm access track into the site. Former gardens to the rear of the dwelling houses are largely overgrown with Bramble (*Rubus fruticosus* agg.) thicket forming a stand of Scrub (WS1) (see Plate 5). Some exotic garden shrubs continue to persist within this area.

Field boundaries surrounding the site largely support linear wooded features including a mix of Hedgerows (WL1) and more mature Treeline (WL2) sections (see Plate 6 and Plate 7).

Mature treelines include mature Pedunculate Oak (*Quercus robur*) at a number of locations within the site; along the eastern boundary of the northern land parcel, along the southern boundary of the northern land parcel, and along part of the eastern boundary of the southern land parcel.

An Ash (*Fraxinus excelsior*) dominated treeline defines the northern site boundary along Countess Road. Other trees recorded amongst the hedgerows and treelines within the site include Holly (*Ilex aquifolium*), Hawthorn (*Crataegus monogyna*), Ash (*Fraxinus excelsior*), Sycamore (*Acer pseudoplatanus*), Silver Birch (*Betula pubescens*), Wych Elm (Ulmus glabra), Elder (*Sambucus nigra*), and Willow (*Salix* spp.). Mature specimens of the non-native Sitka Spruce (*Picea sitchensis*) and Leyland cypress (*Cupressocyparis leylandii*) are present along treelines adjacent to the dwellings in the north. Earth Banks (BL2) are commonly associated with the treelines and hedgerows within the site.

The field layer along hedgerows and treelines include; Bramble (Rubus fruticosus agg.), Ivy (Hedera helix), Cleavers (*Galium aparine*), Lesser Celandine (*Ficaria verna*), Harts-tongue Fern (Asplenium scolopendrium), Dryopteris spp., Wood Vetch (Vicia sylvatica), Nipplewort (*Lapsana communis*), and Foxgloves (*Digitalis purpurea*). Honeysuckle (*Lonicera periclymenum*) is present in places.

Non-native species recorded amongst field boundaries with adjacent properties include Leyland Cypress (*x Cuprocyparis leylandii*), Box (*Buxus sempervirens*), Daffodils (*Narcissus* spp.), Montbretia

(*Crocosmia x crocosmiiflora*), and Winter Heliotrope (*Petasites pyrenaicus*), Butterfly Bush (*Buddleja davidii*), and Cherry Laurel (*Prunus laurocerasus*). Further information on the occurrence of invasive non-native species is presented in Section 3.2.6 below.

No rare or protected plant species were recorded during surveys undertaken at the site. Considering the habitats present it is concluded that there is a low likelihood of rare flora species being present.

3.2.1.1 Relevance to European Sites

The habitats present within the site do not correspond with any EU Habitats Directive Annex II habitats. The habitats are not suitable to support any Birds Directive Annex I species.

The treeline and hedgerow habitat within and surrounding the site provide suitable foraging and commuting habitat for Lesser Horseshoe Bat, a Habitats Directive Annex II listed species.



Figure 2: Habitat map of the proposed residential development site at Drumhale, Killarney.

Table 1: Text of selected target notes collected during field survey.

Note Number	Category	Description
N1	Invasive species	Butterfly Bush and Winter Heliotrope occurring along the field boundary.
N2	General	Five mature Oak in cluster along earth bank.
N3	General	Mature treeline with numerous Oak being main component.
N4	Invasive species	Butterfly bush occurring along hedgerow on earth bank.
N5	Invasive species	Montbretia present along earth bank
N6	Invasive species	Cherry Laurel occurring along boundary with private residence.
N7	General	Wet grassland with willow regrowth. Ragwort present amongst sward of Yorkshire Fog and Soft Rush. Common wet grassland species present throughout. Standing water in winter.
N8	Invasive species	Winter Heliotrope occurring along boundary with private dwelling.
N9	General	Mature ash tree line with Holly understory and Ivy. Bordering main road.



Plate 1 Northern land parcel with improved agricultural grassland.



Plate 2: Southern land parcel with improved agricultural grassland.



Plate 3: View northwards across the low-lying wet grassland area. Dry meadow vegetation dominates the foreground.



Plate 4: Low lying wet grassland occurring in the central part of the northern land parcel



Plate 5: Bramble scrub occurring to the rear of the dwelling.



Plate 6: Hedgerow with mature trees occurring along eastern boundary of site.



Plate 7: Mature Oak along boundary near south of site.

3.2.2 Aquatic Habitats

Temporary ponding of surface water was noted in the wet grassland area during the February field survey. Although this habitat is suitable to support amphibians (common frog or smooth newt), none were recorded during the site visits. Surface water from within the site appears to pond temporarily at this low-lying area prior to infiltration to groundwater. No permanent surface water features occur within the site and there is no clear connectivity to surrounding watercourses. The closest watercourse to the proposed development site is the River Flesk, which is located ca 650m to the south of the proposed development site, and although the site lies within the catchment of the river there is no identified surface water connectivity with surface water on the site appears to largely infiltrate to ground.

The above describes the existing baseline of predominant infiltration to ground. An existing standpipe at the lowest point of the site is connected to an existing 600mm public stormwater pipe traversing the site that discharges south to the River Flesk; this overflow sits 300–400mm above ground level and is likely rarely activated. As part of the proposed development a surface water connection to the public stormwater network will be made at the end of the construction phase.

3.2.2.1 Relevance to European Sites

There is currently no surface water connectivity between the proposed development site and downstream watercourses. There is an absence of any natural watercourses or waterbodies within the site. The proposed surface water drainage from the site is proposed to be treated on site before discharging to the local public stormwater network.

Two potential connection options are available:

- Option 1: Connection via existing public stormwater network which is likely conveyed to the Killarney WWTP. The WWTP discharges to Lough Leane (Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC (000365).) via the Folly Stream.
- Option 2: Connection to existing stormwater network that discharges to the River Flesk to the south. The River Flesk is designated as apart of the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC (000365)

3.2.3 Birds

Common bird species including Rook (*Corvus frugilegus*), Hooded Crow (*Corvus cornix*), Jackdaw (*Coloeus monedula*), Magpie (*Pica pica*), Wood Pigeon (*Columba palumbus*), Great Tit (*Parus major*), Wren (*Troglodytes troglodytes*), Robin (*Erithacus rubecula*), Blackbird (*Turdus merula*), Greenfinch (*Chloris chloris*), and Chaffinch (*Fringilla coelebs*) were recorded on site during the field survey. Two Mallard (*Anas platyrhynchos*) were flushed from the wet grassland area during the February 2025 visit. The habitats present on site have limited potential to support species of high conservation concern. The hedgerow and treelines provide suitable nesting and foraging opportunities for common bird species.

3.2.3.1 Relevance to European Sites

Based on the habitats present, the site is currently of relatively low value to bird species and is unlikely to support species of high conservation concern. The habitat within the site are unsuitable to support Birds Directive Annex I species.

3.2.4 Terrestrial Mammals

A targeted mammal survey was undertaken in February 2025 as part of the multi-disciplinary walkover. The assessment focused on optimal habitats, including scrub and hedgerow/treeline networks, for signs of activity, resting places, or commuting routes. The survey concluded:

- No signs of badger (*Meles meles*), including setts, latrines, or paths, were observed.
- The site offers no suitable habitat for otter (*Lutra lutra*), as there are no freshwater bodies of sufficient size or quality.

- No evidence of other protected mammals or indicators of their activity (e.g., field signs, droppings, feeding remains) was found.

3.2.4.1 Relevance to European Sites

The site is currently of low value to terrestrial mammals of conservation importance. No suitable habitat for Otter (EU Habitat Directive Annex I species)occurs within the site.

3.2.5 Bats

The standalone bat survey report is presented as Appendix I to this report. The findings of the report in relation to the use and value of the site to bats are summarised in the following paragraphs.

The bat survey conducted for the proposed residential development at Countess Road, Killarney, Co. Kerry, assessed bat roosts, foraging, and commuting habitats, revealing significant bat activity and species diversity.

Results of Existing Bat Data (Desktop Review)

Nine of the ten known Irish bat species were recorded within a 4km radius of the site.

- Species recorded include common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, Leisler's, brown long-eared, Daubenton's, Natterer's, whiskered and lesser horseshoe bat.
- Of these species, common pipistrelle, Leisler's bat, brown long-eared bat, Daubenton's bat and lesser horseshoe bat have been recorded roosting within 4km of the site.
- The landscape is of moderate to high suitability for various bat species.

Bat Roost Survey Findings

The survey identified potential roosts in trees and structures within the site.

- No confirmed bat roosts were found in trees, but five individual trees were deemed suitable for multiple bats.
- Two disused dwellings showed signs of bat activity, including droppings and potential entry points.
- Two soprano pipistrelle were recorded emerging from one of the dwellings.

Bat Activity Survey Results

The survey recorded significant bat activity across the site, with eight species detected.

- Soprano pipistrelle was the most frequently recorded species (52% of calls).
- Passive monitoring recorded a total of 102,088 bat passes across various species.
- Eight species of foraging and commuting bats were identified: soprano pipistrelle, common pipistrelle, Leisler's, Daubenton's, Natterer's, whiskered, brown long-eared, and lesser horseshoe bat.
- A relatively high amount of common pipistrelle, soprano pipistrelle and Leisler's bat activity was recorded and lower levels of activity from brown long-eared bat, Daubenton's bat, Natterer's bat, whiskered bat and lesser horseshoe bat were also recorded.

- A minor soprano pipistrelle roost is present on-site, with another pipistrelle roost located to the south.
- High bat foraging activity recorded at the eastern and southern boundaries of the site.

3.2.5.1 Relevance to European Sites

Surveys undertaken at the site confirmed the presence of Lesser Horseshoe Bat, an EU Habitats Directive Annex I listed species. Results demonstrate that the species commutes and forages amongst hedgerow and treeline habitats in the east and southern parts of the site. The development site is known to occur within the core foraging area of a known population associated with the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC (000365). See Section 3.4.1 below.

3.2.6 Non-native invasive species

Four non-native invasive species were recorded within the proposed development site during the field survey: Laurel, Butterfly Bush, Winter Heliotrope, and Montbretia. Both Winter Heliotrope and Montbretia are classified as having a 'Low Impact Risk' by the National Biodiversity Data Centre, while Butterfly Bush is regarded as 'Medium Impact Risk' and Laurel is classified as being of 'High Impact Risk'. All species are locally distributed within the site being confined to field margins and boundary features within the site (see Figure 2 and Table 1 above).

3.2.6.1 Relevance to European Sites

Invasive species within the site are sparsely distributed and there is no evidence of recent spread. The species may represent a threat to the conservation status of EU Habitats Directive Habitats.

3.3 Is the Project Necessary to the Management of European Sites

Under the Habitats Directive, projects that are directly connected with or necessary to the management of a European site do not require AA. For this exception to apply, management is required to be interpreted narrowly as nature conservation management in the sense of Article 6(1) of the Habitats Directive. This refers to specific measures to address the ecological requirements of annexed habitats and species (and their habitats) present on a site(s). The relationship should be shown to be direct and not a by-product of the project, even if this might result in positive or beneficial effects for a site(s).

The primary purpose of the project is not the nature conservation management of European sites, but the development of a residential development at Countess Road, Killarney, County Kerry. Therefore, the project is not considered by the Habitats Directive to be directly connected with or necessary to the management of European designated sites.

3.4 Identification of European Sites

This section of the screening process identifies and describes the European sites within a potential zone of influence of the proposed development, which taking a precautionary approach is set at 5km for this development. This distance takes account of the scale and character of the proposed development, to ensure that all potentially affected European sites are included in the screening process.

Three European sites occur within a 5km radius of the proposed development as presented in Table 2 and Figure 3 below. Further details of the European Sites are presented in the following sections and detailed site descriptions for the relevant European sites are presented in Appendix I.

Table 2: Summary of European Sites within 5km of the proposed development site.

European Site	Distance from proposed development site	Hydrological / Ecological connectivity to proposed development site
Killarney National Park, Macgillycuddy's Reeks And Caragh River Catchment SAC (000365)	The SAC occurs ca 500m to the west of the proposed development site	Removed from development and no direct ecological connectivity, absence of habitats for which SAC is designated. The development site lies within the core foraging area for Lesser Horseshow Bat (LHB) as presented in the site specific conservation objectives (SSOCs) for the SAC. The hedgerows and treelines present on site provide foraging and commuting habitat for a high diversity of bat species, including LHB. Overall, the site is considered to be of moderate to high suitability for foraging and commuting bats due to the presence of connectivity to other suitable habitats in the wider landscape. No potential bat roost for LHB was recorded during site surveys. There is hydrological connectivity at the proposed development site as it falls within the catchment of the SAC which is designated for a number of water dependent species and habitats. However, no direct surface water connectivity due to absence of surface water drainage features within or adjacent to the proposed development site. The municipal stormwater network that the site will be connected into discharges into waterbodies within the SAC (see Section 3.1.3.1 above). Killarney WWTP which will receive effluent from the development discharges treated water to a small stream (the Folly Stream) which flows into

European Site	Distance from proposed development site	Hydrological / Ecological connectivity to proposed development site
		Lough Leane (forms part of the SAC) ca 1km downstream from the treatment plant.
Sheheree (Ardagh) Bog SAC (000382)	The SAC occurs ca 2.4km to the south of the proposed development site	Removed from development and no direct ecological connectivity, absence of habitats / species for which SAC is designated. There is no hydrological connectivity via rivers and streams between the proposed development site and the SAC. There is no potential connectivity via either surface or groundwater as the SAC lies within a separate sub-catchment to the proposed development site.
Killarney National Park SPA (004038)	The SPA occurs ca 500m to the west of the proposed development site	Removed from development and no direct ecological connectivity, absence of habitats / species for which SAC is designated. Similar to the SAC, there is potential hydrological connectivity at the proposed development site. The municipal stormwater network that the site will be connected into discharges into waterbodies associated with the SAC (see Section 3.1.3.1 above). Killarney WWTP which will receive effluent from the development discharges treated water to a small stream (the Folly Stream) which flows into Lough Leane (forms part of the SAC) ca 1km downstream from the treatment plant.

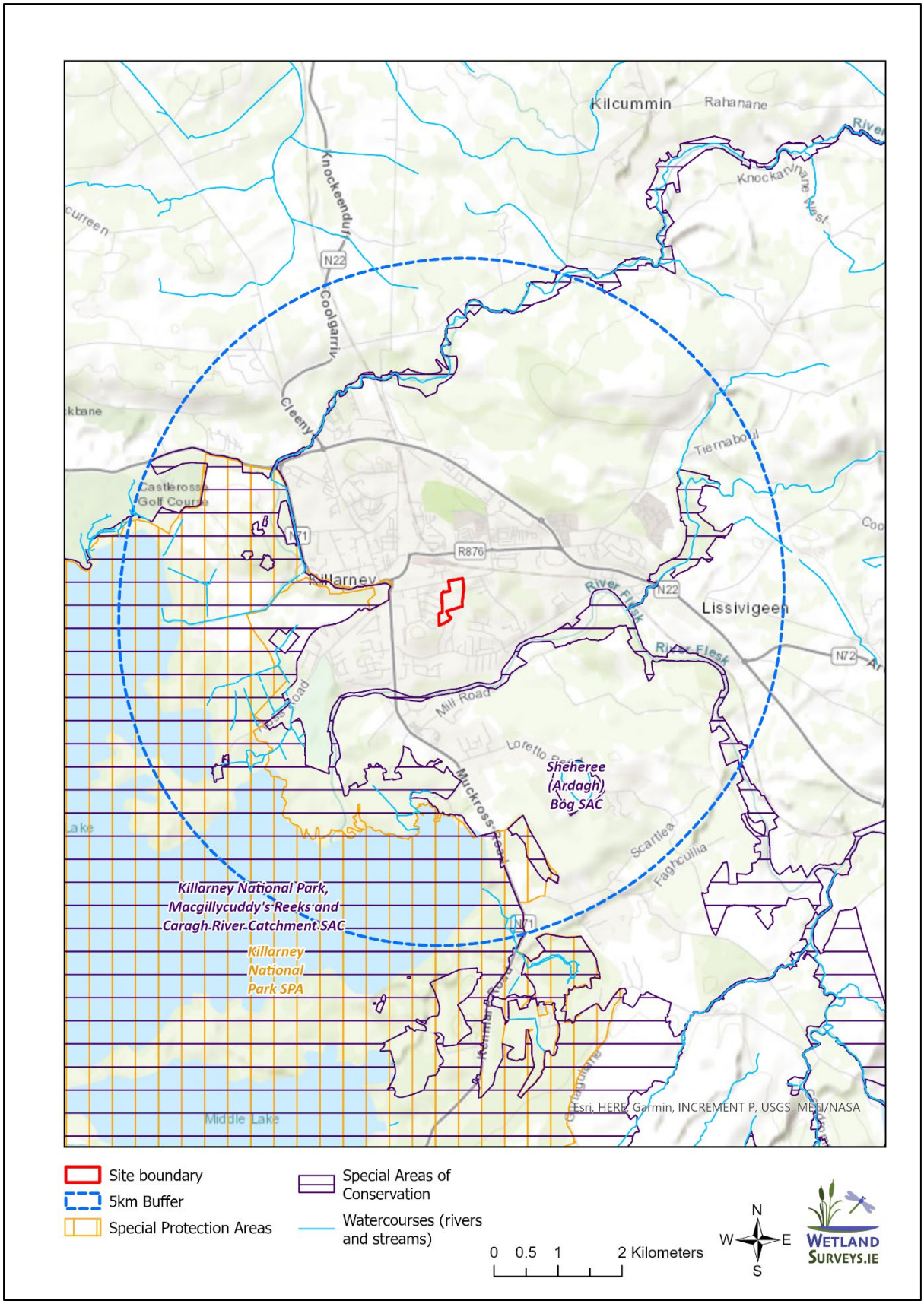


Figure 3: European sites within a 5km radius of the proposed development site.

3.4.1 Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC

The SAC occurs ca 500m (direct terrestrial distance) to the west of the proposed development site at its nearest point. The proposed development site is not directly connected to the SAC via any river or stream. The closest watercourse to the proposed development site is the River Flesk. There is currently no connectivity between the proposed development and the River Flesk or other waterbodies associated with the SAC. The municipal stormwater network and the waste water treatment plan which the site will be connected to discharge to waterbodies associated with the SAC.

Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC is a large site which mostly occurs in Kerry, with a small area in Cork. The SAC occurs in the most mountainous region in Ireland and includes Carrauntoohil, Ireland's highest peak. Sandstone ridges and valleys within the site have been shaped by glacial processes and many of the lakes are impounded by glacial moraines. The SAC is subject to strong oceanic influences. Lusitianian fauna are well represented within the SAC and arctic-alpine relicts occur on high peaks and cliffs.

The SAC contains a high diversity of habitats of good quality, including Oak woodlands, Yew woodlands, Juniper scrub, wet woodland, blanket bog, heath, upland grassland, upland and lowland lakes, and associated river systems. The SAC also supports six bird species listed on Annex I of the E.U. Birds Directive and ten other fauna species listed on Annex II of the E.U. Habitats Directive. Overall the SAC is considered to be of very high ecological value due to the diversity, quality, and extensiveness of habitats present, in addition to the high number of rare flora and fauna species present.

Recognised Threats and Vulnerabilities

Extensive grazing by sheep and deer has resulted in the degradation of many of the terrestrial habitats within the SAC. The presence of the invasive species Rhododendron poses a threat to the woodlands within the site. In addition to grazing, burning, turbary, and afforestation also pose a threat to bog habitats. The lakes within the SAC are mainly acid-sensitive and so are vulnerable to afforestation within the catchment areas.

Qualifying Interests (QIs)

The site has been selected by the National Parks and Wildlife Services for the qualifying habitats and species of conservation interest listed in Table 3 below.

Table 3: Qualifying interests of Killarney National Park, MacGillycuddy's Reeks and Caragh River Catchment SAC (source: www.npws.ie)

EU Annex I Habitat [EU Code]	EU Annex II Species [EU Code]
Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) [3110]	*Geomalacus maculosus* (Kerry Slug) [1024]
Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or *Isoeto-Nanojuncetea* [3130]	*Margaritifera margaritifera* (Freshwater Pearl Mussel) [1029]
Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260]	*Euphydryas aurinia* (Marsh Fritillary) [1065]
Northern Atlantic wet heaths with *Erica tetralix* [4010]	*Petromyzon marinus* (Sea Lamprey) [1095]
European dry heaths [4030]	*Lampetra planeri* (Brook Lamprey) [1096]
Alpine and Boreal heaths [4060]	*Lampetra fluviatilis* (River Lamprey) [1099]
Juniperus communis formations on heaths or calcareous grasslands [5130]	*Salmo salar* (Salmon) [1106]
Calaminarian grasslands of the *Violetalia calaminariae* [6130]	*Rhinolophus hipposideros* (Lesser Horseshoe Bat) [1303]
Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) [6410]	*Lutra lutra* (Otter) [1355]
Blanket bogs (* if active bog) [7130]*	*Trichomanes speciosum* (Killarney Fern) [1421]
Depressions on peat substrates of the *Rhynchosporion* [7150]	*Najas flexilis* (Slender Naiad) [1833]
Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0]	*Alosa fallax killarnensis* (Killarney Shad) [5046]
Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) [91E0]*	
Taxus baccata woods of the British Isles [91J0]*	

*Priority habitat

Conservation Objectives

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network.

European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites. The maintenance of habitats and species within European sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and

- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Detailed site specific conservation objectives (SSCOs) have been prepared for Killarney National Park, MacGillycuddy's Reeks and Caragh River catchment SAC (NPWS 2017).

3.4.1.1 Connectivity between the proposed development site and the SAC

The proposed development site does not support any habitats listed as QIs of the SAC. Lesser Horseshoe Bat (LHB) is a qualifying interest species of the SAC. The proposed development site overlaps with a core foraging zone of LHB of the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC. Bat surveys at the site confirm that LHB forage and commute within the area, utilising linear wooded habitats (hedgerows and treelines) within and adjoining the proposed development site. No LHB roost sites were identified during the survey. See bat report in Appendix II for further details.

The proposed development site is isolated from the terrestrial extent of the SAC (ca 500m to the west) by an urban area comprising built lands. The site lies within the Laune-Maine-Dingle Bay Catchment and the Flesk_SC_020 sub-catchment, of which the River Flesk forms part of the SAC. There are no rivers, streams or drains within or directly adjacent to the site. In the existing baseline, surface water generated within the site predominantly ponds temporarily at low-lying areas before infiltrating to ground. An existing standpipe at the lowest point of the site is connected to the existing 600mm public stormwater network that traverses the site and discharges south to the River Flesk, providing an overflow pathway to the southern stormwater network and thence to the SAC. This overflow sits 300–400mm above the existing ground level and is rarely activated; only in extreme events would surface water reach the level of the overflow. The existing baseline therefore comprises predominant infiltration to ground with a rarely activated partial surface water pathway to the SAC via the existing overflow.

The proposed development will modify this pathway picture as part of the drainage strategy described in the Drainage Impact Assessment (DOSA Consulting Engineers, April 2026). Two stormwater outfall options have been put forward, both of which are assessed in this NIS:

Option 1 (preferred): Surface water from the developed site will discharge, via the on-site SuDS management train and attenuation system, to the Kerry County Council public stormwater network on the Countess Road via Countess Grove. The downstream destination of this network is somewhat uncertain and two scenarios are possible: (a) flows are conveyed to Killarney WWTP, where they are subject to treatment under an EPA-issued wastewater discharge licence prior to discharge to the Folly Stream and thence Lough Leane (within SAC 000365) ca 1 km downstream of the WWTP outfall; or (b) flows are discharged to Lough Leane via a separate stormwater outfall without WWTP treatment. The receiving waterbody is Lough Leane in both scenarios; only the presence or absence of intermediate WWTP treatment differs. Killarney WWTP is operated by Uisce Éireann under an EPA-issued wastewater discharge licence, with effluent quality and load conditions specifically intended for the protection of the receiving waters of the SAC.

Option 2 (alternative): An existing 600mm public stormwater pipe traverses the site and discharges in a southerly direction, via adjoining lands (rear gardens of the Doire Coile and Brooklawn estate), to the River Flesk ca 650m to the south. The system has been engineered such that the entire developed site can discharge to this network if required. The River Flesk forms part of SAC 000365 and discharges to Lough Leane at Ross Bay ca 2 km downstream of the site.

Outflow from the site is restricted to predevelopment greenfield rates (28.5 l/s) under both options. The on-site SuDS treatment train — rainwater butts, tree pits, swales/bioretention, hydrocarbon interceptors, and lined attenuation tanks designed to the 1-in-100 year event with a climate-change allowance — is identical under both options. The difference between the options is therefore the downstream pathway: Option 1 discharges to Lough Leane (with intermediate WWTP treatment under scenario (a) and without under scenario (b)); Option 2 discharges to the River Flesk.

Both options provide a pathway by which a pollution event during the proposed development could in principle reach the SAC. The new connection to the chosen public network will not be made until the end of the construction phase, prior to handover of the first units in Phase 1. For the duration of the construction programme, surface water within the site will be managed on-site, mirroring the dominant baseline discharge mode of infiltration to ground, and DOSA has confirmed that the existing 600mm overflow will be proactively bunded throughout construction to deactivate the existing partial pathway to the Flesk. The new operational pathway therefore only becomes operative at tie-in (end of construction) and remains operative throughout the operational phase.
Likely significant effects on aquatic habitats and species of the SAC nevertheless cannot be ruled out at screening, and Stage 2 Appropriate Assessment is required. The pathway under Option 2 is direct to a qualifying watercourse without intermediate treatment; the pathway under Option 1 is direct to Lough Leane (a qualifying lake of the SAC) under scenario (b), or treatment-buffered via the WWTP and Folly Stream under scenario (a). The mitigation in this NIS is therefore designed against the precautionary worst case — direct discharge to a SAC waterbody without WWTP treatment — which applies to Option 2 in full and to scenario (b) of Option 1. Mitigation sufficient under that case will also be sufficient under scenario (a) of Option 1.

3.4.2 Sheheree (Ardagh) Bog SAC

The SAC occurs ca 2.8km to the southeast of the (direct terrestrial distance) of the proposed development site. There is no surface hydrological connectivity via rivers and streams between the proposed development site and the SAC. There are no surface water features (rivers or streams) present within the SAC. Furthermore the bog lies within a separate sub-catchment to the proposed development site and there is not potential connectivity via groundwater.

Sheheree Bog is quite unique in an Irish context as it is the only raised bog system which is completely surrounded by a wet lagg zone. The bog developed by succession from a small lake to a ridge basin bog, with similarities to a raised bog. The bog comprises areas of both degraded and active raised bog. Approximately half of the bog surface is quite dry and is dominated by Heather and Western Gorse. Bog Myrtle, Purple Moor-grass, Cross-leaved Heath, and Common Cottongrass are all commonly found on the bog. The rare and legally protected Slender Cottongrass occurs at the site. Sheheree Bog is of high conservation importance and is of particular value as it is the only raised bog in Ireland with an intact lagg zone. The site is also the most south-westerly example of a raised bog in Ireland and is only one of two examples of the habitat in county Kerry.

Recognised Threats and Vulnerabilities

The high bog has been invaded by Rhododendron and Scots Pine, which likely indicate drying of the habitat. The site may have been previously burnt in places. The adjoining fields are grazed by cattle and sheep and fertilized to various degrees, these land uses may impact the bog habitat.

Qualifying Interests (QIs)

The site has been selected by the National Parks and Wildlife Services for the qualifying habitats and species of conservation interest listed in Table 3 below.

Table 4: Qualifying interests of Sheheree (Ardagh) Bog SAC (source: www.npws.ie)

EU Annex I Habitat [EU Code]
Active raised bogs [7110]*
Degraded raised bogs still capable of natural regeneration [7120]

*Priority habitat

Conservation Objectives

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network.

European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites. The maintenance of habitats and species within

European sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis

Detailed site specific conservation objectives (SSCOs) have been prepared for Sheheree (Ardagh) Bog SAC (NPWS 2015).

3.4.2.1 Connectivity between the proposed development site and the SAC

There is no ecological connectivity between the proposed development site and the SAC. The SAC occurs over 2.8km to the southeast of the proposed development site and a built up urban area occurs between the proposed development site and the SAC. None of the habitats listed as QIs of the SAC occur within, or in proximity to the proposed development site. There is no surface hydrological connectivity between the proposed development site and the SAC via rivers or streams. Given the location of the proposed development site removed from and within a different sub-catchment to the SAC there is no potential for water quality or quantity impacts within the SAC.

3.4.3 Killarney National Park SPA

Killarney National Park SPA comprises the lakes and part of the MacGillycuddy's Reeks in the vicinity of Killarney town. Greenland White-fronted Goose traditionally use peatland habitats within the site. The SPA is one of the most southerly sites in Ireland to be utilised by this species and it is considered a special conservation interest for the SPA. The SPA is also supports breeding Merlin which are primarily are associated with the peatland and heathland habitats in remote parts of the SPA. The lakes within the SPA support a variety of wintering waterfowl including Mute Swan, Teal, Pochard, and Tufted Duck. Part of the SPA is also a Wildfowl sanctuary.

Recognised Threats and Vulnerabilities

There are no serious or imminent threats to the bird species in the SPA. Walking, horse riding and the use of non-motorised vehicles within the SPA may disturb bird species while forestry within the SPA is also seen as a potential threat.

Special Conservation Interests (SCIs)
The site has been selected by the National Parks and Wildlife Services for the special conservation interests listed in **Table 5** below.

Table 5: Special conservation interests of the Killarney National Park SPA (source: www.npws.ie)

EU Annex II Species [EU Code]
Merlin (*Falco columbarius*) [A098]
Greenland White-fronted Goose (*Anser albifrons flavirostris*) [A395]

Conservation Objectives
Detailed site specific conservation objectives (SSCOs) have been prepared for Killarney National Park SPA (NPWS 2024).

3.4.3.1 Connectivity between the proposed development site and the SPA

The proposed development site is isolated from the SPA and the two areas are separated by an urban area comprising built lands. The habitats on site are not suitable to support any of the Special Conservation Interests (SCIs) of the SPA.

There is no currently no direct surface hydrological connectivity between the proposed development site and the SPA via rivers or streams. However, during the construction and operational phase of the development connectivity will be provided by the public stormwater network and the public waste water network. The proposed development will be connected to the public stormwater and foul water networks. Treated water from both these systems eventually discharge into the SPA.

The species for which the SPA is designated (Merlin and Greenland White-fronted Goose) are not however associated with downstream water dependent habitats of the SPA.

3.5 Identification and Description of Potential Impacts

Ecological receptors of European sites that are sensitive to potential impacts from the proposed residential development include the habitats and species associated with the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC, Sheheree (Ardagh) Bog SAC, and Killarney National Park SPA. The characteristics, location, and scale of the development together with the ecological requirements of the conservation interests of either European site potentially affected have been taken into consideration in identifying potential impacts.

3.5.1 Elements of the proposed Project with Potential to Give Rise to Significant Effects

The following potential sources of impact are considered in determining potential for likely significant effects as presented in Section 3.5.2 below.

Construction Phase

- Construction of the proposed development could give rise to habitat loss and displacement of resident species of fauna.
- Noise, vibration, and light during construction could give rise to disturbance of resident fauna.
- Excavation and earthworks associated with the construction phase could give rise to sediment runoff and potentially impact aquatic receptors.
- Potential runoff of sediment, hydrocarbons or other harmful substances could lead to deterioration of downstream water quality.

Operational Phase

- Artificial lighting and noise may give rise to disturbance impacts on resident fauna (including bats).
- Increased traffic associated with the proposed development may potentially give rise to disturbance impacts on resident fauna.
- Changes in runoff associated with the conversion of the site from agricultural lands to one dominated by built land.
- Potential runoff of sediment, hydrocarbons or other harmful substances could lead to deterioration of downstream water quality.

The potential for likely significant effects on European sites arising from the proposed development are discussed in the following section.

3.6 Direct, Indirect or Secondary Impacts

The potential for impacts to occur through the implementation of the proposed development can be assessed under the following headings:

Loss / reduction of habitat area:

Direct habitat loss within European sites will not occur as the proposed development does not occur within any sites designated for nature conservation. The habitats directly affected by the proposed development include Improved Agricultural Grassland (GA1), Wet Grassland (GS4), Scrub (WS1), of Hedgerows (WL1) and Treelines (WL2). None of these habitats correspond with any EU Habitats Directive (HD) Annex I habitats. Hedgerow (WL1) and Treelines (WL2) within the site are however known to be used by Lesser Horseshoe Bat, a HD Annex II species for which Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC is selected. The habitats present on site do not support any EU Birds Directive (BD) Annex I species. In conclusion habitat loss associated with the development may cause a loss of habitat used by LHB.

Disturbance to key species:

Lesser Horseshoe Bat has been confirmed to use the proposed development site for commuting and foraging (see Appendix II). The habitat on site is not suitable for use by other QI species of the SAC or bird species listed as SCIs of the SPA and therefore potential disturbance on these species can be ruled out. Potential disturbance to LHB occurring within the site cannot be ruled out.

Habitat or species fragmentation:

The proposed site is in an urban area on the outskirts of Killarney town. The proposed development will not give rise to fragmentation of any semi-natural habitat within European sites. It is therefore concluded that there is no potential for fragmentation impacts on the SACs and / or the SPA which are removed from the proposed development site. Fragmentation of LHB habitat is possible and requires further consideration.

Reduction in species density:

The loss and disturbance of LHB habitat within the proposed development site could impact on the species density within the SAC.

Changes in key indicators of conservation value:

A principal indicator of conservation value within the SACs is hydrological integrity and water quality (and quantity). Should the proposed development give rise to a significant pollution event, there is potential for this to impact water quality in the SAC via hydrological connectivity (provided by the stormwater network) between the proposed development site and the SAC. The proposed development will be connected to the public stormwater and foul water networks. Treated water from both these systems eventually discharge into the SAC. There is therefore potential for impacts on downstream waterbodies and associated aquatic habitats and species of Killarney National Park, MacGillycuddy's Reeks and Caragh River Catchment SAC to occur.

3.7 Outcome of Screening

The outcome of screening is presented in relation to each relevant European site in the following paragraphs and summarised in Table 6 below.

3.7.1 Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC

Following due consideration to the scale, location, and characteristics of the proposed development together with the ecological requirements of the habitats and species of the SAC it has been established that there is a likelihood of significant effects on the conservation status of Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC.

The occurrence of Lesser Horseshoe Bat has been confirmed during baseline surveys undertaken to inform the current assessment. The development could impact on the use of this area as a commuting and foraging area for LHB. Likely significant effects on the local population therefore cannot be ruled out and requires further consideration in the Appropriate Assessment.

The hydrological connectivity between the proposed development site and the SAC provided by the public storm and wastewater network forms a pathway for potential impacts on aquatic habitats and species of the SAC.

It is therefore determined that Stage 2 Appropriate Assessment is required. Further consideration of the site in the form of Stage 2 Appropriate Assessment is presented in Section **Error! Reference source not found.** below.

3.7.2 Killarney National Park SPA

The SPA is selected for the protection of two bird species associated with terrestrial habitats of the SPA that are removed from downstream receptors. Despite the hydrological connectivity it is concluded that there is no likelihood of significant effects on the conservation status of the SPA from the proposed development. It is concluded that Killarney National Park SPA can be screened out of further consideration in the Appropriate Assessment process.

3.7.3 Sheheree Bog SAC

The absence of hydrological connectivity between the development site and the Sheheree Bog SAC confirms that here is no likelihood of significant effects on the conservation status of the SAC. It is concluded that Sheheree Bog SAC can be screened out of further consideration in the Appropriate Assessment process.

Table 6: Summary of AA Screening of proposed residential development at Countess Road, Killarney.

European Site	Potential Connectivity (Source – Pathway – Receptor)	Screened In
Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC (000365)	The SAC occurs ca 500m to the west of the proposed development site. The site does not support any habitats for which the SAC is designated, but lies within the core foraging area for Lesser Horseshoe Bat (LHB) — a QI of the SAC. The hedgerows and treelines on site provide foraging and commuting habitat for LHB and other bat species. No LHB roost was recorded on site. The site lies within the catchment of the River Flesk, which forms part of the SAC. There are no watercourses within or adjacent to the site; surface water predominantly infiltrates to ground but an existing standpipe at the lowest point of the site provides a rarely activated overflow connection to an existing 600mm public stormwater pipe that discharges south to the River Flesk. The proposed development will establish a positive surface water connection to the public network under one of two options. Option 1 (preferred) discharges to the KCC stormwater network on Countess Road; with the receiving waterbody being Lough Leane (within the SAC) under either possible flow path — via Killarney WWTP for treatment under EPA licence, or via a direct stormwater outfall to Lough Leane. Option 2 (alternative) discharges via an existing 600mm public stormwater pipe to the River Flesk (within the SAC) ca 650m to the south. The new connection to the chosen	Yes

European Site	Potential Connectivity (Source – Pathway – Receptor)	Screened In
	network will be made at the end of construction, prior to handover of the first units in Phase 1; during construction, surface water will be managed on-site with the existing overflow proactively bunded.	
Killarney National Park SPA (004038)	The two bird species listed as SCIs of the SPA are not reliant on aquatic habitats for foraging and are primarily associated with terrestrial habitats of the SPA. Therefore, no potential significant effects on the conservation status of the SPA are foreseen as a result of the proposed development.	No
Sheheree (Ardagh) Bog SAC (000382)	The location of the SAC within the wider catchment along with the sealed nature of the basin of the raised bog habitat means that there is no potential hydrological connectivity between the proposed development and the SAC. In addition, the proposed development is ecologically isolated from the SAC.	No

4 STAGE 2 APPROPRIATE ASSESSMENT

4.1 Killarney National Park, MacGillycuddy's Reeks and Caragh River Catchment SAC

As outlined in the previous sections one European Site, Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC, was identified as being potentially impacted by the proposed development. The SAC occurs ca 500m to the west of the proposed development site.

The proposed development site does not support any habitats listed as QIs of the SAC. The proposed development site occurs within the core foraging area for an SAC population of Lesser Horseshoe Bat. The species has been recorded using the proposed development site regularly for commuting and foraging.

Despite the absence of permanent surface water features within the proposed development site, the proposed connection to the public stormwater and foul water networks provide a potential impact pathway for adverse effects on the aquatic features of the SAC. Aquatic habitats and species for which the SAC is designated that would be sensitive to any significant changes in water quality or quantity require further consideration in the NIS.

Potential for significant effects on terrestrial habitats and species are ruled out (see Table 8 below). The aquatic habitat and species for which the SAC is designated include:

- Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]
- Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea [3130]
- Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260]
- *Margaritifera margaritifera* (Freshwater Pearl Mussel) [1029]
- *Petromyzon marinus* (Sea Lamprey) [1095]
- *Lampetra planeri* (Brook Lamprey) [1096]
- *Lampetra fluviatilis* (River Lamprey) [1099]
- *Salmo salar* (Salmon) [1106]
- Lutra lutra (Otter) [1355]
- *Najas flexilis* (Slender Naiad) [1833]
- *Alosa fallax killarnensis* (Killarney Shad) [5046]

4.1.1 Conservation Objectives

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to

afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network.

European and national legislation places a collective obligation on Ireland and its citizens to maintain or restore habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites. The maintenance of habitats and species within European sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is achieved when:
its natural range, and area it covers within that range, are stable or increasing, and the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:
population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis

In the case of Killarney National Park, MacGillycuddy's Reeks and Caragh River Catchment SAC detailed site specific conservation objectives (SSCOs) have been published (NPWS 2017). Various attributes and associated targets are defined for each of the Qualifying Interest features of the SAC (see NPWS 2017).

4.2 Potential for Significant Effects

The potential for adverse effects on the Lesser Horseshoe Bat population of the SAC requires further consideration. Impacts arising due to habitat loss and disturbance (due primarily to lighting) could lead to significant adverse effects on the local population and is considered further below.

Considering the hydrological connectivity that will be provided by the Public Stormwater and Wastewater networks between the site and the SAC, the potential for water quality impacts arising from the proposed development must be considered further in this assessment.

4.3 Assessment of Impact Significance

4.3.1 Lesser Horseshoe Bat

This section of the report provides an assessment of the potential impacts on the local Lesser Horseshoe Bat population due to the proposed development of a at the site during both the construction and operational phase.

The assessment relating to Lesser Horseshoe Bat is based on the detailed bat survey report as presented in Appendix II. The site specific conservation objectives set for Lesser Horseshoe Bat are summarised in Table 7 below.

Table 7: Site Specific Conservation Objectives (SSCOs) attributes and targets relevant to Lesser Horseshoe Bat NPWS(2017).

SSCO Attribute	SSCO Target
Population per roost	Minimum number of 182 bats in winter for Roost ID 623; minimum number of 127 in winter and 358 in summer for Roost ID 505; minimum number of 176 in winter and 315 in summer for Roost ID 296; minimum number of 218 in summer for Roost ID 615.
Winter roosts	No decline
Summer roosts	No decline
Number of auxillary roosts	No decline
Extent of potential foraging habitat	No significant decline
Linear features	No significant loss, within 2.5km of qualifying roosts.
Light pollution	No significant increase in artificial light intensity adjacent to named roosts or along commuting routes within 2.5km of those roosts.

4.3.1.1 Construction Phase

4.3.1.1.1 Loss or Severance of Foraging and Commuting Habitat

The results of the bat activity survey undertaken for the proposed development indicate that the site supports eight species of foraging and commuting bat (soprano pipistrelle, common pipistrelle, Leisler's, Daubenton's, Natterer's, whiskered, brown long-eared and lesser horseshoe bat) with a minor soprano pipistrelle roost present within the site and a pipistrelle roost present to the south of the site. No Lesser Horseshoe Bat roosts were identified during the survey.

The hedgerows and treelines present on site provide foraging and commuting habitat for a high diversity of bat species, including Lesser Horseshoe Bat. The proposed development will require the removal of trees and hedgerows as follows:

- Removal of 38 no. trees, 17 of which are to be removed to facilitate the development, all other trees are to be removed for safety reasons (see Geotree, 2025).
- Removal of 344 linear metres of hedgerow.

The proposed landscaping plan includes for the following:

- Planting of 205 no. trees comprised of 190 native species.
- Planting of 360 linear metres hedgerows comprised of native species.

As the proposed planting matures, there will be a net gain of 167 trees and 16m hedgerow at the proposed site in the medium to long-term.

As described in the Tree Survey Report (Geotree, 2025), the most extensive tree/ hedgerow removal will be required at the north of the site at the boundary adjacent to Countess Road and the treeline bounding the gardens of the existing dwellings. The highest levels of bat foraging activity were recorded at the eastern and southern site boundaries, away from Countess Road.

Lesser horseshoe bats were recorded foraging and commuting at the proposed site. The proposed site is located within the foraging range for lesser horseshoe bat colony site code 296, a qualifying interest for Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC. In 2016, the Bat Conservation Trust (BCT) carried out a review of literature pertaining to mean and maximum bat foraging distances (Collins (2016). In their review, a Core Sustenance Zone (CSZ) refers to the area surrounding a communal bat roost within which habitat availability and quality will have a significant influence on the resilience and conservation status of the colony using the roost. The weighted average maximum foraging distance for lesser horseshoe bats was 2.02km. However, as noted in the National Parks and Wildlife Service (NPWS) document *Conservation objectives supporting document – lesser horseshoe bat* (*Rhinolophus hipposideros*), some researchers have found that lesser horseshoe bats normally forage in woodlands/scrub within 2.5km of their roosts, therefore, as specified for the purpose of current site specific conservation objective (SSCO) targets for this species, a 2.5km zone is considered an appropriate distance to foraging areas for each roost.

Lesser horseshoe bat is generally considered to be reluctant to cross open areas more than 10m wide. The proposed development will require the removal of vegetation along Countess Road and the treeline bounding the gardens of the existing dwellings. Aside from this section of hedgerow, all removal of hedgerows/ treeline required (e.g. for facilitation of pedestrian access) will be under 10m in length. Lesser horseshoe bat calls recorded on PM1 to the north of the site recorded a lower level of bat activity than the other monitors recording at the site, with the exception of July, when a high level of foraging was recorded (see further details and explanation in Appendix I). It is expected that the removal of trees and hedgerow habitat at the north of the site will result in a short-term adverse effect on lesser horseshoe bat at the local (site) level. However, in view of the landscaping proposals detailed above, which would retain foraging and commuting habitat at the rest of the site boundary, these effects would not be expected to have an adverse effect at the population level (i.e. they would not be significant).

No significant adverse effects on lesser horseshoe bat are expected in the medium to long term as the proposed landscape planting matures.

4.3.1.1.2 Loss of Roosting Habitat

No Lesser Horseshoe Bat roosts occur within the site. It is concluded that there will be no direct effects on LHB roost sites.

4.3.1.1.3 Lighting

Linear woodland and scrub edge habitat provides important flyways and feeding sites for a diversity of bats. Artificial lighting at night may have an adverse effect on foraging bats as light-averse bats may

be repelled from lit areas and restrict their use of commuting or feeding space. In the absence of mitigation, disturbance of bats due to lighting used during the construction phase, should it be required, would have an indirect, temporary, negative effect for the duration of construction. As outlined previously, there is potential that the lesser horseshoe bat activity recorded at the site is from the QI population for Killarney National Park SAC; applying the precautionary principle, effects on lesser horseshoe bat may be significant at the International Level.

4.3.1.2 Operational Phase

4.3.1.2.1 Lighting

As noted in Section 394.3.1.1.3, artificial lighting at night may have an adverse effect on commuting and foraging bats.

Habitat degradation due to the use of artificial lighting at night may result in a long-term to permanent, irreversible negative effect on bats. There is potential that the lesser horseshoe bat activity recorded at the site is from the QI population for Killarney National Park SAC; applying the precautionary principle, effects on lesser horseshoe bat may be significant at the International Level.

4.3.2 Aquatic Habitats and Species

Any significant deterioration in water quality within the SAC could lead to adverse impacts on its conservation interests. There are no permanent surface water features within the proposed development site. Surface water in the existing baseline predominantly infiltrates to ground, with a rarely activated overflow to an existing 600mm public stormwater pipe that discharges south to the River Flesk. The proposed development will modify this pathway picture: the on-site stormwater system will be connected, at the end of the construction phase, to the chosen public network (Option 1 or Option 2). As described in Section 3.4.1.1, two outfall options are under consideration. Both are assessed below in the absence of mitigation. The pollutant source characteristics are the same under both options (a residential development of defined scale, with the same SuDS management train); the pathway and receptor differ.

4.3.2.1 Construction Phase

During construction, excavation, earthworks and infrastructure installation could give rise to suspended sediment, accidental fuel/oil spillage, concrete washout and the mobilisation of fines from stockpiled materials. These risks are generic to construction sites and are managed by standard CEMP measures.

The construction sequencing for this development inherently provides a high level of pathway protection. The new connection to the chosen public stormwater network — under either Option 1 or Option 2 — will not be made until the end of the construction phase, prior to handover of the first units in Phase 1. For the duration of the bulk earthworks, foundation works, infrastructure installation and dwelling construction, surface water generated within the site will be managed entirely on-site through temporary perimeter controls (silt fencing, earthen bunds, interceptor trenches), settlement lagoon(s), and where appropriate, controlled infiltration to ground.

The site has an existing partial baseline pathway to the SAC via an overflow standpipe (300–400mm above ground level) connected to the existing 600mm stormwater pipe traversing the site. DOSA has confirmed that this overflow will be proactively bunded throughout the construction phase to prevent any discharge of construction-phase surface water to the southern stormwater network. The existing partial baseline pathway is therefore deactivated during the construction phase, and the dominant discharge mode reverts to infiltration to ground. Construction-phase pollution incidents would therefore be contained on-site and are not predicted to give rise to any direct or indirect effect on the qualifying interests of the SAC.

The site-to-public-network pathway is established only at the point of tie-in to the chosen public stormwater outfall (Option 1 or Option 2), at the end of the construction phase. Tie-in works are short-duration, contained, and amenable to specific control measures (described in Section 5.2). Once tie-in is complete and the development moves into operational use, the pathway described in Section 4.3.2.2 applies.

In the absence of mitigation, both options carry a low likelihood of significant construction-phase effects on aquatic QIs of the SAC. The relative tie-in window risk is greater under Option 2 than Option 1 scenario (a) (treatment-buffered via WWTP) and is comparable to Option 1 scenario (b) (direct stormwater outfall to Lough Leane).

4.3.2.2 Operational Phase

The operational phase commences with tie-in of the site stormwater system to the chosen public network at the end of the construction phase. From this point onwards, all surface water generated within the site will pass through the on-site SuDS management train (source control via rainwater butts and tree pits; site control via swales/bioretention and hydrocarbon interceptors; regional control via lined attenuation tanks with flow restrictors) prior to discharge at greenfield rates (28.5 l/s) to the chosen outfall. The on-site treatment provided is identical under both options. All foul wastewater from the development will be discharged to the public foul network and treated at Killarney WWTP under EPA-licensed conditions, irrespective of the stormwater outfall option selected. Under Option 1, treated stormwater enters the public network on Countess Road. The downstream destination of this network could not be confirmed at the time of this assessment. Under scenario (a), flows are conveyed to Killarney WWTP for treatment under EPA-licensed conditions prior to discharge to the Folly Stream and Lough Leane ca 1 km downstream. Under scenario (b), flows discharge directly to Lough Leane via a separate stormwater outfall without WWTP treatment. Lough Leane is a qualifying lake of the SAC. The local authority has expressed concern about additional hydraulic loading on the network feeding the WWTP under scenario (a); this is a matter for the network operator (Uisce Éireann) and the EPA as regulator. From the point of view of effects on the SAC, scenario (a) provides a treatment-buffered pathway protected by EPA-consented effluent limits, while scenario (b) provides a direct pathway to a SAC waterbody. The assessment in this NIS adopts scenario (b) as the precautionary basis for evaluation of Option 1.

Under Option 2, treated stormwater discharges to the River Flesk ca 650m south of the site, with no further treatment beyond the on-site SuDS management train. The discharge enters a qualifying watercourse of the SAC directly. Operational discharges from a residential development of this scale, after passage through a properly designed and maintained SuDS train and at restricted greenfield rates, are not expected to alter the water quality status of the receiving watercourse. The absence of any downstream treatment under Option 2 — and equivalently under Option 1 scenario (b) — makes the long-term integrity, inspection and maintenance of the SuDS components, and in particular the hydrocarbon interceptor, more critical to the protection of the SAC than under Option 1 scenario (a).

A summary of the likelihood of potential impacts on each qualifying interest of the SAC, in the absence of mitigation, is presented in Table 8 below. It is noted, applicable to all aquatic QI determinations below, that the new connection to the public stormwater network will not be established until the end of the construction phase, prior to handover of the first units in Phase 1. For the duration of construction, surface water within the site will be managed on-site (mirroring the dominant baseline discharge mode of infiltration to ground), with the existing 600mm overflow proactively bunded to deactivate the existing partial baseline pathway. The determinations below therefore principally relate to the operational phase pathway and the tie-in window. Under Option 1, two scenarios are

possible for the downstream destination of the KCC Countess Road stormwater network — via Killarney WWTP (treatment-buffered) or via a direct stormwater outfall to Lough Leane (no treatment) — and the precautionary worst case (direct outfall to Lough Leane without WWTP treatment) is adopted in the determinations below.

Table 8: Potential for likely significant effects on the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC in the absence of mitigation.

EU Annex I Habitat [EU Code]	Currently listed threats / pressures	Potential for significant effects	Likely Significant Impacts (in the absence of mitigation)
Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) [3110]	This habitat type is under significant from eutrophication, drainage, and damage to peatlands. The conservation status of this habitat is bad with a stable trend.	This habitat occurs primarily in Lough Leane and other lakes within the SAC. Under Option 1, the precautionary pathway is direct to Lough Leane via the KCC Countess Road stormwater network (scenario (b)); under scenario (a) the pathway is buffered by WWTP treatment under EPA licence prior to discharge via the Folly Stream to Lough Leane ca 1 km downstream. Under Option 2, the pathway is via the existing 600mm pipe to the River Flesk, with no downstream treatment, and Lough Leane is reached ca 2 km downstream of the site at Ross Bay. In all cases, substantial dilution occurs in Lough Leane (the largest freshwater body in the region). Considering the nature and scale of the proposed development, the on-site SuDS management train, the restriction of discharge to greenfield rates, and the dilution available in the lake, in the absence of further mitigation there is a low likelihood that the proposed development could negatively impact this habitat within the SAC.	Yes (low likelihood)
Oligotrophic to mesotrophic	This habitat type is under significant pressure from	This habitat occurs primarily in Lough Leane and other lakes	Yes (low likelihood)

EU Annex I Habitat [EU Code]	Currently listed threats / pressures	Potential for significant effects	Likely Significant Impacts (in the absence of mitigation)
standing waters with vegetation of the *Littorelletea uniflorae* and/or *Isoeto-Nanojuncetea* [3130]	drainage, agriculture, peat extraction, forestry, and wastewater. The conservation status of this habitat is inadequate with a declining trend.	within the SAC. Under Option 1, the precautionary pathway is direct to Lough Leane via the KCC Countess Road stormwater network (scenario (b)); under scenario (a) the pathway is buffered by WWTP treatment under EPA licence prior to discharge via the Folly Stream to Lough Leane ca 1 km downstream. Under Option 2, the pathway is via the existing 600mm pipe to the River Flesk, with no downstream treatment, and Lough Leane is reached ca 2 km downstream of the site at Ross Bay. In all cases, substantial dilution occurs in Lough Leane (the largest freshwater body in the region). Considering the nature and scale of the proposed development, the on-site SuDS management train, the restriction of discharge to greenfield rates, and the dilution available in the lake, in the absence of further mitigation there is a low likelihood that the proposed development could negatively impact this habitat within the SAC.	
Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260]	This habitat type is under significant pressure from agriculture, municipal, and industrial discharges which result in nutrient and organic pollution. The conservation status of this habitat is inadequate with a declining trend.	This habitat type is associated with flowing watercourses of the SAC. Under Option 1, the receiving waterbody is Lough Leane in either scenario; the discharge does not directly enter a watercourse of this habitat type. Under Option 2, discharge enters the River Flesk directly without intermediate treatment; the River Flesk has the potential to support [3260]	Yes (low likelihood)

EU Annex I Habitat [EU Code]	Currently listed threats / pressures	Potential for significant effects	Likely Significant Impacts (in the absence of mitigation)
		vegetation in suitable reaches. Considering the nature and scale of the proposed development, the on-site SuDS management train, and the restriction of flows to greenfield rates (which avoids hydraulic disturbance to the receiving watercourse), in the absence of further mitigation there is a low likelihood of significant effects under both options; the relative unmitigated risk is higher under Option 2 because the pathway is direct to a watercourse of this habitat type.	
Northern Atlantic wet heaths with *Erica tetralix* [4010]	There are a number of threats facing this habitat type including: overgrazing, burning, erosion, wind farm development, climate change, and agricultural activities that generate air pollution. The conservation status of this habitat is bad with a declining trend.	This habitat type does not occur in proximity to the proposed development site. Considering the nature and scale of the proposed development, the requirements of this habitat type, and the distance between the proposed development site and this habitat type, significant adverse impacts on this habitat type are not foreseen.	No
European dry heaths [4030]	There are a number of threats facing this habitat type including: overgrazing, burning, erosion, wind farm development, and afforestation. The conservation status of this habitat is bad with a stable trend.	This habitat type does not occur in proximity to the proposed development site. Considering the nature and scale of the proposed development, the requirements of this habitat type, and the distance between the proposed development site and this habitat type, significant adverse impacts on this habitat type are not foreseen.	No
Alpine and Boreal heaths [4060]	Sheep grazing, hill walking, climate change, and agricultural activities resulting in nitrogen deposition are recognised as the	This habitat type does not occur in proximity to the proposed development site. Considering the nature and scale of the proposed	No

EU Annex I Habitat [EU Code]	Currently listed threats / pressures	Potential for significant effects	Likely Significant Impacts (in the absence of mitigation)
	main threats facing this habitat type. The conservation status of this habitat is bad with an improving trend.	development, the requirements of this habitat type, and the distance between the proposed development site and this habitat type, significant adverse impacts on this habitat type are not foreseen.	
Juniperus communis formations on heaths or calcareous grasslands [5130]	There are no significant pressures facing this habitat, however overgrazing, erosion and scrub removal pose a threat at a local scale. The conservation status of this habitat type is favourable with a stable trend.	This habitat type does not occur in proximity to the proposed development site. Considering the nature and scale of the proposed development, the requirements of this habitat type, and the distance between the proposed development site and this habitat type, significant adverse impacts on this habitat type are not foreseen.	No
Calaminarian grasslands of the *Violetalia calaminariae* [6130]	Abiotic natural processes and succession, in addition to impacts from recreational activities are the main threats facing this habitat type. The conservation status of this habitat is inadequate with a declining trend.	This habitat type does not occur in proximity to the proposed development site. Considering the nature and scale of the proposed development, the requirements of this habitat type, and the distance between the proposed development site and this habitat type, significant adverse impacts on this habitat type are not foreseen.	No
Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) [6410]	The main pressures facing this habitat type are associated with agricultural intensification, undergrazing, and forestry. The conservation status of this habitat is bad with a declining trend.	This habitat type does not occur in proximity to the proposed development site. Considering the nature and scale of the proposed development, the requirements of this habitat type, and the distance between the proposed development site and this habitat type, significant adverse impacts on this habitat type are not foreseen.	No

EU Annex I Habitat [EU Code]	Currently listed threats / pressures	Potential for significant effects	Likely Significant Impacts (in the absence of mitigation)
Blanket bogs (* if active bog) [7130]	The main pressures facing this habitat type are overgrazing, burning, afforestation, peat extraction, agricultural activities resulting in nitrogen deposition, erosion, drainage, and wind farm construction. The conservation status of this habitat is bad with a declining trend.	This habitat type does not occur in proximity to the proposed development site and can be considered to be isolated from the proposed development both ecologically and hydrologically. Considering the nature and scale of the proposed development, the requirements of this habitat type, and the distance between the proposed development site and this habitat type, significant adverse impacts on this habitat type are not foreseen.	No
Depressions on peat substrates of the *Rhynchosporion* [7150]	The main threats facing this habitat type are associated with the impacts facing supporting bog habitats, in particular, overgrazing, burning, peat extraction, drainage, and conversion to forestry. The conservation status of this habitat is bad with a declining trend.	This habitat type does not occur in proximity to the proposed development site and can be considered to be isolated from the proposed development both ecologically and hydrologically. Considering the nature and scale of the proposed development, the requirements of this habitat type, and the distance between the proposed development site and this habitat type, significant adverse impacts on this habitat type are not foreseen.	No
Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0]	The main threat currently facing this habitat type is the establishment of non-native species such as Rhododendron, Cherry Laurel, and Beech. Overgrazing by deer also poses a threat. The conservation status of this habitat is bad with a declining trend.	This habitat type does not occur in proximity to the proposed development site. Considering the nature and scale of the proposed development, the requirements of this habitat type, and the distance between the proposed development site and this habitat type, significant adverse impacts on this habitat type are not foreseen.	No
Alluvial forests with *Alnus glutinosa* and	There are a number of threats facing this habitat type, the	This habitat type does not occur in proximity to the proposed	No

EU Annex I Habitat [EU Code]	Currently listed threats / pressures	Potential for significant effects	Likely Significant Impacts (in the absence of mitigation)
Fraxinus excelsior (*Alno-Padion, Alnion incanae, Salicion albae*) [91E0]	most significant being the establishment of invasive species. The conservation status of this habitat is bad with a declining trend.	development site. Considering the nature and scale of the proposed development, the requirements of this habitat type, and the distance between the proposed development site and this habitat type, significant adverse impacts on this habitat type are not foreseen.	
Taxus baccata woods of the British Isles [91J0]	The establishment of non-native species and overgrazing by deer are the main threats facing this habitat type. The conservation status of this habitat is bad with a stable trend.	This habitat type does not occur in proximity to the proposed development site. Considering the nature and scale of the proposed development, the requirements of this habitat type, and the distance between the proposed development site and this habitat type, significant adverse impacts on this habitat type are not foreseen.	No
Geomalacus maculosus (Kerry Slug) [1024]	There are no significant threats currently facing this species and its conservation status is favourable with an improving trend.	The mapped distribution of this species within the SAC shows that Kerry Slug occur over 10km away from the proposed development site. Considering the nature and scale of the proposed development, the requirements of this species, and the distance between the proposed development site and the known distribution of this species within the SAC, significant adverse impacts on this species are not foreseen.	No
Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]	The main threat facing this threat is habitat deterioration which can result from a variety of sources. The conservation status of this species in bad with a declining trend.	Freshwater Pearl Mussel populations within the SAC occur in catchments that are hydrologically separate from both the Lough Leane system (Option 1 receiving water) and the River Flesk (Option 2 receiving water).	No

EU Annex I Habitat [EU Code]	Currently listed threats / pressures	Potential for significant effects	Likely Significant Impacts (in the absence of mitigation)
		The River Flesk is not a designated FPM catchment of the SAC. The proposed development site is therefore not hydrologically connected to any FPM-designated catchment within the SAC under either option. Considering the nature and scale of the proposed development, the requirements of this species, and the lack of hydrological connectivity between the proposed development site and the known distribution of this species within the SAC, significant adverse impacts on this species are not foreseen under either option	
Euphydryas aurinia (Marsh Fritillary) [1065]	Changes in landuse associated with agricultural conversion and afforestation pose a threat to this species. Natural succession can also result in the vegetation becoming unsuitable. The conservation status of this species is inadequate with an improving trend.	The mapped distribution of this species within the SAC shows that Marsh Fritillary occur over 5km away from the proposed development site. Considering the nature and scale of the proposed development, the requirements of this species, and the distance between the proposed development site and the known distribution of this species within the SAC, significant adverse impacts on this species are not foreseen.	No
Petromyzon marinus (Sea Lamprey) [1095]	The main threat facing this species is the presence of barriers to upstream migration which limit access to spawning beds and juvenile habitats. The conservation status of this species is bad with a stable trend.	Sea Lamprey is an anadromous species; adults migrate from the sea into freshwater rivers to spawn, while ammocoetes (larvae) occupy fine sediment in flowing watercourses for several years before metamorphosing and returning to sea. The conservation status of this species in Ireland is bad with a stable trend, with the principal threat being barriers to	Yes (low likelihood)

EU Annex I Habitat [EU Code]	Currently listed threats / pressures	Potential for significant effects	Likely Significant Impacts (in the absence of mitigation)
		upstream migration; water quality — particularly fine sediment loading of ammocoete habitat — is a secondary concern. The exact distribution of Sea Lamprey within the SAC is not mapped in the Conservation Objectives Document, but the Laune–Lough Leane–Flesk corridor is a potential migration and spawning route. Under Option 1, the precautionary pathway is direct to Lough Leane (scenario (b)); Lough Leane lies on the migratory pathway. Under Option 2, the pathway is direct to the River Flesk, which is itself potential migration and spawning habitat. Considering the on-site SuDS management train (designed to retain sediment) and the restriction to greenfield discharge rates, in the absence of further mitigation there is a low likelihood of significant effects under both options; the relative unmitigated risk is higher under Option 2 because the receptor (Flesk) is the spawning/ammocoete habitat itself, whereas under Option 1 the receptor is Lough Leane (a transit/migratory waterbody).	
Lampetra planeri (Brook Lamprey) [1096]	There are currently no significant threats facing this species and the conservation status is favourable with a stable trend.	Brook Lamprey is a non-migratory species that completes its entire lifecycle in freshwater, occupying small streams and rivers within the SAC. The species has favourable conservation status with a stable trend, and no significant threats are currently listed by NPWS. The ammocoete (larval) stage nevertheless occupies fine	Yes (low likelihood)

EU Annex I Habitat [EU Code]	Currently listed threats / pressures	Potential for significant effects	Likely Significant Impacts (in the absence of mitigation)
		sediment in flowing watercourses for several years and is sensitive to additional fine sediment inputs that can smother burrowing habitat. The exact distribution of Brook Lamprey within the SAC is not mapped in the Conservation Objectives Document, but the species could be present in the River Flesk and its tributaries. Under Option 1, the receiving waterbody is Lough Leane; Brook Lamprey is unlikely to occur in Lough Leane itself, although tributaries of the lake may support the species. Under Option 2, the pathway is direct to the River Flesk, which represents potential habitat for the species. Considering the on-site SuDS management train and the restriction to greenfield discharge rates, in the absence of further mitigation there is a low likelihood of significant effects under both options; the relative unmitigated risk is higher under Option 2.	
Lampetra fluviatilis (River Lamprey) [1099]	The conservation status of this species is currently unknown, due to difficulties in distinguishing between river and brook lamprey larvae, and difficulties associated with sampling for adult river lamprey.	River Lamprey is an anadromous species; adults occupy estuarine and marine waters and migrate to freshwater rivers to spawn, while ammocoetes occupy fine sediment in flowing watercourses for several years. The conservation status of this species in Ireland is currently classified as unknown, owing to difficulties in distinguishing the larvae of River and Brook Lamprey and to sampling difficulties for adult River Lamprey. The exact	Yes (low likelihood)

EU Annex I Habitat [EU Code]	Currently listed threats / pressures	Potential for significant effects	Likely Significant Impacts (in the absence of mitigation)
		distribution of River Lamprey within the SAC is not mapped in the Conservation Objectives Document, but the Laune–Lough Leane–Flesk corridor is a potential migration and spawning route. Under Option 1, the precautionary pathway is direct to Lough Leane (scenario (b)); Lough Leane lies on the migratory pathway. Under Option 2, the pathway is direct to the River Flesk, which is itself potential habitat for the species at all life stages. Considering the on-site SuDS management train and the restriction to greenfield discharge rates, in the absence of further mitigation there is a low likelihood of significant effects under both options; the relative unmitigated risk is higher under Option 2 because of the more direct exposure to spawning and ammocoete habitat.	
Salmo salar (Salmon) [1106]	There are no significant threats currently facing this species, although water quality is a concern. The conservation status of this species is inadequate with a stable trend.	The River Flesk is a known salmonid watercourse within the SAC, and Atlantic Salmon migrate via the Laune–Lough Leane–Flesk corridor. Under Option 1, the precautionary pathway is direct to Lough Leane (scenario (b)); Lough Leane lies on the migratory pathway. Under Option 2, the pathway is direct to the Flesk without intermediate treatment. Salmon could be affected by accidental release of fine sediment, hydrocarbons or other pollutants in the absence of mitigation, particularly during	Yes (low likelihood)

EU Annex I Habitat [EU Code]	Currently listed threats / pressures	Potential for significant effects	Likely Significant Impacts (in the absence of mitigation)
		sensitive life-history periods. Considering the SuDS management train and discharge at greenfield rates, in the absence of further mitigation there is a low likelihood of significant effects under both options; the relative unmitigated risk is higher under Option 2.	
Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]	There have been significant declines in the habitat and range of this species, which have resulted in a conservation status of inadequate with a declining trend.	The proposed development site is within the core foraging range as indicated in the Conservation Objectives Document for the SAC. Standalone bat surveys has concluded that the site is of value to the species. Potential significant effects associated with impacts from habitat loss and lighting are identified.	Yes
Lutra lutra (Otter) [1355]	There are currently no significant threats or pressures facing this species. The conservation status of this species is favourable with an improving trend.	Otter is widespread in the SAC and the River Flesk corridor and Lough Leane shoreline both provide foraging and commuting habitat. Otter is robust to water quality changes within the ranges that could plausibly result from a development of this scale, but is sensitive to disturbance and to depletion of prey populations. Under Option 1, the receiving waterbody is Lough Leane. Under Option 2, the receiving waterbody is the River Flesk. In the absence of mitigation, there is a low likelihood of significant effects on otter under both options.	Yes (low likelihood)
Trichomanes speciosum (Killarney Fern) [1421]	There are no significant pressures facing this species. At a local scale invasive species	The distribution of this species within the SAC is not mapped within the Conservation Objectives	No

EU Annex I Habitat [EU Code]	Currently listed threats / pressures	Potential for significant effects	Likely Significant Impacts (in the absence of mitigation)
	may pose a threat. The conservation status of this species is favourable with a stable trend.	Document. However given the location of the proposed development site within an urban area it is highly unlikely that this species occurs in proximity to the proposed development site. Considering the nature and scale of the proposed development, the requirements of this species, and the distance between the proposed development site and this species, significant adverse impacts on this species are not foreseen.	
Najas flexilis (Slender Naiad) [1833]	This species is under threat from eutrophication, acidification, and peatland damage. The conservation status of this species is inadequate with a declining trend.	This species occurs primarily in Lough Leane and other lakes within the SAC. Under Option 1, the precautionary pathway is direct to Lough Leane via the KCC Countess Road stormwater network (scenario (b)); under scenario (a) the pathway is buffered by WWTP treatment under EPA licence prior to discharge via the Folly Stream to Lough Leane ca 1 km downstream. Under Option 2, the pathway is via the existing 600mm pipe to the River Flesk, with no downstream treatment, and Lough Leane is reached ca 2 km downstream of the site at Ross Bay. In all cases, substantial dilution occurs in Lough Leane (the largest freshwater body in the region). Considering the nature and scale of the proposed development, the on-site SuDS management train, the restriction of discharge to greenfield rates, and the dilution available in the lake, in the	Yes (low likelihood)

EU Annex I Habitat [EU Code]	Currently listed threats / pressures	Potential for significant effects	Likely Significant Impacts (in the absence of mitigation)
		absence of further mitigation there is a low likelihood that the proposed development could negatively impact this species within the SAC.	
Alosa fallax killarnensis (Killarney Shad) [5046]	Ongoing eutrophication, in particular associated with increased summer levels pose a continued threat for this species. The conservation status of this species is favourable with a stable trend.	This species occurs primarily in Lough Leane and other lakes within the SAC. Under Option 1, the precautionary pathway is direct to Lough Leane via the KCC Countess Road stormwater network (scenario (b)); under scenario (a) the pathway is buffered by WWTP treatment under EPA licence prior to discharge via the Folly Stream to Lough Leane ca 1 km downstream. Under Option 2, the pathway is via the existing 600mm pipe to the River Flesk, with no downstream treatment, and Lough Leane is reached ca 2 km downstream of the site at Ross Bay. In all cases, substantial dilution occurs in Lough Leane (the largest freshwater body in the region). Considering the nature and scale of the proposed development, the on-site SuDS management train, the restriction of discharge to greenfield rates, and the dilution available in the lake, in the absence of further mitigation there is a low likelihood that the proposed development could negatively impact this species within the SAC.	Yes (low likelihood)

5 MITIGATION

As outlined above, in the absence of suitable mitigation, the proposed residential development has the potential to give rise to adverse effects on the conservation objectives Killarney National Park, Macgillycuddy's Reeks And Caragh River Catchment SAC. Potential effects identified relate to Lesser Horseshoe Bat usage of the site and potential for effects on aquatic Habitats and Species of the SAC due to potential risks to downstream water quality and quantity.

Mitigation relating to bats water quality and water quality are presented in sperate sections below. A summary of potential for significant effects after mitigation is presented in Table 9 below.

5.1 Mitigation Relating to Lesser Horseshoe Bat

Mitigation presented in this section aims to avoid or reduce identified effects on the local LHB population. There are additional mitigation measures required in relation to other bat species as presented in the standalone Ecological Impact Assessment and bat survey report that accompanies the application (Appendix II).

5.1.1 Construction Phase

5.1.1.1 Loss or Severance of Foraging and Commuting Habitat

As noted in Section 4.3.1.1.1, the proposed landscaping plan includes for the planting of 205 no. trees comprised of native species and planting of 360 linear metres hedgerows comprised of native species. As the proposed planting matures, there will be a net gain of 167 trees and 16m hedgerow at the proposed site in the medium to long-term. No further specific mitigation measures are required.

For a detailed description of Biodiversity Net Gain achieved by the proposed planting scheme please refer to the Landscaping Plan and Ecological Impact Assessment (EcIA) accompanying the planning application.

5.1.1.2 Lighting

To minimise disturbance to bats and other fauna that are active at night, construction operations during the hours of darkness will be kept to a minimum. If construction lighting is required during the bat activity period (April to September), lighting shall be directed away from all known roosts and woodland habitats to be retained. This can be achieved by using directional lighting (i.e. lighting which only shines on the proposed works and not nearby countryside) to prevent overspill. This shall be achieved by the design of the luminaire and by using accessories such as hoods, cowls, louvres and shields to direct the light to the intended area only.

5.1.2 Operational Phase

5.1.2.1 Barrier effect as a result of artificial lighting

The protection of dark refuges is essential for bats, particularly in urban and suburban areas. Careful design of the lighting will be important to ensure that the development does not create barriers for bats commuting and foraging in the study area, while maintaining health and safety requirements for human use. This is particularly important for bat foraging/commuting habitat within, and at the edge of, retained linear woodland habitats (hedgerows) at the site.

The following general principles will be followed in relation to the overall lighting plan for the proposed development site:

- Lighting design will be flexible and be able to fully take into account the presence of protected species. Therefore, appropriate lighting shall be used within the proposed development and adjacent areas with more sensitive lighting regimes deployed in wildlife sensitive areas, including foraging areas for bats along hedgerows.
- Dark buffer zones will be used to separate habitats or features from lighting by forming a dark perimeter around them. This shall be used for habitat features noted as roosting and foraging areas for bats and light spill onto foraging habitat (i.e. hedgerows) shall be avoided.
- Buffer zones will be used to protect dark buffer zones and rely on ensuring light levels (levels of illuminance measured in lux) within a certain distance of a feature do not exceed certain defined limits. The buffer zone can be further subdivided into zones of increasing illuminance limit radiating away from the feature or habitat that requires to be protected. This will apply to foraging habitat (i.e. hedgerows).
-

Luminaire design is extremely important to achieve an appropriate lighting regime. Luminaires come in a myriad of different styles, applications and specifications which a lighting professional can help to select. The following will be considered when choosing luminaires. This is taken from the most recent BCT Lighting Guidelines (BCT, 2023).

- All luminaires used will lack UV elements to reduce impact.
- LED luminaires will be used due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.
- A warm white spectrum (<2700 Kelvins) is recommended to reduce the blue light component.
- Light sources shall feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats.
- Waymarking inground markers (low output with cowls or similar to minimise upward light spill) to delineate path edges.
- Column heights shall be carefully considered to minimise light spill and glare visibility. This should be balanced with the potential for increased numbers of columns and upward light reflectance as with bollards.
- Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered - See ILP GN01.
- Luminaires shall always be mounted horizontally, with no light output above 90° and/or no upward tilt.

- Where appropriate, external security lighting shall be set on motion sensors and set to as short a possible a timer as the risk assessment will allow. For most general residential purposes, a 1 or 2 minute timer is likely to be appropriate.
- The use of bollard or low-level downward-directional luminaires is strongly discouraged. This is due to a considerable range of issues, such as unacceptable glare, poor illumination efficiency, unacceptable upward light output, increased upward light scatter from surfaces and poor facial recognition which makes them unsuitable for most sites. Therefore, they should only be considered in specific cases where the lighting professional and project manager are able to resolve these issues.
- Only if all other options have been explored, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed. However, due to the lensing and fine cut-off control of the beam inherent in modern LED luminaires, the effect of cowls and baffles is often far less than anticipated and so should not be relied upon solely.

For this development specifically, there will be light spill onto Countess Road at the northern site boundary, as exists in the current baseline situation; this is required for safety. The lighting along the hedgerows at the rest of the site boundary has been minimised so that dark areas are retained on the eastern site boundary and the south-western site boundary. The lighting has been pulled back from the southern site boundary as far as is practicable while still allowing for human safety.

A copy of the proposed illumination contour drawing for public lighting is presented as an appendix to the standalone bat report.

The proposed private lighting has been designed in compliance with ILP "ILP *Guidance notes for the Reduction of Obtrusive light* (GN01:2021). It is recognised that light fittings can be adjusted after handover, which may affect light spill levels. However, up to this point, the proposed lighting design ensures that external lighting shall be limited to downlighters, resulting in a 1.0lx light spill onto footpaths but with a minimal spill outside of these areas.

5.2 Water Quality Mitigation

Mitigation measures for the proposed development are largely utilised to manage surface water and waste water emanating from the development and eliminate any risk to downstream water quality.
It is necessary to ensure that water discharging from the site is regulated in relation to quality and quantity to ensure that it does not present a risk to downstream waterbodies of the SAC. The on-site stormwater system will be tied in to the chosen public stormwater network at the end of the construction phase, prior to handover of the first units in Phase 1. Two outfall options are described in Section 3.1 and assessed in Section 4.3.2: Option 1 (preferred) connects to the KCC stormwater network on Countess Road; Option 2 (alternative) connects to the existing 600mm public stormwater pipe traversing the site.

Where surface-water run-off occurs at the site during the construction phase, it will be managed and controlled on-site by implementing standard environmental controls as described below and

incorporated into the Construction Environmental Management Plan (CEMP). For the avoidance of doubt, no construction-phase surface water will be discharged to the public stormwater network; the on-site stormwater system will be tied in to the chosen public network only at the end of construction (see below).

The proposed surface water drainage plan for the operational phase of the development is detailed in the Drainage Impact Assessment (DOSA Consulting Engineers) and the Infrastructure Report, both of which accompany the planning application. In summary, surface water generated from the proposed residential development will be conveyed through a proposed surface water network including SuDS components, attenuated and managed on-site prior to final discharge at restricted predevelopment greenfield run-off rates (28.5 l/s) to the chosen public network. The drainage design has incorporated nature-based solutions to achieve its objectives of regulating and providing for water quality, water quantity, and biodiversity / amenity. Key features of the surface water drainage scheme include rainwater harvesting, filter drains, tree pits, attenuation tanks, flow control devices, hydrocarbon interceptor, and swales. Site infiltration testing indicates limited infiltration capacity, and the design accordingly does not rely on infiltration as the primary disposal route; partial infiltration via the SuDS source-control elements (raingardens, tree pits, permeable surfaces) is incorporated where ground conditions permit, with the balance attenuated and discharged to the public network at greenfield rates. Attenuated stormwater flows, of low pollutant load following passage through the SuDS treatment train, will be discharged at the restricted greenfield rate.

Mitigation applicable under both options (Option 1 and Option 2)

All measures presented in this section apply equally to Option 1 and Option 2. The assessment in Section 4.3.2 has identified that the relative unmitigated pathway risk to the SAC is highest under Option 2 (direct discharge to a qualifying watercourse) and under Option 1 scenario (b) (direct discharge to Lough Leane via a stormwater outfall, without WWTP treatment). The mitigation specified below has therefore been designed against the precautionary worst case — direct discharge to a SAC waterbody without intermediate treatment. It will, a fortiori, be sufficient to rule out adverse effects on the integrity of the SAC under Option 1 scenario (a) (treatment-buffered via Killarney WWTP).

Construction phase

The construction sequencing inherently provides a high level of pathway protection: the new connection to the chosen public stormwater network will not be made until the end of the construction phase, prior to handover of the first units in Phase 1. For the duration of the construction programme, surface water within the site will be managed on-site through temporary controls and there is no surface water pathway to the SAC via the new connection. The site has an existing partial baseline pathway to the SAC via an overflow standpipe (300–400mm above ground level) connected to the existing 600mm stormwater pipe traversing the site; DOSA has confirmed that this overflow will be proactively bunded throughout the construction phase to prevent any construction-phase discharge to the southern stormwater network. The following measures shall apply during construction and are committed to in the CEMP:

- The existing 600mm stormwater overflow standpipe at the lowest point of the site shall be proactively bunded for the full duration of the construction phase to prevent any discharge of construction-phase surface water to the southern stormwater network.
- Perimeter silt fencing, earthen bunds and interceptor trenches shall be installed at the start of construction and maintained throughout, particularly along the western and southern site boundaries, such that no contaminated surface water run-off can leave the site.
- Settlement ponds shall be provided to capture and settle surface water runoff from active works areas. Ponds shall be lined with cohesive material (with the addition of an engineered liner where a sealed drainage system is in use), shall not discharge by infiltration where contamination risk exists, and shall be desludged and maintained on a defined schedule.
- A Site Environment Plan (SEP) shall be developed identifying fuel storage and re-fuelling locations and spill kit locations. Spill response kits shall be provided for each piece of heavy equipment (excavators, loaders, trucks), each at least 21 litre drum size with spill pads, sorbent, small boom, plastic garbage bag and gloves.
- Diesel and other fuel storage tanks shall be self-contained and double-walled and bunded to 110% of the largest vessel; refuelling shall take place only on impermeable hardstanding within designated areas, in accordance with Enterprise Ireland BPGCS005.
- Fuels, lubricants and hydraulic fluids shall be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with spill containment in accordance with best industry practice.
- Any spillage of fuels, lubricants or hydraulic oils shall be immediately contained and the contaminated soil removed from the site for disposal at a licensed facility. Waste oils and hydraulic fluids shall be collected in leak-proof containers and removed from the site for disposal or recycling.
- Concrete pours and washout shall be managed such that no concrete-contaminated water can enter the surface water system or migrate beyond the works area.
- Wheelwash water and any wastewater from equipment cleaning shall be collected and disposed of off-site at a licensed facility; under no circumstances shall such water be allowed to discharge to ground, drainage ditches or any adjoining feature. Debris and sediment captured by vehicle wheel washes shall be collected and disposed of off-site at a licensed facility.

Tie-in works to the public stormwater network

The connection of the site stormwater system to the chosen public network (Option 1 or Option 2) will be made at the end of the construction phase, prior to handover of the first units in Phase 1. This represents the point at which the new operational pathway from the site to the SAC is established. Tie-in works are short-duration and contained, but are subject to the following specific controls:

- Tie-in shall be scheduled to occur during a period of forecast dry weather where practicable.
- Prior to tie-in, the on-site SuDS management train and attenuation system shall be inspected, fully commissioned and confirmed operational. The hydrocarbon interceptor and silt traps shall be confirmed clean and functioning prior to first discharge.
- The site outfall shall be fitted with an isolation valve as part of the tie-in works, allowing the contractor and subsequently the operator to physically isolate the site from the receiving

network in the event of an incident. The isolation valve shall remain accessible and operable through the operational phase.

- For the avoidance of doubt, no surface water shall be permitted to discharge to the public network from the site prior to commissioning of the on-site SuDS treatment train.
- If Option 2 is the implemented outfall, water quality monitoring on the River Flesk (suspended solids, hydrocarbons, conductivity) shall be undertaken at agreed upstream and downstream locations during tie-in works and during the first three months of operational discharge, on a frequency to be agreed with the Local Authority. Sampling results shall be reported to the Local Authority and trigger thresholds shall be specified for adaptive response.
- If Option 1 scenario (b) is confirmed (direct stormwater outfall to Lough Leane without WWTP treatment), equivalent water quality monitoring shall be undertaken at the receiving outfall location on the same basis.

Operational phase

- The on-site SuDS management train (rainwater butts, tree pits, swales/bioretention, hydrocarbon interceptors, lined attenuation tanks, flow restriction to greenfield rates) shall be implemented as designed in the Drainage Impact Assessment.
- Roads and parking areas within the development shall be finished with tarmac or asphalt and shall discharge runoff to the piped surface water drainage system, with hydrocarbon interceptors incorporated into the site drainage design to capture spillage and leaks of oil from vehicles parked in the development during the operational phase.
- Building floor levels and road levels shall be set above the design flood level to ensure that back-flows through the surface water outfalls cannot occur.
- The storm drainage system, with associated hydrocarbon interceptors and silt collection, shall be cleaned and maintained on an on-going basis throughout its lifetime in accordance with manufacturer's instructions and best industry practice. All bypass separators shall be fitted with an oil level alarm system; the alarm shall be installed, tested, commissioned, and regularly serviced by a qualified technician. Maintenance of both the separator and alarm shall be carried out at minimum every 6 months. A maintenance agreement with the bypass separator supplier shall be entered into to provide a full technical and service package including separator and alarm installation, commissioning, oil and silt removal and a routine service contract.
- A formal operation and maintenance schedule shall be put in place for the SuDS components and committed to in perpetuity by the responsible body. The hydrocarbon interceptor in particular shall be inspected and maintained at the frequency recommended by the manufacturer and at minimum annually, with maintenance records retained and made available to the Local Authority on request.

Foul wastewater

The proposed wastewater system comprises an internal gravity network discharging to the municipal foul network via a gravity connection. Wastewater from the site will be treated at Killarney WWTP, which is operated by Uisce Éireann under an EPA wastewater discharge licence. The WWTP treats wastewater to a tertiary standard which includes nitrogen and phosphorus removal. Subject to a valid

connection agreement (Confirmation of Feasibility from Uisce Éireann), the proposed connection to the public foul network is feasible. Hydraulic capacity at the WWTP is a matter for Uisce Éireann and the EPA; Uisce Éireann has not raised capacity concerns in respect of this development. Should the Option 1 stormwater pathway be confirmed as scenario (a) (via Killarney WWTP), the foregoing also applies to the stormwater stream as it enters the foul/treatment network.

Construction Environmental Management Plan

The outline Construction Environmental Management Plan (CEMP) prepared by the contractor incorporates the construction-phase mitigation listed above, including the proactive bunding of the existing 600mm overflow standpipe. The CEMP will be finalised with input from a project ecologist prior to the commencement of construction.

A summary of potential effects after mitigation is presented in Table 9. With the mitigation set out in this Section 5.2 and in Section 5.1 (mitigation relating to Lesser Horseshoe Bat), no adverse effects on the integrity of Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC are predicted under either Option 1 (in either downstream-destination scenario) or Option 2.

Table 9 below presents the post-mitigation assessment for those QIs identified in Table 8 as carrying a likely significant effect on the SAC in the absence of mitigation, together with Freshwater Pearl Mussel for completeness. The aquatic QIs are grouped because the mitigation measures (Section 5.2) and the post-mitigation conclusion apply equally to all. Lesser Horseshoe Bat is presented separately because the relevant mitigation is set out in Section 5.1. Other QIs of the SAC (terrestrial habitats, Kerry Slug, Marsh Fritillary, Killarney Fern) are not reproduced in Table 9 because no likely significant effects were identified in Table 8 in the absence of mitigation, and no mitigation is required.

Table 9: Assessment of impacts on relevant Qualifying Interests when mitigation measures are considered

EU Annex I Habitat [EU Code]	Potential for significant effects	Relevant mitigation measure(s)	Likely Significant Effects (when mitigation measures are considered)
Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) [3110]	Considering the nature and scale of the proposed development and the potential hydrological connectivity between the proposed development and the SAC under Option 1 (precautionary worst case: direct discharge to Lough Leane without WWTP treatment) and Option 2 (direct discharge to the River	All mitigation measures described in Section 5.2 above (designed to the precautionary worst case of direct discharge to a SAC waterbody without intermediate treatment) will protect water quality downstream of the proposed development site, and thus within the SAC. Provided these mitigation measures are implemented, no	No
Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or *Isoeto-Nanojuncetea* [3130]			
Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260]			

EU Annex I Habitat [EU Code]	Potential for significant effects	Relevant mitigation measure(s)	Likely Significant Effects (when mitigation measures are considered)
Petromyzon marinus (Sea Lamprey) [1095]	Flesk), in the absence of mitigation the proposed development could potentially lead to a deterioration of water quality downstream affecting this habitat / species. Species-specific assessment is set out in Table 8.	significant deterioration in water quality within the SAC is foreseen, and therefore there will be no adverse effects on these habitats or species under either Option 1 or Option 2.	
Lampetra planeri (Brook Lamprey) [1096]			
Lampetra fluviatilis (River Lamprey) [1099]			
Salmo salar (Salmon) [1106]			
Lutra lutra (Otter) [1355]			
Najas flexilis (Slender Naiad) [1833]			
Alosa fallax killarnensis (Killarney Shad) [5046]			
Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]	No likely significant effects identified in Table 8 in the absence of mitigation, on the basis that the proposed development site is not hydrologically connected to any FPM-designated catchment within the SAC under either Option 1 or Option 2 (the River Flesk is not a designated FPM catchment).	No mitigation required for this species. The general water-quality mitigation set out in Section 5.2 nevertheless applies.	No
Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]-	The proposed development site occurs within the core sustenance zone as indicated in the Conservation Objectives Document for the SAC. Standalone bat surveys have concluded that the site is of value to the species and that the proposed development could, in the absence of mitigation lead to a significant adverse effect due to disturbance / loss	Mitigation measures to address loss of foraging and commuting habitat and the potential effects of lighting are set out in Section 5.1 above.	No

EU Annex I Habitat [EU Code]	Potential for significant effects	Relevant mitigation measure(s)	Likely Significant Effects (when mitigation measures are considered)
	of habitat and the effects of lighting.		

6 IN-COMBINATION / CUMULATIVE IMPACTS

It is a requirement of Appropriate Assessment that the combined effects of the proposed development together with other plans or projects be considered.

The following plans and projects were considered in relation to in-combination effects:

- Kerry County Development Plan 2022 – 2028 (Kerry County Council 2022)
- The Killarney Municipal District Local Area Plan 2018-2024 and the Killarney Town Development Plan 2009-2015 (as extended)
- A series of recent grants of planning that occur within the potential zone of impact of the proposes development as presented in Table 10 below.

6.1 Review of Existing Threats and Pressures of SAC

A review of existing threats and pressures on the SAC has been undertaken to determine any potential for the project to contribute cumulatively to previously reported issues. The following documents were reviewed with a view to identifying existing threats and pressures on the conservation status of the SAC that would require consideration in an assessment of cumulative impacts assessment:

- Detailed Conservation Objectives and supporting documents.
- Natura 2000 standard data form
- Published site synopsis
- Article 17 reporting (NPWS 2019, The Status of EU Protected Habitats and Species in Ireland)

Those existing threats and pressures that were most relevant to the proposed development are considered in Table 10 below.

Table 10: Potential for proposed development to contribute cumulatively to existing identified threats and pressures reported for the European site.

Existing threats and pressures	Potential for project to contribute cumulative/in-combination effects with project
Urbanisation and human activity	The proposal site is located in an existing residential, urban and built-up area zoned for residential development. The site is outside the SAC and is not directly connected to any of the QI habitats or species. The site has however been identified as occurring within the core sustenance zone for the QI population of Lesser Horseshoe Bat. The use of the development site for residential purposes has been considered in the assessment of potential effects on LHB. The potential for cumulative effects are considered in relation to other developments (see Table 12 below) within the same core sustenance zone.
Water quality	Impacts on water quality are known amongst some of the key aquatic habitats and species of the SAC, arising from a range of land-use activities including diffuse agricultural pollution, urban runoff, and treated wastewater effluent loading at Killarney WWTP. The assessment of impacts on water quality due to the proposed development is set out in Sections 4.3.2 and 5.2. The proposed

Existing threats and pressures	Potential for project to contribute cumulative/in-combination effects with project
	development establishes a hydrological pathway to a SAC waterbody under both stormwater outfall options under consideration: Option 1 discharges to Lough Leane (within the SAC) — either via Killarney WWTP under scenario (a), or via a direct stormwater outfall to Lough Leane under scenario (b) — and Option 2 discharges to the River Flesk (within the SAC). The contribution of the proposed development to cumulative water quality pressure on the SAC is minimised by (i) restriction of discharge to predevelopment greenfield run-off rates (28.5 l/s), preventing hydraulic compounding of existing flows in the receiving network or watercourse; (ii) the on-site SuDS treatment train, designed to the precautionary worst case of direct discharge to a SAC waterbody without intermediate treatment; and (iii) the option-specific water quality monitoring and isolation measures specified in Section 5.2 at tie-in. The local authority has flagged concerns regarding additional hydraulic loading on the network feeding Killarney WWTP (relevant under Option 1 scenario (a)). This is a matter for the network operator (Uisce Éireann) and the EPA as regulator; from the perspective of cumulative effects on the SAC, the WWTP discharge operates within EPA-consented effluent limits intended to protect the receiving waters of the SAC, and Uisce Éireann has not raised capacity concerns in respect of this development. With the mitigation set out in Section 5.2 implemented, the proposed development is not predicted to contribute significantly to cumulative water quality pressure on the SAC under either Option 1 (in either downstream-destination scenario) or Option 2.
Invasive non-native species	Terrestrial habitats of the SAC are currently impacted significantly by the presence and spread of invasive species, Rhododendron in particular amongst the woodland and peatland habitats. This species was not recorded from the proposed development site. There is no potential pathway for the spread of invasive species from the proposed development site to the SAC. Invasive species within the site will be controlled prior to and during development of the site. The proposed development therefore will not contribute to existing pressures from the spread of invasive species within the SAC.

6.2 Review of County Development Plan and Local Area Plan

Both the Kerry County Development Plan has been subject to appropriate assessment under the Birds and Habitats Directive and have a range of environmental safeguards in place to prevent significant effects to Natura 2000 sites.

The Kerry County Development Plan 2022 – 2028 contains policies and objectives aimed at protecting the natural environment, including European sites (the Natura 2000 network). The following objectives within the Kerry County Development Plan are relevant to the protection of European sites: KCDP 11-1 – KCDP 11-2. In addition, objectives KCDP 11-3 – KDCP 11-5 promote biodiversity and natural heritage within the county and objective KCDP 11-25 support the promotion of biodiversity within urban areas.

The proposed development has been designed in alignment with the policies and objectives of the Kerry County Development Plan. Key objectives in relation to water quality and infrastructure include:

- KY-W-01 – The council is to work closely with Irish Water to identify and facilitate the timely delivery of the water and waste water infrastructure required to realise the development objectives of this plan.
- KY-W-02 - Support the role out of the second and future cycles of the Water Framework Directive including integrated catchment based approaches to the protection of water in collaboration with key stakeholders.

6.3 Other Local Development Projects

A review of recent planning permissions granted in the Killarney area was undertaken with a view to identifying potential for cumulative impacts to arise combined effects with the current project. The outcome of this assessment is presented in Table 11 below.

In considering cumulative effects from other local development projects, account has been taken of the proposed stormwater outfall options for the present development (see Sections 3.1 and 3.4.1.1). Under Option 1 (preferred), surface water discharges to the KCC stormwater network on Countess Road, with the receiving waterbody being Lough Leane (within SAC 000365) under either of two possible flow paths — via Killarney WWTP under scenario (a), or via a direct stormwater outfall under scenario (b). Under Option 2, surface water discharges to the River Flesk (within the SAC) via an existing 600mm public stormwater pipe traversing the site. The cumulative analysis below considers nearby developments that share a drainage destination of relevance to the same SAC waterbodies (Lough Leane, the Folly Stream, the River Flesk, or other SAC receiving waters). Each project listed below has been the subject of its own AA Screening or Natura Impact Statement, with mitigation specified to ensure that no individual significant effects on the SAC arise. Where mitigation is in place for each project on its individual merits, the addition of the present project — itself subject to mitigation designed to the precautionary worst case of direct discharge to a SAC waterbody without intermediate treatment — does not give rise to a significant cumulative pressure on the SAC.

Table 11: Assessment of potential in-combination effects with other projects

Ref. no	Description	Distance	Status	Potential for cumulative effects
22685	School extension and redevelopment at existing site at Ballycasheen. with all related services and site works all at St Oliver's Primary School, Rookery Road, Ballycasheen, Kilarney, Co. Kerry, V93 W594.	c.0.33km	Granted Permission with Conditions.	An AA Screening report concluded there was no potential for likely significant effects on Natura 2000 sites associated with the development. Considering the location, nature and scale of the development cumulative effects are not foreseen.

Ref. no	Description	Distance	Status	Potential for cumulative effects
2467	Construct a rear extension to permitted hotel premises (Killarney Park Hotel East Avenue Road).	c.0.44km	Grant Permission with Conditions.	An AA Screening report concluded there was no potential for likely significant effects on Natura 2000 sites associated with the development. Considering the nature, location and scale of the development cumulative effects are not foreseen.
23759 ABP Ref. 320090	Mixed use development at Ballycasheen. Construct a mixed-use development consisting of 90 bed nursing home, 18 no. independent living units (14 no.1 bedroom and 4 no. 2 bedroom) and 31 no. duplex/apartment residential units (18 no. 2 bedroom and 13 no. 1 bedroom) and all ancillary site development works.	c.1.68km	Granted with conditions and subsequent third party appeal was also conditionally granted.	No. Appropriate Assessment screening concluded that no potential for significant effects. The site lies outside of the core foraging zone for Lesser Horseshoe bat and that there was an absence of foraging & roosting habitat within the site. Considering the nature, location and scale of the development cumulative effects are not foreseen.
23967 ABP Ref. 418509	Large scale residential development at Park Road. Construct 249 no. dwellings and associated mixed use development.	c.1.55km	Granted with conditions and subsequent third party appeal was also conditionally granted.	A Natura Impact Statement was submitted with the proposal. Potential for significant effects were identified relating to Lesser Horseshoe Bat and aquatic habitats and species of the Killarney National Park, Macgillycuddy's Reeks And Caragh River Catchment SAC were identified. The site is removed from the SAC and lies outside of the core foraging zone for Lesser Horseshoe bat. Bat surveys recorded low usage of the site by LHB. A potential commuting route was identified. Mitigation included measures around reduced lighting and retention enhancement of woodland habitat and a linear wooded commuting corridor for bats. Considering the potential

Ref. no	Description	Distance	Status	Potential for cumulative effects
				effects of both projects and the mitigation being provided it is concluded that there is no potential for cumulative effects to arise.
2460295 ABP Ref. 320288	Large scale residential development at Port Road. The construction of a residential development of: 224 no. residential units with ancillary two storey crèche, landscaping, road improvements, pedestrian/cycleways, storm water upgrades and associated site development works.	c.1.7km	Granted with conditions and subsequent third party appeal was also conditionally granted.	A Natura Impact Statement was submitted with the proposal. Potential for significant effects were identified relating to Lesser Horseshoe Bat and aquatic habitats and species of the Killarney National Park, Macgillycuddy's Reeks And Caragh River Catchment SAC were identified. Considering the details of the proposal and the proposed mitigation incorporated into the development It is concluded that significant cumulative effects on the conservation interests of the SAC will not arise.

On the basis of the review of existing threats and pressures on the SAC, the County Development Plan and Killarney Municipal District Local Area Plan, and other recent planning permissions in the area, it is concluded that — with the mitigation set out in Sections 5.1 (Lesser Horseshoe Bat) and 5.2 (Water Quality) implemented — the proposed development will not contribute to significant cumulative or in-combination effects on the qualifying interests of the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC. This conclusion is robust under both stormwater outfall options under consideration (Option 1 in either downstream-destination scenario, and Option 2).

7 CONCLUSION

This assessment was informed by a desktop review and a series of field surveys. It has been determined that the proposed development may, in the absence of mitigation measures, potentially lead to significant adverse impacts on the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC.

Taking into account all matters discussed and provided that the mitigation measures and recommendations are adopted, it is objectively concluded that the proposed residential development at Countess Road, Killarney, Co. Kerry will not adversely affect the integrity and conservation status of the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC in view of the conservation objectives for this site.

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APPENDIX I

Published NPWS Site Descriptions

Site Name: Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC
SPA Site Code: 000365

This very large site encompasses the mountains, rivers and lakes of the Iveragh Peninsula, and the Paps Mountains which stretch eastward from Killarney towards Millstreet. The majority of the site is in Co. Kerry, with a small portion in Co. Cork. This is the most mountainous region in Ireland and includes Carrauntoohil, the highest peak in the country at 1,039 m. The underlying geology is almost entirely Old Red Sandstone, although Carboniferous limestone occurs on the eastern shores of Lough Leane, and rhyolitic lavas occur above Lough Guitane. The dramatic sandstone ridges and valleys have been shaped by glacial processes and many of the lakes are impounded by glacial moraines. Located close to the Atlantic in the southwest of Ireland, the site is subject to strong oceanic influences. Generally, Lusitanian flora and fauna is well-represented, while the high peaks and cliffs support arctic alpine relicts.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[3110] Oligotrophic Waters containing very few minerals
[3130] Oligotrophic to Mesotrophic Standing Waters
[3260] Floating River Vegetation
[4010] Wet Heath
[4030] Dry Heath
[4060] Alpine and Subalpine Heaths
[5130] Juniper Scrub
[6130] Calaminarian Grassland
[6410] *Molinia* Meadows
[7130] Blanket Bogs (Active)*
[7150] Rhynchosporion Vegetation
[91A0] Old Oak Woodlands
[91E0] Alluvial Forests*
[91J0] Yew Woodlands*

[1024] Kerry Slug (*Geomalacus maculosus*)
[1029] Freshwater Pearl Mussel (*Margaritifera margaritifera*)
[1065] Marsh Fritillary (*Euphydryas aurinia*)
[1095] Sea Lamprey (*Petromyzon marinus*)

[1096] Brook Lamprey (*Lampetra planeri*)
[1099] River Lamprey (*Lampetra fluviatilis*)
[1103] Twaite Shad (*Alosa fallax*)
[1106] Atlantic Salmon (*Salmo salar*)
[1303] Lesser Horseshoe Bat (*Rhinolophus hipposideros*)
[1355] Otter (*Lutra lutra*)
[1421] Killarney Fern (*Trichomanes speciosum*)
[1833] Slender Naiad (*Najas flexilis*)

The Oak woodlands, occurring mostly around the Killarney lakes, are the habitat for which the area is perhaps best known. They form the most extensive area of native woodland remaining in Ireland and include Derrycunihy Wood, described as perhaps the most natural Sessile Oak (*Quercus petraea*) wood in the country. The woods are typically dominated by Sessile Oak, with an understorey of Holly (*Ilex aquifolium*). The Strawberry-tree (*Arbutus unedo*) is a notable component of the woods and there are scattered areas of Yew (*Taxus baccata*). The herb layer is not particularly species-rich, but the woods support perhaps the best developed Atlantic bryophyte community in Europe. Several rare species are present including *Lejeunea flava, Cyclodictyon laetivirens, Daltonia splachnoides, Sematophyllum demissum* and *Radula carringtonii.*

The only sizeable Yew woodland in Ireland is found on the limestone of the Muckross peninsula. Here, some of the trees are up to 200 years old. The dense shade beneath the tree results in few herbs in the ground flora, but the bryophyte layer is well-developed and almost continuous.

Wet woodland, or carr, occurring on the low-lying limestone areas within the floodplain of Lough Leane, forms one of the most extensive areas of this woodland type in Ireland. The dominant canopy species are Alder (*Alnus glutinosa*), willows (*Salix* spp.), Ash (*Fraxinus excelsior*) and Downy Birch (*Betula pubescens*), while the field layer is dominated by Remote Sedge (*Carex remota*) and Creeping Bent (*Agrostis stolonifera*).

Adding to the diversity of the woodland component of this site are a number of mixed woodlands, including those of Ross Island which support one of the richest herb layers of the Killarney woods.

The most common habitat types within the overall site are blanket bog, heath and upland grassland. The heath and grassland generally occur on areas with shallow peat and on the mineral soils of the steep mountain sides, while the blanket bog occurs on the more gentle slopes, plateaux and other level ground. Often the habitats occur in a mosaic, with exposed rock frequently occurring.

A variety of blanket bog types are represented from lowland valley to mountain blanket bog. Some of the best include: Cummeragh River Bog Nature Reserve, a domed bog which is perhaps the most southern intact blanket bog in the country; Ballygisheen, which contains one of the most extensive areas of intact lowland blanket bog in Co. Kerry; Coomacheo/Caherbarnagh, which combine to form the largest mountain blanket bog in the south-west; Eirk Bog Nature Reserve, a classic example of a

bog intermediate between a raised and blanket bog; Mangerton Bog, an upland bog which grades into an unusual lichen heath seen at no other site; and Oolagh East, a quaking basin mire. Generally, the bogs have a characteristic flora. The Lusitanian species, Large-flowered Butterwort (*Pinguicula grandiflora*), is common. The bogs also support a number of unusual species, including mosses (*Sphagnum pulchrum, S. fuscum, S. platyphyllum, S. strictum, S. contortum* and *Calliergon stramineum*), liverworts (*Cladopodiella francisci* and *Calypogeia azurea*) and lichens (*Cladonia mediterranea, C. macilenta, C. rangiferina, C. arbuscula* and *Cetraria islandica*).

Rhynchosporion vegetation is confined to wet areas within the lowland blanket bogs, with one of the best areas for the habitat being to the north-east of the Ballygisheen Pass. On a portion of this bog there is an extensive area of quaking flats and pools dominated by the bog mosses *Sphagnum cuspidatum* and *S. auriculatum*. These areas have a typically species-poor flora which includes Bogbean (*Menyanthes trifoliata*), White Beak-sedge (*Rhynchospora alba*), Bog Asphodel (*Narthecium ossifragum*), Common Cottongrass (*Eriophorum angustifolium*) and Great Sundew (*Drosera anglica*). Brown Beak-sedge (*R. fusca*), a locally rare plant of wet bog pools, is occasional within the site. Although the habitat is best developed in very wet areas of intact bog, it may also occur in wet areas of regenerating cutover blanket bog.

Wet heath often occurs in association with blanket bog and features Cross-leaved Heath (*Erica tetralix*). Dry heath is more frequent in this site, and is dominated by Heather (*Calluna vulgaris*), Bell Heather (*Erica cinerea*) and Western Gorse (*Ulex gallii*), with occasional Bilberry (*Vaccinium myrtillus*). This habitat is well-developed on the Paps Mountains. Elsewhere it is often over-grazed, with upland grassland becoming more frequent. Some of the highest ridges support alpine heath (referable to the *Lycopodium alpinum - Racomitrium lanuginosum* association). Widespread plant species of the alpine heath include Bog-myrtle (*Vaccinium myrtillus*), Crowberry (*Empetrum nigrum*) and Fir Clubmoss (*Huperzia selago*), while species such as Juniper (*Juniperus communis* subsp. *nana*) and Dwarf Willow (*Salix herbacea*) have a much more restricted distribution.

The site contains many lakes, but these can be broadly divided into two types: small upland corrie lakes and larger lowland lakes. Examples of the first type are Lough Murtagh and Lough Gortavehy in the Paps Mountains. They are oligotrophic and typically species-poor, with Quillwort (*Isoetes lacustris*), Water Lobelia (*Lobelia dortmanna*) and Shoreweed (*Littorella uniflora*) occurring most commonly. The lowland lakes are mostly oligotrophic, although Lough Leane, the largest freshwater body in the region, has become somewhat mesotrophic as a result of pollution from Killarney town. These lowland lakes tend to be more species-rich than those at higher altitudes, with additional species such as Awlwort (*Subularia aquatica*), Sixstamened Waterwort (*Elatine hexandra*) and Alternate Water-milfoil (*Myriophyllum alterniflorum*). Good examples include Lough Caragh, Upper Lake and Muckross Lake.

The rivers associated with these lakes are also of importance. The Caragh is relatively unpolluted from headwater to estuary, a rare phenomenon in Europe. The Flesk runs over Old Red Sandstone in its upper reaches and limestone as it nears Lough Leane. Both rivers support floating and submerged

vegetation and rare invertebrates. Rocks around the smaller mountain streams often support a lush vegetation of ferns and bryophytes, most notably at Torc Waterfall.

Other habitats of note include: Juniper scrub found on islands in the Upper Lake and on dry ridges in nearby Newfoundland Bog; damp meadows, with Purple Moorgrass (*Molinia caerulea*), supporting scarce species such as Whorled Caraway (*Carum verticillatum*) and Ivy-leaved Bellflower (*Wahlenbergia hederacea*); and Calaminarian grasslands, associated with the old copper mines on Ross Island, with species such as Sea Campion (*Silene vulgaris* subsp. *maritima*) and Thrift (*Armeria maritima*).

A large number of plant and animal species of interest occur within the site. For example, two plant species listed on Annex II of the E.U. Habitats Directive occur. Slender Naiad (*Najas flexilis*) is found in some of the lakes at the site. The Killarney Fern (*Trichomanes speciosum*) is another listed and well-known rarity. An additional twenty-two Red Data Book plant species have been recorded, but only twelve of these have been seen recently. These are Pillwort (*Pilularia globulifera*), Kerry Lily (*Simethis planifolia*), Irish Lady's-tresses (*Spiranthes romanzoffiana*), Slender Cottongrass (*Eriophorum gracile*), Small Cudweed (*Logfia minima*), Betony (*Stachys officinalis*), Heath Cudweed (*Omalotheca sylvatica*), Alder Buckthorn (Frangula alnus), Alpine Saw-wort (*Saussurea alpina*), Hoary Whitlowgrass (*Draba incana*), Smooth Brome (*Bromus racemosus*) and Holly Fern (*Polystichum lonchitis*). The first seven of these species are legally protected under the Flora (Protection) Order, 1999, as are Slender Naiad and Killarney Fern.

Additional plant species of interest include a fern (*Dryopteris affinis* subsp. *stilluppensis*) and a Whitebeam (*Sorbus anglica*), both at their only Irish locations.

The site is very important for oceanic bryophytes, particularly the woodland species. It also contains good representative examples of the Northern Atlantic Hepatic Mat community and other oceanic montane communities. Killarney Oak woods and mountains have been nominated as a site of international importance for bryophytes.

The Killarney Woods are notable for the number of rare species of Myxomycete fungus that have been recorded, namely *Collaria arcyrionema, Craterium muscorum, Cribraria microcarpa* (only known Irish site), *C. rufa, C. violacea, Diderma chondrioderma, D. lucidum, D. ochraceum, Fuligo muscorum* and *Licea marginata*.

The site has six bird species which are listed on Annex I of the E.U. Birds Directive. A small flock of Greenland White-fronted Goose, which winters on the boglands within the National Park, is now the only regular flock in the south-west. The site has one of the highest concentrations of breeding Peregrines in the country, as well as some breeding Merlin. Chough is found both in the coastal and inland areas of the site, with possibly up to 30 pairs breeding. Kingfisher is a species associated with the lakes and rivers, especially in the National Park and probably breeds. Finally, a few pairs of Common Tern breed within the site.

The woodlands provide habitat for a variety of breeding birds, most notably Garden Warbler, Blackcap, and probably a few pairs each of the rare Redstart and Wood Warbler. Lough Leane is a site for wintering wildfowl with the following average counts for the two winters 1995/96 and 1996/97: Teal (208), Mallard (350), Pochard (81), Tufted Duck (323) and Coot (169).

The site supports most of the Irish mammal species. Of particular note is the occurrence of two E.U. Habitats Directive Annex II species: Lesser Horseshoe Bat, with a total population of about 300 individuals distributed at several locations, including both nursery and hibernation sites, and Otter. Perhaps the best known mammals of the Killarney National Park are the Red Deer, which form the only remaining native herd in Ireland, comprised of around 600 animals. Sika Deer also occur. Pine Marten is another notable species.

The site is valuable for its rare fish species, five of which are listed on Annex II of the E.U. Habitats Directive: Brook Lamprey (*Lampetra planeri*), River Lamprey (*Lampetra fluviatilis*), Sea Lamprey (*Petromyzon marinus*), Atlantic Salmon (*Salmo salar*) and Killarney Shad (*Alosa fallax killarnensis*). The Killarney Shad is a unique land-locked subspecies confined to the Killarney lakes. Also of note is the glacial relict, Arctic Char (*Salvelinus alpinus*), a Red Data Book species, a unique form of which is found in Lough Coomasaharn.

There are numerous rare invertebrates within the site. These include three E.U. Habitats Directive Annex II species: Kerry Slug (*Geomalacus maculosus*), the Freshwater Pearl Mussel (*Margaritifera margaritifera*) and the Marsh Fritillary (*Euphydryas aurinia*). The Kerry Slug and Pearl Mussel populations are of particular importance in a national context. Other species of note include: three chironomids of international importance found in the River Flesk; a wood ant (*Formica lugubris*) at one of only four Irish sites; a snail (*Limnaea involuta*), in Lough Crincaum, at its only known location; two dragonflies (*Cordulea aenea* and *Somatochlora arctica*), the former at one of only two known sites in Ireland and the latter at its only known Irish location; and several other aquatic and woodland species at their only known Irish locations.

The main land use within the site is grazing by sheep. In and around the National Park deer grazing is also common. The extensive grazing has caused damage to many of the terrestrial habitats, resulting in degradation of heath and blanket bogs and prevention of woodland regeneration. In the upland habitats the erosion caused by grazing is exacerbated by the exposed nature of the terrain. Apart from grazing, the woodlands are particularly threatened by Rhododendron (*Rhododendron ponticum*) invasion: approximately two thirds of the Oak woodlands are affected, although a Rhododendron removal programme is underway in the National Park. The Yew wood has been adversely affected by heavy grazing for many years, but it is intended to control this in the near future by erection of a deer fence. The bogs are sensitive to grazing and are also threatened by turbary, burning and afforestation. Most of the lakes are very acid-sensitive and therefore vulnerable to afforestation within the catchment areas. Lough Leane has been subject to some eutrophication, although water quality appears to have improved since phosphates were removed from the sewage in 1985.

A management plan was drawn up for the Killarney National Park in 1991. The park is managed primarily for conservation purposes although recreation is also provided for.

Overall, the site is of high ecological value because of the diversity, quality and extensiveness of many of the habitats, and impressive list of rare species of flora and fauna. In recognition of its importance the Killarney National Park has been designated a World Biosphere Reserve.

Site Name: Sheheree (Ardagh) Bog SAC
SPA Site Code: 000382

Sheheree Bog lies 2 km south-east of Killarney in Co. Kerry, in a depression within a high ridge (103 m). It has developed by succession from a small lake to a ridge basin bog with similarities to a raised bog. The bog is rather unique in an Irish context as it is the only raised bog system to be completely surrounded by a wet lagg zone.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

- [7110] Raised Bog (Active)
- [7120] Degraded Raised Bog

Active raised bog comprises areas of high bog that are wet and actively peat forming, where the percentage cover of bog mosses (Sphagnum spp.) is high, and where some or all of the following features occur: hummocks, pools, wet flats, Sphagnum lawns, flushes and soaks. Degraded raised bog corresponds to those areas of high bog whose hydrology has been adversely affected by peat cutting, drainage and other land use activities, but which are capable of regeneration.

The high bog surface at Sheheree contains areas of both active and degraded bog. In general, about 50% of the high bog surface is rather dry, being dominated by Heather (*Calluna vulgaris*) and Western Gorse (*Ulex gallii*). Other frequent vascular plant species include Bog-myrtle (*Myrica gale*), Purple Moor-grass (*Molinia caerulea*), Crossleaved Heath (*Erica tetralix*) and Common Cottongrass (*Eriophorum angustifolium*). The cover of mosses and lichens is generally low, with species more characteristic of dry conditions such as *Sphagnum capillifolium*, S*. subnitens*, *Hypnum cupressiforme* and *Cladonia portentosa* most conspicuous. There are occasional wet hollows with bog mosses (*S. cuspidatum, S. auriculatum*) and species such as Round-leaved Sundew (*Drosera rotundifolia*) but these are generally rare.

A concentration of Downy Birch (*Betula pubescens*) and Scots Pine (*Pinus sylvestris*) trees grow towards the north-east of the site, beneath which abundant bog mosses grow. The open bog adjacent to this is quite wet and Cranberry (*Vaccinium oxycoccos*) grows abundantly here, a relatively unusual feature. Surrounding the bog is a wet lagg area. Here more base-demanding species occur, such as Bogbean (*Menyanthes trifoliata*), Marsh Cinquefoil (*Potentilla palustris*), Marsh-marigold (*Caltha palustris*), Water Horsetail (*Equistum fluviatile*), Marsh Pennywort (*Hydrocotyle vulgaris*), Yellow Iris (*Iris pseudacorus*), Bulrush (*Typha latifolia*), Bulbous Rush (*Juncus bulbosus*), Bottle Sedge (*Carex rostrata*) and Cuckooflower (*Cardamine pratensis*). To the north and north-west, the lagg is vegetated by a wet woodland of Alder (*Alnus glutinosa*) and Willow (*Salix* spp.), with some Hawthorn (*Crataegus monogyna*), Hazel (*Corylus avellana*), Ash (*Fraxinus excelsior*) and Holly (*Ilex aquifolium*) in the drier outer margins. The site also includes dry grassland fields which slope down to, and adjoin, the bog.

The rare and legally protected (Flora (Protection) Order, 1999) Slender Cottongrass (*Eriophorum gracile*) occurs at this site.

The bog itself is not substantially used, owing to its wetness and the wetness of the surrounding lagg. The high bog is being invaded by Rhododendron (*Rhododendron ponticum*) and Scots Pine, which may indicate drying of the mire. The abundance of *Cladonia* lichen in places may be a result of burning in previous years. Adjoining fields are grazed by cattle and sheep and fertilised to varying degrees. Land use practices here would impact on the bog habitat.

Sheheree Bog is of high conservation importance as it contains good examples of active raised bog and degraded raised bog, habitats that are listed on Annex I of the E.U. Habitats Directive. Of particular note is that it is the only remaining raised bog in the country with an intact surrounding lagg system, and this makes it of especially high ecological interest. In addition, the site is the most south-westerly example of a raised bog in the country and is one of only two examples of the habitat in Co. Kerry. The presence of the protected plant species Slender Cottongrass, which is only known from approximately 25 sites in Ireland, adds to the conservation value of the site. The small size of this bog, coupled with the fact that it is a Nature Reserve, are positive factors for the future conservation of the site.

Site Name: Killarney National Park SPA
Site Code: 004038

This large site encompasses the lakes and part of the Macgillycuddy's Reeks in the vicinity of the town of Killarney in Co. Kerry. The underlying geology is Old Red Sandstone and, on the eastern shores of Lough Leane, Carboniferous limestone. Lough Leane is the largest (8.6 km along its long axis) of the lakes in the site, and is classified as a mesotrophic system. Muckross Lake and the Upper Lake are both high quality oligotrophic systems.

Killarney National Park is perhaps best known for its Oak woodlands. They form the most extensive area of native woodland remaining in Ireland and include Derrycunihy Wood, described as perhaps the most natural Sessile Oak wood in the country. The higher areas of the site are dominated by blanket bog and wet heath.

At the time this site was designated as a Special Protection Area (SPA) it was being utilised by Greenland White-fronted Goose. This, along with the nearby Eirk Bog, is the most southerly site in Ireland utilised by this species and it is also one of the few flocks that continues to utilise peatland habitats. The site continues to be used by Greenland White-fronted Goose in small numbers (<20 birds) and is regarded as a special conservation interest for this SPA.

While Killarney National Park has not been subject to a complete upland breeding bird survey the habitat within the site is estimated to support up to 5 pairs of Merlin and therefore this species is regarded as a special conservation interest for this SPA.

Other upland species which breed within the site include Peregrine (1 pair), Ring Ouzel (1-2 pairs) and Red Grouse. The extensive woodlands support some scarce breeding birds, notably Redstart (1-2 pairs), Wood Warbler (1-2 pairs) and Garden Warbler (possibly up to 10 pairs).

Lough Leane, and to a lesser extent the other lakes, support a variety of wintering waterfowl species including Mute Swan (38), Teal (184), Mallard (361), Pochard (54), Tufted Duck (271), Goldeneye (23), Little Grebe (11), Cormorant (86), Coot (124) and Black-headed Gull (84) – all counts are three year mean peaks for the period 1995/96-1997/98. Several research programmes have been carried out on the birds in the site, including studies on the communities associated with the Yew woodlands, and the wildfowl associated with the lakes. Part of Killarney National Park SPA is a Wildfowl Sanctuary.

APPENDIX II

Standalone Bat Survey Report prepared by Karen Banks, Greenleaf Ecology

Prepared May 2026

Bat Survey

Large-scale Residential Development
Countess Road
Killarney
Co. Kerry

Report prepared for Dipharma Unlimited Company

By Karen Banks MCIEEM

4th June 2026

Greenleaf Ecology

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Contents

1 Introduction 1
1.1 Legislative Context 1
1.2 Objectives 2
1.3 Proposed Development 2
2 Methodology 5
2.1 Desk Study 5
2.2 Field Survey 5
2.2.1 Surveyor Information 5
2.2.2 Study Area 5
2.2.3 Preliminary Ecological Appraisal 6
2.2.4 Bat Roost Inspection Survey 7
2.2.5 Bat Roost Emergence Survey 8
2.2.6 Bat Activity Survey 8
2.3 Survey Limitations 9
3 Results 11
3.1 Existing Bat Data 11
3.1.1 Designated Sites 11
3.2 Bat Roost Survey 12
3.2.1 Preliminary Ecological Appraisal 12
3.2.2 Bat Roost Inspection Survey 12
3.2.3 Roost Emergence Survey 13
3.3 Activity Survey 14
4 Evaluation of Survey Results 16
5 Impact Assessment 17
5.1 Construction Phase 17
5.1.1 Loss or Severance of Foraging and Commuting Habitat 17
5.1.2 Loss of Roosting Habitat 18
5.1.3 Lighting 18
5.2 Operational Phase 19
5.2.1 Lighting 19
6 Mitigation 20
6.1 Derogation Tests 20
6.2 Mitigation Measures 21
6.2.1 Construction Phase 21
6.2.2 Lighting 23

6.3 Operational Phase 23
6.3.1 Barrier effect as a result of artificial lighting 23
7 References 25

Appendices

Appendix A Description of Irish bat species
Appendix B Illumination Contour Drawing
Appendix C Derogation License

List of Figures

Figure 1-1: Site location 1
Figure 1-2: LRD Countess Road, Site Layout Plan 3
Figure 1-3: LRD Countess Road- Proposed Landscaping Plan 4
Figure 2-1: Proposed development site at Countess Road- location of passive monitors, 2025 10
Figure 3-1: Location of lesser horseshoe bat colonies that are QI for Killarney National Park SAC (location of proposed site annoted on map) 12
Figure 3-2: Countess Road Residential Development- location of potential tree roosts 13

List of Tables

Table 2-1: Criteria for Assessing the Potential Suitability of the Proposed Development Site for Bats. 6
Table 2-2: Guidelines for assessment of the suitability of trees on proposed scheme area for bats (Collins, 2023) 7
Table 2-3: Categorisation of potential suitability of PRFs in trees at the proposed site 8
Table 2-4: Proposed development site at Countess Road: bat activity survey dates and conditions 9
Table 3-1: NBDC bat records from within a 4km radius of the study area 11
Table 3-2: Countess Road Residential Development: potential tree roosts 13
Table 3-3: Bat passes recorded during passive monitoring completed in 2025 15

1 Introduction

Greenleaf Ecology were commissioned by Dipharma Unlimited Company to undertake a bat survey for the proposed Large-scale Residential Development at Countess Road, Killarney, Co. Kerry. The location of the site is illustrated in Figure 1-1.

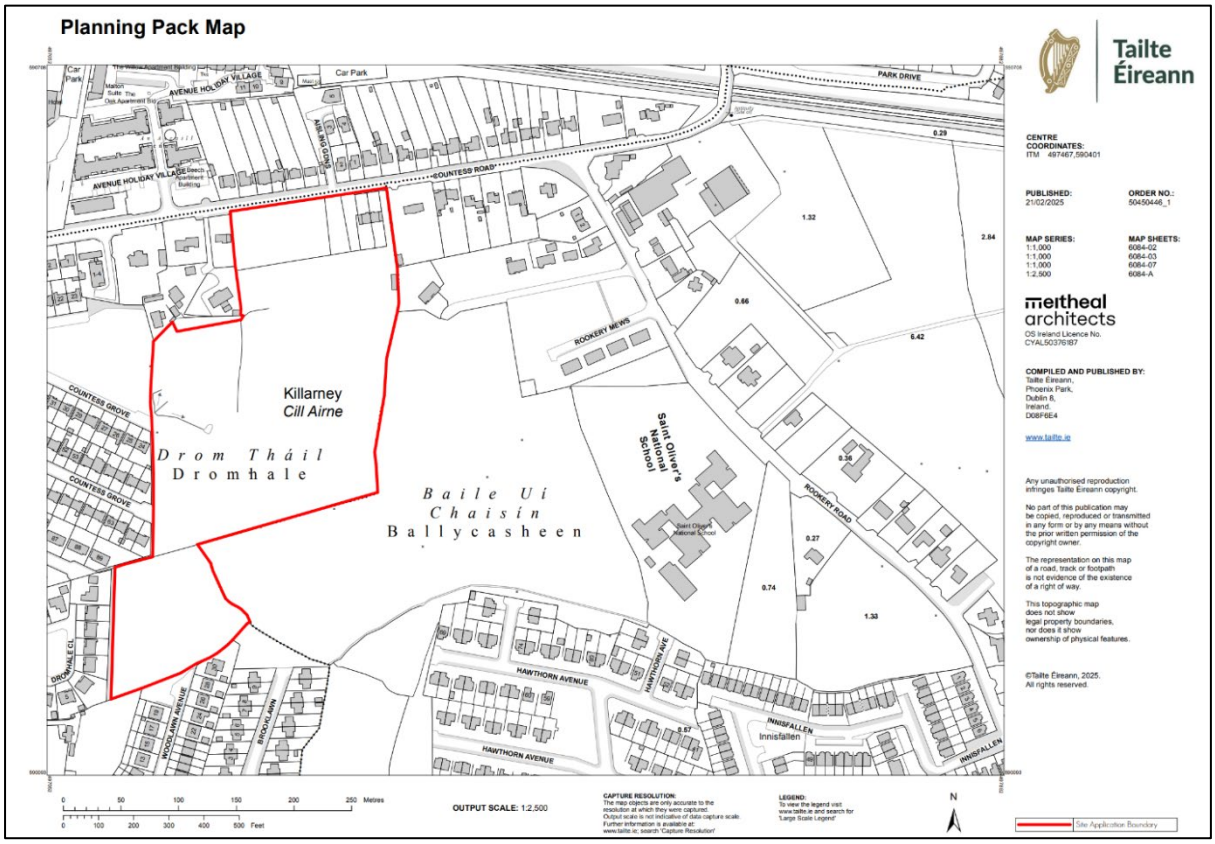


Figure 1-1: Site location

1.1 Legislative Context

All Irish bats are protected under the Wildlife Acts. Also, the EU Habitats Directive, and Irish implementing legislation, seeks to protect rare species, including bats, and their habitats, and requires that appropriate monitoring of populations be undertaken. Moreover, the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1982) exists to conserve all bat species and their habitats. The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention 1979, enacted 1983) protects migrant bat species across all European boundaries. Ireland has ratified both these conventions.

All bats are listed in Annex IV to the Habitats Directive (92/43/EC) and the Lesser Horseshoe bat is further listed under Annex II to the same Directive. Article 12 of the Directive requires Member States to establish a system of strict protection for animal species listed in Annex IV. Article 16 provides for derogation from the protection under Article 12 in certain circumstances. Articles 12 and 16 are transposed into Irish law by Regulations 51 and 54, respectively, of the European Communities (Birds and Natural Habitats) Regulations, 2011 (as amended).

Destruction, alteration or evacuation of a known bat roost is a notifiable action under current legislation and a derogation licence has to be obtained from the National Parks and Wildlife Service (NPWS) before works can commence. Any works interfering with bats and especially their roosts, may

only be carried out under a Regulation 54 licence issued by the NPWS. The details with regards to appropriate assessments, the strict parameters within which derogation licences may be issued and the procedures by which and the order in relation to the planning and development regulations such licences should be obtained, are set out in NPWS Guidance Series 2 – "*Strict Protection of Animal Species: Guidance for Public authorities on the Application of Articles 12 and 16 of the EU Habitats Directive to development/works undertaken by or on behalf of a Public authority*" (Mullen et al., 2021).

1.2 Objectives

The objectives of the bat survey were to:

- Establish the location of any potential or actual bat roosts at the proposed site;
- Establish the value of the proposed site to bats for foraging and commuting;
- Assess the results of the survey and determine the potential impact of the proposed development on any bats that might use the site;
- Provide recommendations for the project design in light of the survey results as appropriate; and
- Provide recommendations for mitigation following the survey.

1.3 Proposed Development

Dipharma Unlimited Company intend to apply for a 10-Year Planning Permission for a Large-Scale Residential Development (LRD) at Countess Road, Dromhale (townland), Killarney, Co. Kerry

The development will consist of:

The construction of a residential development of 259 no. residential units with ancillary single storey creche, landscaping and all associated site development works.

The proposed development includes the demolition of 2 no. existing two-storey semi-detached dwelling houses and an existing ruinous structure on the site and construction of 103 no. two storey houses (3-bed units), comprising of 27 no. terraced units, 62 no. end of terrace units, and 14 no. side entry units, 82 no. courtyard apartment units over 2 no. storeys (42 no. 1-bed units, 40 no. 2-bed units), and 74 no. apartment units (34 no. 1-bed units, 40 no. 2-bed units) in 2 no. part 3 storey and part 4 storey blocks.

Vehicular access to the proposed development will be via one entrance from Countess Road (L3904) to the north, with the entrance design including improvement works on the public road inclusive of a raised crossing point. The design includes pedestrian/cycle infrastructure to/from Countess Road and internally within the development site and to adjoining areas.

Ancillary site works include car parking, provision of bicycle parking and bin storage facilities serving the proposed apartment/courtyard apartment buildings and creche, 2 no. ESB substations, landscaping, water services and drainage infrastructure (including foul and storm network upgrades in Countess Grove), and all associated site development works. The proposed development also provides for the demolition of existing site boundary walls along Countess Road. A Natura Impact Statement (NIS) has been prepared and will be submitted to the Planning Authority with the application.

The proposed site layout (Meitheal Architects, 2026) is illustrated in Figure 1-2 and the proposed landscaping plan (Cunnane Stratton Reynolds, 2026) is illustrated in Figure 1-3.



Figure 1-2: LRD Countess Road, Site Layout Plan



Figure 1-3: LRD Countess Road- Proposed Landscaping Plan

2 Methodology

2.1 Desk Study

A pre-survey data search was conducted in order to collate existing information from the site and the surrounding area on bat activity, roosts and landscape features that may be used by bats. The data search comprised the following information sources:

- Collation of known bat records from within a 4km radius[1] of the site from the National Bat Database held by the National Biodiversity Data Centre (www.biodiversityireland.ie);
- Review of Ordnance Survey mapping and aerial photography of the site and its environs; and
- Records of European and nationally designated sites from within a 4km radius of the site where bats form part or all of the reason for designation (https://www.npws.ie/protected-sites).

2.2 Field Survey

This bat survey was cognisant of the following guidelines:

- Andrews, H. (2018) Bat Roosts in Trees. A guide to identification and assessment for tree-care and ecology professionals. Pelagic Publishing.
- Bat Conservation Ireland (2010) G*uidance notes for Planners, Engineers, Architects, and Developers*;
- Collins, J. (ed.) (2023) *Bat Surveys for Professional ecologists: Good Practice Guidelines (4th ed.)*. The Bat Conservation Trust, London; and
- Marnell, F., Kelleher, C. & Mullen, E. (2022) Bat mitigation guidelines for Ireland v2. Irish Wildlife Manuals, No. 134. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland.

2.2.1 Surveyor Information

The survey was undertaken by Karen Banks, MCIEEM.

Karen is an ecologist with 19 years' experience in the field of ecological assessment. She holds a BSc in Environment and Development from Durham University and is a full member of the Chartered Institute of Ecology and Environmental Management. Karen is an experienced and skilled bat surveyor, first gaining a scientific licence to disturb bats from Natural England, UK in 2008. Karen is trained in bat handling and capture methods and currently holds a bat disturbance licence granted by the NPWS (Licence number: DER/BAT 2023-55 (survey licence)). Karen has undertaken bat survey and assessment for numerous projects, including bridge repair and replacement works, domestic dwelling repair and demolition works, wind farm developments and large-scale infrastructure projects such as flood relief schemes, road developments and pipeline schemes. Karen has also represented Cork County Council as an expert witness for bats at an Oral Hearing.

2.2.2 Study Area

The survey area comprised the proposed site as illustrated in Figure 1-1. The study area for the desk study is described in Section 2.1.

[1] A 4km radius search distance was selected to encompass records of bat roosts within Core Sustenance Zones (CSZ) of the study area for Irish species of bat. A CSZ refers to the area surrounding a communal bat roost within which habitat availability and quality will have a significant influence on the conservation status of the colony using the roost (Collins, 2016).

2.2.3 Preliminary Ecological Appraisal

A walkover survey of areas within the proposed site identified as potential roosting, flight paths and foraging habitat during the desk top study was undertaken on 24th June 2025. Potential bat habitat was assessed using the criteria outlined in Table 2-1[2] and suitability of trees within the site for bats was assessed using the criteria outlined in Table 2-2.

Table 2-1: Criteria for Assessing the Potential Suitability of the Proposed Development Site for Bats

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	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 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).	Habitat that could be used by small numbers of bats as flight-paths such as a gappy hedgerow or un-vegetated 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 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 are 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 and surrounding habitat. These structures have the	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

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

	potential to support high conservation status roosts e.g. maternity or classic cool/ stable hibernation site.	regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

Table 2-2: Guidelines for assessment of the suitability of trees on proposed scheme area for bats (Collins, 2023)

Suitability	Description
None	Either no PRFs in the tree or highly unlikely to be any
FAR	Further assessment required to establish if PRFs are present in the tree
PRF	A tree with at least one PRF present

2.2.4 Bat Roost Inspection Survey

2.2.4.1 Trees

A detailed inspection of the exterior of trees was undertaken on 7th November 2025 to ascertain whether any features that bats could use for roosting (Potential Roost Features, or PRFs) were present. The objective of the survey was to determine the actual or potential presence of bats to carry out an impact assessment and determine the need for further survey and/or mitigation.

A detailed inspection of each potential tree roost within the site was undertaken. The inspection was carried out in daylight hours from ground level, and information was compiled on the tree, PRFs and evidence of bats. Where PRFs were recorded, the tree was numbered and marked on a map and a description of each PRF observed was recorded. PRFs that may be used by bats include: -

- Rot holes;
- Hazard beams;
- Other horizontal or vertical cracks or splits (e.g. frost cracks) in stems or branches;
- Lifting bark;
- Knotholes arising from naturally shed branches or branches previously pruned back to the branch collar;
- Man-made holes (e.g. flush cuts) or cavities created by branches tearing out from parent stems;
- Cankers in which cavities have developed;
- Other hollows or cavities;
- Double leaders forming compression forks with included bark and potential cavities;
- Gaps between overlapping stems or branches;
- Partially detached ivy with stem diameters in excess of 50mm; and
- Bat or bird boxes.

Signs of a bat roost (excluding the actual presence of bats), include:

- Bat droppings in, around or below a PRF;
- Odour emanating from a PRF;
- Audible squeaking at dusk or in warm weather; and
- Staining below the PRF.

It should be noted that bats or bat droppings are the only conclusive evidence of a roost and many roosts have no external signs. In the current survey, potential roost sites were viewed by a bat specialist working from ground level. Trees were categorised in accordance with the criteria detailed in Table 2-3.

Table 2-3: Categorisation of potential suitability of PRFs in trees at the proposed site

Suitability	Description
PRF-I	PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats.
PRF-M	PRF is suitable for multiple bats and may therefore be used by a maternity colony.

2.2.4.2 Structures

On 25th June 2025 the existing dwellings at the site were surveyed for potential roost sites and signs of bats. The survey utilised a high-powered torch, close focussing binoculars and an endoscope (Explorer Premium 8803 with 9mm camera) where required. The external inspection involved looking for bat droppings on the ground, stuck to walls, windowsills or in crevices in the stonework and recording suitable entry and exit points.

The internal inspection involved looking for features that may be suitable for roosting bats, such as joints and crevices in wood, holes or crevices between stonework in the walls and searching for bat droppings, urine stains and feeding signs on the floor.

2.2.5 Bat Roost Emergence Survey

A dusk survey of the dwellings was undertaken on 2nd July 2025 and 20th July 2025 in order to watch and listen for bats exiting bat roosts to determine the presence or absence of bats at the time of survey. The dusk emergence survey commenced approximately 15 minutes before sunset and ended approximately 90 minutes after sunset. The survey was undertaken in suitable weather conditions (avoiding periods of very heavy rain, strong winds (> Beaufort Force 5), mists and dusk temperatures below (10°C)). Two people surveyed the structure (Karen Banks and Cathál MacPartholan), one surveyor was located at the front of the dwellings and one surveyor was located to the rear of the dwellings.

Anabat Walkabout detectors were utilised for the survey, which record bat echolocation calls directly on to an internal SD memory card. Each time a bat is detected, an individual time-stamped (date and time to the second) file is recorded. Data was then downloaded and all recordings were analysed by the Anabat Insight software analysis programme version 2.1.7.

The emergence survey was aided by the use of the TrackIR Pro 19 thermal imaging scope.

2.2.6 Bat Activity Survey

Bat activity surveys were conducted across the site using an Anabat Walkabout detector, which records bat echolocation calls directly on to an internal SD memory card. Each time a bat is detected, an individual time-stamped (date and time to the second) file is recorded. Data were then downloaded and all recordings were analysed using the Anabat Insight spectrogram sound analysis software Version 2.1.7. Dusk activity surveys (from sunset, for a minimum of 90 minutes) were conducted. These surveys enable a determination of the approximate numbers and species of bats present within the study area, areas used for foraging and commuting routes to and from roosts. The approximate flying height and direction taken by bats were estimated and detailed where possible.

Bat activity transect surveys were undertaken on 2nd July 2025, 24th August 2025 and 8th September 2025. Each survey was conducted in appropriate weather conditions (avoiding periods of very heavy rain, strong winds (> Beaufort Force 5), mists and dusk temperatures below (10°C) (Table 2-4).

Table 2-4: Proposed development site at Countess Road: bat activity survey dates and conditions

Survey Date	Times	Weather conditions
02/07/2025	22:00- 23:35, sunset 22:00	Precipitation: none, temperature at sunset: 11°C, wind F3
24/08/2025	20:40- 22:15, sunset 20:42	Precipitation: none, temperature at sunset: 16°C, wind F3
08/09/2025	20:10-21:40, sunset 20:11	Precipitation: none, temperature at sunset: 15°C, wind F3

In order to supplement the information gathered from the manual activity surveys, a passive monitoring system of bat detection was also deployed for this survey scheme (i.e. a bat detector is left in the field, there is no observer present and bats which pass near enough to the monitoring unit are recorded and their calls are stored for later analysis). This results in a far greater sampling effort over a shorter period of time. Bats are identified by their ultrasonic calls. The passive detectors record bat ultrasonic calls on a continuous basis and store the information onto an internal SD card. Each time a bat is detected, an individual time-stamped (date and time to the second) file is recorded.

Passive monitoring was completed monthly between May and September 2024 using Anabat Swift bat monitors. Three Anabat Swift monitors were deployed each month for the survey and were positioned in or adjacent to hedgerow and scrub habitats as illustrated in Figure 2-2. The detectors were set to record from approximately 30 minutes before sunset until sunrise and recorded for 7 nights at each location. Data were then downloaded and bat echolocation calls were later analysed by the Anabat Insight software analysis programme version 2.1.7. Each time-stamped file was analysed and the species of bat recorded was noted as a bat pass.

2.3 Survey Limitations

Brown long-eared bats can be difficult to detect as they echolocate at a low-amplitude and foraging bats often make no sound. Similarly, lesser horseshoe bat can be difficult to detect as their calls are highly directional. The survey design aimed to increase the likelihood of recording these species by the employment of full spectrum monitoring and the positioning of passive monitors at commuting routes, natural corridors through or adjacent to vegetation and suitable brown long-eared bat and lesser horseshoe bat habitats (such as hedgerows).

The monitors were deployed on a monthly basis between June and September and recording occurred throughout a range of different weather conditions. Bat activity transects were all conducted in optimal weather conditions.

The project timeframes did not allow for monitoring in spring, however, as noted above, monthly monitoring was conducted throughout the summer and autumn months.

No significant constraints to the survey data gathered are noted.



Figure 2-1: Proposed development site at Countess Road- location of passive monitors, 2025

3 Results

3.1 Existing Bat Data

The review of existing records of bat species in the environs of the study area indicates that nine of the ten known Irish species of bat have been recorded within a 4km radius. These bats include common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*P. pygmaeus*), Nathusius' pipistrelle (P. nathusii), Leisler's bat (*Nyctalus leisleri*), brown long-eared bat (*Plecotus auritus*), Daubenton's bat (*Myotis daubentonii*), Natterer's bat (*M. nattereri*), whiskered bat (*M. mystacinus*) and lesser horseshoe bat (Rhinolophus hipposideros) shown in Table 3-1 below. Five species, namely common pipistrelle, Leisler's bat, brown long-eared bat, Daubenton's bat and lesser horseshoe bat have been recorded roosting within 4km of the site.

Table 3-1: NBDC bat records from within a 4km radius of the study area

Common Name	Scientific Name	Present (Y/N)	Known Roost within 4km (Y/N)	Date of Last Record
Pipistrelle sp.	*Pipistrellus pipistrellus sensu lato*	Y	Y	24/09/2021
Common Pipistrelle	*Pipistrellus pipistrellus*	Y	Y	21/05/2021
Soprano Pipistrelle	*Pipistrellus pygmaeus*	Y	N	21/05/2022
Nathusius's Pipistrelle	*Pipistrellus nathusii*	Y	N	23/07/2008
Leisler's Bat	*Nyctalus leisleri*	Y	Y	14/05/2022
Brown Long-eared Bat	*Plecotus auratus*	Y	Y	14/05/2021
Daubenton's Bat	*Myotis daubentoniid*	Y	Y	24/08/2021
Whiskered Bat	*Myotis mystacinus*	Y	N	14/05/2021
Natterer's Bat	*Myotis nattereri*	Y	N	02/08/2019
Lesser Horseshoe Bat	*Rhinolophus hipposideros*	Y	Y	21/05/2021
Brandt's Bat	*Myotis brandtii*	N	N/A	N/A

The bat landscape association model (Lundy *et al,* 2011) suggests that the study area is part of a landscape that is of moderate to high suitability for bats including common pipistrelle, soprano pipistrelle, brown long-eared, Leisler's, Daubenton's, Natterer's, whiskered bat and lesser horseshoe bat; and low to moderate suitability for Nathusius' pipistrelle.

3.1.1 Designated Sites

The proposed site is located c.0.5km to the east of Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC at nearest. Lesser Horseshoe bat is a qualifying interest species for this SAC. According to the Conservation Objectives for Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC (NPWS, 2017), the proposed site is located within the foraging range for lesser horseshoe bat colony site code 296, which roost within Killarney National Park to the south-west of Killarney.

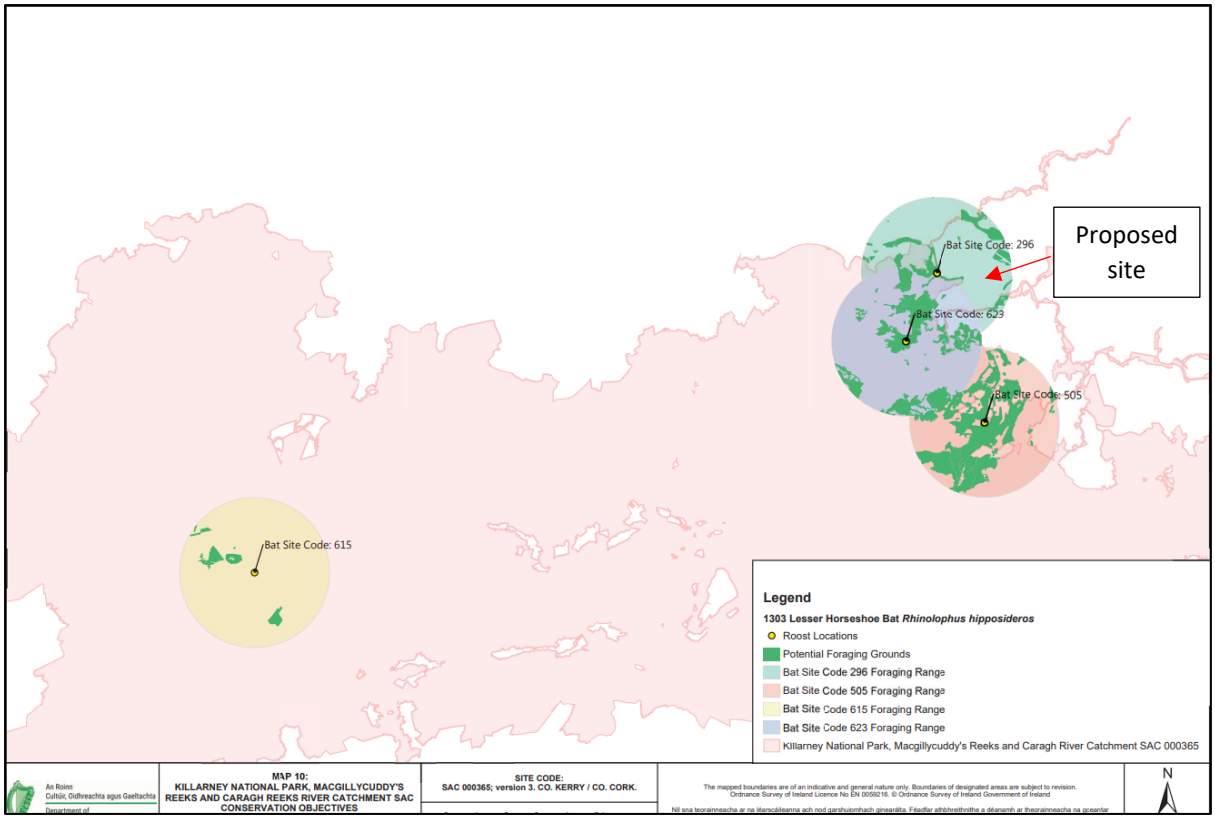


Figure 3-1: Location of lesser horseshoe bat colonies that are QI for Killarney National Park SAC[3] (location of proposed site annoted on map)

3.2 Bat Roost Survey

3.2.1 Preliminary Ecological Appraisal

Review of aerial photography and the results of the site walkover indicate that the site predominantly comprises agricultural fields (improved agricultural grassland (Fossitt code GA1) bound by hedgerows (WL1) and treelines (WL2), with an area of wet grassland (GS4) and occasional scrub (WS1) at the west of the site.

There are no EPA mapped watercourses within the proposed development site boundary, the nearest watercourse is the Flesk River, located c.0.6km to the south of the site.

In accordance with the criteria outlined in Table 2-1, the commuting and foraging habitats within the site are of moderate to high suitability for bats.

A summary of foraging and roosting habitats for Irish bats is included in **Appendix A.**

3.2.2 Bat Roost Inspection Survey

3.2.2.1 Trees

No trees within the proposed site were confirmed as being used as roost sites during the course of the surveys undertaken in 2025. A total of five trees within the proposed site were categorised as being suitable to support multiple bats. The location of the trees with suitability for roosting bats is illustrated in Figure 3-2 and detailed in Table 3-2**.** It is further noted that many of the mature trees at the site boundary support Ivy cover that may hide potential roosting features and may support potential for individual bats to roost opportunistically in warmer months.

[3] Map 10 of ConservationObjectives.rdl (npws.ie)

Table 3-2: Countess Road Residential Development: potential tree roosts

PTR Number	Tree Species	BCT Category	PRFs
1	Oak	PRF-M	Split in limb
2	Oak	PRF-M	2 knot holes on limb
3	Oak	PRF-M	Limb drop and crack in limb
4	Oak	PRF-M	Crack in limb
5	Ash	PRF-M	Knot hole and rot to limb



Figure 3-2: Countess Road Residential Development- location of potential tree roosts

3.2.2.2 Structures

The structures within the proposed site comprise two attached 2-storey disused dwellings. The walls of the houses are rendered, and the roof is constructed of slate tiles with a central chimney breast and wooden fascia boards. Dormer windows are present on the 1st floor.

Potential entry/exit points for bats are present via rot holes in the wooden fascia boards and gaps under the eaves. Internally, large Jackdaw nests are present within the roof space of both dwellings. A small pile (c.10 no.) old bat droppings was present within the roof space of the easternmost dwelling and a single bat dropping was present within the roof space of the westernmost dwelling.

3.2.3 Roost Emergence Survey

Two soprano pipistrelle were recorded emerging from the southern elevation of the westernmost dwelling during the emergence survey conducted on 2nd July and 20th July.

3.3 Activity Survey

The passive monitors recorded eight species of bat, namely common pipistrelle, soprano pipistrelle, Leisler's bat, brown long-eared bat, Natterer's bat, whiskered bat, Daubenton's bat and lesser horseshoe bat. Calls from the *Myotis* genus (unidentifiable to species level) were also recorded.

Soprano pipistrelle was the most frequently recorded species within the site (52% of calls recorded), followed by common pipistrelle then Leisler's bat. Brown long-eared bat was recorded across the site, with the highest level of activity recorded on PM1 at the north of the site in July, and PM2 at the south of the site in August. Generally, a low level of activity from Natterer's bat, whiskered bat and Daubenton's bat was recorded across the site, however, a notable spike in whiskered bat and Daubenton's bat activity was recorded on PM2 at the south of the site in August. Likewise, a low level of activity from the *Myotis* genus (unidentifiable to species level) was recorded across the site, with a higher level of activity recorded at PM2 in August (see Table 3-2). Lesser horseshoe bat was recorded across the site, with a high level of activity at PM1 in July.

Overall, the level of bat activity recorded across the site was variable, with a lower level of activity recorded on PM1 at the north of the site and a higher level of activity on PM2 and PM3 at the south of the site.

The number of bat passes per night recorded on the passive monitors is summarised in Table 3-2, the location of the passive monitors is illustrated in Figure 2-1.

Five species were recorded within the site during the bat activity transects undertaken on 2nd July 2025, 24th August 2025 and 8th September 2025. These species were common pipistrelle, soprano pipistrelle, Leisler's bat, whiskered bat and lesser horseshoe bat. Soprano and common pipistrelle were recorded foraging along the hedgerows and treelines throughout the site and Leisler's bat was recorded foraging and commuting overhead. Whiskered bat was recorded foraging along the treeline at the eastern site boundary and lesser horseshoe bat was recorded in low numbers foraging along the site boundary.

During the transects undertaken in August and September, several Soprano and common pipistrelle were recorded early in the evening flying into the south of the site from adjacent housing, suggesting the likely presence of a maternity pipistrelle roost in the immediate environs of the site, outside of the site boundary. As noted previously, two soprano pipistrelle were also recorded emerging from the disused dwellings at the northeast of the site before foraging along the treelines at the field boundaries.

Table 3-3: Bat passes recorded during passive monitoring completed in 2025

Species	24th- 30th June 2024			20h- 26th July 2025			24th-30th August 2025			8th- 14th September 2025			Total
	PM1	PM2	PM3	PM1	PM2	PM3	PM1	PM2	PM3	PM1	PM2	PM3	
Common pipistrelle	948	11,066	4,140	884	2,439	2,805	1,312	11,394	4,501	1,614	4,451	7,607	**53,161 (52%)**
Soprano pipistrelle	258	6,166	1,758	348	1,934	1,299	314	7,272	6,641	531	3,845	5,039	**35,405 (35%)**
Pipistrelle species	1	17	0	3	6	3	4	39	6	0	22	15	**116 (0%)**
Leisler's	1,798	2,730	662	857	825	1,269	398	560	318	192	422	486	**10,517 (10%)**
Whiskered/ Brandt's	0	17	0	20	2	0	12	458	0	8	0	8	**525 (1%)**
Daubenton's	0	6	0	2	6	2	0	198	2	10	6	0	**232 (0%)**
Natterer's	0	4	0	0	26	2	0	6	0	0	4	2	**44 (0%)**
***Myotis* spp**	1	25	0	17	42	4	1	151	1	0	12	9	**263 (0%)**
Brown long-eared	28	54	2	110	57	9	4	137	4	2	20	4	**431 (0%)**
Lesser horseshoe bat	0	10	12	1,100	52	22	18	44	21	32	34	40	**1,385 (1%)**
NoID	0	0	0	4	2	2	0	1	0	0	0	0	**9 (0%)**
Total	**3,034**	**20,095**	**6,574**	**3,345**	**5,391**	**5,417**	**2,063**	**20,260**	**11,494**	**2,389**	**8,816**	**13,210**	**102,088 (100%)**

4 Evaluation of Survey Results

A review of existing bat records from within a 4km radius of the site indicates that nine of the ten known Irish bat species had been recorded. These include common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, Leisler's, brown long-eared, Daubenton's, Natterer's, whiskered and lesser horseshoe bat. Of these species, common pipistrelle, Leisler's bat, brown long-eared bat, Daubenton's bat and lesser horseshoe bat have been recorded roosting within 4km of the site.

Features within the site that are of potential use by foraging and commuting bats are hedgerows and treelines, which provide connectivity between the site and other foraging areas in the wider landscape. Overall, the site is considered to be of moderate to high suitability for foraging and commuting bats due to the presence of connectivity to other suitable habitats in the wider landscape.

Results from bat surveys undertaken between June and September 2025 indicate that eight species of bat forage within the site. A relatively high amount of common pipistrelle, soprano pipistrelle and Leisler's bat activity was recorded and lower levels of activity from brown long-eared bat, Daubenton's bat, Natterer's bat, whiskered bat and lesser horseshoe bat were also recorded.

Two soprano pipistrelle were recorded emerging from the disused dwellings at the north-east of the site and soprano and common pipistrelle fly into the site from a nearby roost to the south of the site, outside of the site boundary.

Overall, a high level of activity and a high diversity of species was recorded within the site.

Soprano pipistrelle, common pipistrelle, Leisler's bat, Daubenton's, Natterer's, whiskered and brown long-eared bat are all considered to be of Favourable conservation status and the conservation status of lesser horseshoe bat is categorised as being Inadequate (NPWS, 2019).

Overall, the proposed site is considered to be of local conservation interest (higher value) for bats.

5 Impact Assessment

This section of the report provides an assessment of the potential impacts on bats of the proposed development of large-scale residential development at the site.

5.1 Construction Phase

5.1.1 Loss or Severance of Foraging and Commuting Habitat

The results of the bat activity survey undertaken for the proposed development indicate that the site supports eight species of foraging and commuting bat (soprano pipistrelle, common pipistrelle, Leisler's, Daubenton's, Natterer's, whiskered, brown long-eared and lesser horseshoe bat), with a minor soprano pipistrelle roost present within the site and a pipistrelle roost present to the south of the site.

The hedgerows and treelines present on site provide foraging and commuting habitat for a high diversity of bat species, as noted previously. The proposed development will require the removal of trees and hedgerows as follows:

- Removal of 38 no. trees, 17 of which are to be removed to facilitate the development, all other trees are to be removed for safety reasons (see Geotree, 2025).
- Removal of 344 linear metres of hedgerow.

The proposed landscaping plan includes for the following:

- Planting of 205 no. trees comprised of native species.
- Planting of 360 linear metres hedgerows comprised of native species.

As the proposed planting matures, there will be a net gain of 167 trees and 16m hedgerow at the proposed site in the medium to long-term.

As described in the Tree Survey Report (Geotree, 2025), the most extensive tree/ hedgerow removal will be required at the north of the site at the boundary adjacent to Countess Road and the treeline bounding the gardens of the existing dwellings. The highest levels of bat foraging activity were recorded at the eastern and southern site boundaries, away from Countess Road. In view of the landscaping proposals as summarised above, it is expected that the removal of trees and hedgerow habitat will result in a short-term minor adverse effect on common pipistrelle, soprano pipistrelle, Leisler's bat, brown long-eared bat, Daubenton's bat, Natterer's bat and whiskered bat at the local (site) level. No significant adverse effects on these species are expected in the medium to long term.

Lesser horseshoe bats were recorded foraging and commuting at the proposed site. The proposed site is located within the foraging range for lesser horseshoe bat colony site code 296, a qualifying interest for Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC. In 2016, the Bat Conservation Trust (BCT) carried out a review of literature pertaining to mean and maximum bat foraging distances[4]. In their review, a Core Sustenance Zone (CSZ) refers to the area surrounding a communal bat roost within which habitat availability and quality will have a significant influence on the resilience and conservation status of the colony using the roost. The weighted average maximum foraging distance for lesser horseshoe bats was 2.02km. However, as noted in the National Parks and Wildlife Service (NPWS) document *Conservation objectives supporting document – lesser horseshoe*

[4] Collins, J. (ed.) (2016). *Bat Surveys for Professional ecologists: Good Practice Guidelines* (3rd ed.). The Bat Conservation Trust, London

bat (*Rhinolophus hipposideros*)[5], some researchers have found that lesser horseshoe bats normally forage in woodlands/scrub within 2.5km of their roosts, therefore, as specified for the purpose of current site specific conservation objective (SSCO) targets for this species, a 2.5km zone is considered an appropriate distance to foraging areas for each roost.

Lesser horseshoe bat is generally considered to be reluctant to cross open areas more than 10m wide. The proposed development will require the removal of vegetation along Countess Road and the treeline bounding the gardens of the existing dwellings. Aside from this section of hedgerow, all removal of hedgerows/ treeline required (e.g. for facilitation of pedestrian access) will be under 10m in length. As detailed in Table 3-2, lesser horseshoe bat calls recorded on PM1 to the north of the site (as illustrated in Figure 2-1) recorded a lower level of bat activity than the other monitors recording at the site, with the exception of July, when a high level of foraging was recorded. It is expected that the removal of trees and hedgerow habitat at the north of the site will result in a short-term adverse effect on lesser horseshoe bat at the local (site) level. However, in view of the landscaping proposals detailed above, which would retain foraging and commuting habitat at the rest of the site boundary, these effects would not be expected to have an adverse effect at the population level (i.e. they would not be significant).

No significant adverse effects on lesser horseshoe bat are expected in the medium to long term as the proposed landscape planting matures.

5.1.2 Loss of Roosting Habitat

The proposed development will require the removal of 2 no. trees identified as supporting potential roosting features, however no bats were recorded emerging from these trees during the bat activity surveys undertaken in 2025. There is potential for the proposed development to result in the loss of potential roosting habitat. This would result in a minor adverse effect at the local level.

The proposed development will require the demolition of the existing dwellings at the site. This will result in the loss of a minor soprano pipistrelle roost. In the absence of mitigation this would result in a significant adverse effect at the local level.

5.1.3 Lighting

Linear woodland and scrub edge habitat provides important flyways and feeding sites for a diversity of bats. Artificial lighting at night may have an adverse effect on foraging bats as light-averse bats may be repelled from lit areas and restrict their use of commuting or feeding space. In the absence of mitigation, disturbance of bats due to lighting used during the construction phase, should it be required, would have an indirect, temporary, negative effect for the duration of construction. The effect would be significant at the Local geographic level for soprano pipistrelle, common pipistrelle, Leisler's, Daubenton's, Natterer's, whiskered and brown long-eared bat. As outlined previously, there is potential that the lesser horseshoe bat activity recorded at the site is from the QI population for Killarney National Park SAC; applying the precautionary principle, effects on lesser horseshoe bat may be significant at the International Level.

[5] NPWS (2018) Conservation objectives supporting document – lesser horseshoe bat (*Rhinolophus hipposideros*) Version 1. Conservation Objectives Supporting Document Series. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Dublin, Ireland.

5.2 Operational Phase

5.2.1 Lighting

As noted in Section 5.1.3, artificial lighting at night may have an adverse effect on commuting and foraging bats.

Habitat degradation due to the use of artificial lighting at night may result in a long-term to permanent, irreversible negative effect on bats. The effect would be significant at the Local geographic level for soprano pipistrelle, common pipistrelle, Leisler's, Daubenton's, Natterer's, whiskered and brown long-eared bat. There is potential that the lesser horseshoe bat activity recorded at the site is from the QI population for Killarney National Park SAC; applying the precautionary principle, effects on lesser horseshoe bat may be significant at the International Level.

6 Mitigation

6.1 Derogation Tests

Test 1, Reason for the Derogation: The demolition of two semi-detached dwellings currently supporting a minor soprano pipistrelle roost is required to facilitate the construction of a residential development (as described in Section 1.3).

The proposed site is located on lands zoned for residential purposes under the Kerry County Development Plan 2022-2028. The lands are sequentially suitable for development, being within a short walking distance of Killarney Town centre, and adjacent to social and community infrastructure. As such, the development of the site is supported by national, regional and local policy, including the ministerial 'Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities'. The proposed development includes 20% social housing to meet identified needs arising from the Kerry County Council housing waiting list.

As summarised above, the proposed development is required to fulfil a housing need and, as such, is of public interest of a social and economic nature. The provision of a residential development supports social and economic development and, as such, outweighs the conservation interest of the bat species, particularly as the roost is minor and of low conservation importance.

Test 2, Absence of Alternative Solutions: Alternative solutions considered included not constructing the residential development (i.e. do-nothing). However, that option is not feasible due to the need for additional housing provision in the Killarney area. An alternative location was considered; however, the proposed site is on the outskirts of Killarney town in a location that is zoned for residential development. An alternative location is not feasible. An alternative design was also considered; however, the roost is located in disused dwellings that require demolition for the provision of a residential development. An alternative design is not feasible. The proposed development is the most reasonable solution.

Test 3, Impact of a Derogation on Conservation Status: The national population of soprano pipistrelle is estimated at approximately 1.2-2.7 million at summer 2023. The number of soprano pipistrelle roosting in the dwelling is estimated to be 2 no. individuals during the summer period, the site does not support a maternity roost. In the absence of any mitigation, the demolition of the dwelling may potentially result in the mortality of individual/ small numbers of non-breeding soprano pipistrelle, if timed inappropriately. This would result in a slight adverse effect on the conservation status of the local population of soprano pipistrelle but would not be significant on a national scale. With the implementation of the mitigation measures outlined in the supporting report, using established guidelines (e.g. Marnell, 2022) the proposed development and actions outlined within the supporting report will not be detrimental to the maintenance of populations of bat species at favourable conservation status in their natural range (as required under Section 54(2) of the European Communities (Birds and Natural Habitats) Regulations, either locally or nationally.

6.2 Mitigation Measures

6.2.1 Construction Phase

6.2.1.1 Loss of Roosting Habitat

Structures

Two soprano pipistrelle have been recorded roosting within the disused dwellings at the proposed site, therefore, safeguards are required to ensure the safety of this animal during works.

Application for a derogation licence

NB: Work on a known bat roost is a notifiable action under current legislation and a derogation licence has to be obtained from the National Parks and Wildlife Service before works on the roost can commence. Such a licence is required for the demolition of the dwellings at the proposed site and no demolition works shall be undertaken to the dwellings before the licence is granted by the NPWS.

A derogation license for the proposed development has been received and is enclosed in Appendix C.

In accordance with Marnell *et al* (2022), the dwellings at Countess Road support a bat roost considered to be of low conservation significance. As stated in Figure 20, page 46, this necessitates:

"Flexibility over provision of bat boxes, access to new buildings etc. No conditions about timing or monitoring"

While, as noted above, there is no requirement to comply with timing conditions, it is noted that disturbance to individual bats can be avoided by completing works at an appropriate time of year. In accordance with the *Bat Mitigation Guidelines for Ireland*, the optimum time for undertaking works to a building supporting a summer roost (not a proven maternity site) is between 1st September and 1st May.

Demolition works to the existing dwellings shall occur between 1st September and 1st May.

Demolition works shall only proceed under licence.

The existing dwellings will be subject to a dusk survey or daytime inspection for evidence of bat usage immediately prior to the commencement of works. In the event that no evidence of bat usage is found during the inspection, works can commence. Should bats be found within the building, works will be delayed until they are no longer present (i.e. they have naturally flown from the roost). Prior to commencement of works the bat specialist will brief the contractor on the possible presence of bats on the site, the subsequent need to take appropriate care and attention whilst carrying out the works and the steps to take should bats be discovered at the site at any time (i.e. stop works and inform the bat specialist). Active bats will usually keep out of the way of any operations, but torpid bats may need to be gently temporarily placed in a box until dusk and released on site.

The dwellings support a day roost for 2 no. soprano pipistrelle. Soprano pipistrelle are crevice dwellers, as such, it is considered that the inclusion of 3 no. bat boxes suitable for crevice dwellers[6] on trees to be retained in a dark area of the site boundary will provide suitable alternative roosting space.

Trees

[6] For example: Fledermausflachkasten 1FF | 00139/9

Pre-construction Potential Roost Feature (PRF) inspection/presence absence surveys of all trees scheduled for felling shall be undertaken. Following this examination, should any of the trees be identified as a bat roost then a derogation licence application will be made to the NPWS to exclude the bats and fell the tree.

Where bats are recorded roosting in the trees scheduled for felling, the following mitigation will be required:

- Timing: tree-felling can be undertaken from late August to late October/early November and all works should ideally be undertaken in this period. During this period bats are still capable of flight having not entered hibernation and undertaking works in this period may reduce the risks of tree-felling if proper measures are undertaken. To carry out the works any later in the bat season creates an additional risk that bats may be in hibernation and thus unable to fly out from a tree that is being felled, although bats can be removed by hand by a licenced bat handler if required. Additionally, disturbance during winter may reduce the likelihood of survival as the bats' body temperature is too low and they may have to consume too much body fat to survive.

Trees to be felled under the supervision of the bat specialist (as identified during the pre-construction survey) will be examined and where bats are found, they will be translocated to an area where bat boxes will already be installed on appropriate trees within the proposed site.

The proposed process for felling the trees with PRFs is outlined below:

- The bat specialist will be present during the tree felling works;
- Works will be undertaken in mild weather to ensure that if bats are found during works that they can be released or safely removed;
- Tree(s) identified as having potential to support bats will be surveyed during the daytime for bats prior to felling, on the day the felling is due to take place. The bat specialist will inspect all potential bat roost features of the tree, including those above ground level. This will require the services of a qualified arborist to climb the trees/ use a cherry picker and fell the tree in sections and lower potential roost features slowly to the ground to allow the bat specialist to inspect them. This will include visual inspection as well as use of an endoscope to inspect cavities/crevices;
- The arborist will be briefed on the technique to be followed prior to the commencement of operations. Felling will follow best practice and mitigation measures, including wedging open cracks/crevices prior to load removal and cutting limbs in sections and lowering to the ground. Trees will only be felled in longer sections if the bat worker is satisfied that there are no potential roost features present;
- When using a chainsaw, the rate of fall of branches will not be accelerated by the use of a chain and vehicle;
- Any bats found in the trees will be removed by hand to a bat box and will then be relocated to the bat boxes installed in advance of works. Notes of any such activities will be maintained;
- The tree and/or tree sections will be left on the ground for a minimum period of 24 hours to enable any unidentified bats residing in deeper crevices to make good their escape during night time hours.

6.2.1.2 Loss or Severance of Foraging and Commuting Habitat

As noted in Section 5.1.1, the proposed landscaping plan includes for the planting of 205 no. trees comprised of native species and planting of 321 linear metres hedgerows comprised of native species. As the proposed planting matures, there will be a net gain of 167 trees and 237m hedgerow at the proposed site in the medium to long-term. No further specific mitigation measures are required.

For a detailed description of Biodiversity Net Gain achieved by the proposed planting scheme please refer to the Landscaping Plan and Ecological Impact Assessment (EcIA) accompanying the planning application.

6.2.2 Lighting

To minimise disturbance to bats and other fauna that are active at night, construction operations during the hours of darkness will be kept to a minimum. If construction lighting is required during the bat activity period (April to September), lighting shall be directed away from all known roosts and woodland habitats to be retained. This can be achieved by using directional lighting (i.e. lighting which only shines on the proposed works and not nearby countryside) to prevent overspill. This shall be achieved by the design of the luminaire and by using accessories such as hoods, cowls, louvres and shields to direct the light to the intended area only.

6.3 Operational Phase

6.3.1 Barrier effect as a result of artificial lighting

The protection of dark refuges is essential for bats, particularly in urban and suburban areas. Careful design of the lighting will be important to ensure that the development does not create barriers for bats commuting and foraging in the study area, while maintaining health and safety requirements for human use. This is particularly important for bat foraging/commuting habitat within, and at the edge of, retained linear woodland habitats (hedgerows) at the site.

The following general principals will be followed in relation to the overall lighting plan for the proposed development site:

- Lighting design will be flexible and be able to fully take into account the presence of protected species. Therefore, appropriate lighting shall be used within the proposed development and adjacent areas with more sensitive lighting regimes deployed in wildlife sensitive areas, including foraging areas for bats along hedgerows.
- Dark buffer zones will be used to separate habitats or features from lighting by forming a dark perimeter around them. This shall be used for habitat features noted as roosting and foraging areas for bats and light spill onto foraging habitat (i.e. hedgerows) shall be avoided.
- Buffer zones will be used to protect dark buffer zones and rely on ensuring light levels (levels of illuminance measured in lux) within a certain distance of a feature do not exceed certain defined limits. The buffer zone can be further subdivided into zones of increasing illuminance limit radiating away from the feature or habitat that requires to be protected. This will apply to foraging habitat (i.e. hedgerows).

Luminaire design is extremely important to achieve an appropriate lighting regime. Luminaires come in a myriad of different styles, applications and specifications which a lighting professional can help to select. The following will be considered when choosing luminaires. This is taken from the most recent BCT Lighting Guidelines (BCT, 2023).

- All luminaires used will lack UV elements to reduce impact.
- LED luminaires will be used due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.
- A warm white spectrum (<2700 Kelvins) is recommended to reduce the blue light component.
- Light sources shall feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats.
- Waymarking inground markers (low output with cowls or similar to minimise upward light spill) to delineate path edges.

- Column heights shall be carefully considered to minimise light spill and glare visibility. This should be balanced with the potential for increased numbers of columns and upward light reflectance as with bollards.
- Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered - See ILP GN01.
- Luminaires shall always be mounted horizontally, with no light output above 90° and/or no upward tilt.
- Where appropriate, external security lighting shall be set on motion sensors and set to as short a possible a timer as the risk assessment will allow. For most general residential purposes, a 1 or 2 minute timer is likely to be appropriate.
- The use of bollard or low-level downward-directional luminaires is strongly discouraged. This is due to a considerable range of issues, such as unacceptable glare, poor illumination efficiency, unacceptable upward light output, increased upward light scatter from surfaces and poor facial recognition which makes them unsuitable for most sites. Therefore, they should only be considered in specific cases where the lighting professional and project manager are able to resolve these issues.
- Only if all other options have been explored, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed. However, due to the lensing and fine cut-off control of the beam inherent in modern LED luminaires, the effect of cowls and baffles is often far less than anticipated and so should not be relied upon solely.

For this development specifically, there will be light spill onto Countess Road at the northern site boundary, as exists in the current baseline situation; this is required for safety. The lighting along the hedgerows at the rest of the site boundary has been minimised so that dark areas are retained on the eastern site boundary and the south-western site boundary. The lighting has been pulled back from the southern site boundary as far as is practicable while still allowing for human safety.

A copy of the proposed illumination contour drawing for public lighting is enclosed in Appendix B.

The proposed private lighting has been designed in compliance with ILP "ILP *Guidance notes for the Reduction of Obtrusive light* (GN01:2021). It is recognised that light fittings can be adjusted after handover, which may affect light spill levels. However, up to this point, the proposed lighting design ensures that external lighting shall be limited to downlighters, resulting in a 1.0lx light spill onto footpaths but with a minimal spill outside of these areas.

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Appendix A: Description of Irish Bat Species

Ireland has ten known bat species from two distinct families. Each is briefly described below. For a more comprehensive overview see Roche *et al* (2014). The conservation status of each species is derived from NPWS (2019).

Vespertilionidae:

Common pipistrelle (*Pipistrellus pipistrellus*)

This species was only recently separated from its sibling, the soprano or brown pipistrelle *P. pygmaeus*, which is detailed below (Barratt et al, 1997). The common pipistrelle's echolocation calls peak at 45 kHz. The species forages along linear landscape features such as hedgerows and treelines as well as within woodland. The conservation status of this species is Favourable.

Soprano pipistrelle (*Pipistrellus pygmaeus*)

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

Nathusius' pipistrelle (*Pipistrellus nathusii*)

Nathusius' pipistrelle is a recent addition to the Irish fauna and has mainly been recorded from the north-east of the island in Counties Antrim and Down (Richardson, 2000) and also in Fermanagh, Longford and Cavan. It has also been recorded in Counties Cork and Kerry (Kelleher, 2005). However, the known resident population is enhanced in the autumn months by an influx of animals from Scandinavian countries. The conservation status of this species is Favourable.

Leisler's bat (*Nyctalus leisleri*)

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

Brown long-eared bat (*Plecotus auritus*)

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

Natterer's bat (*Myotis nattereri*)

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

Daubenton's bat (*Myotis daubentonii*)

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

Whiskered bat (*Myotis mystacinus*)

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

Brandt's bat (*Myotis brandtii*)

According to NPWS (2013), whiskered and Brandt's bats are cryptic species and can only be told apart using DNA techniques. Brand't bat has been confirmed only once from Ireland; a single specimen found in 2003 in Wicklow (Mullen, 2006). Following this discovery, an intensive re-survey, involving DNA testing, was undertaken of all known whiskered bat roosts in Ireland, by the Centre for Irish Bat Research. Woodland mist-netting was also conducted for the species. Despite the extensive survey-work, no further Brandt's bats were identified. The most recent Red Data List for Irish Mammals (Marnell *et al*. 2009) lists Brandt's bat as data deficient. There is no evidence of any roosts for this species in the country and at present the single record for the species is considered an anomaly. Boston et al (2010) concluded that "M. brandtii …. cannot currently be considered a resident species. This species is now considered a vagrant to the country and consequently, a detailed assessment has not been carried out.

Rhinolophidae:

Lesser horseshoe bat (*Rhinolophus hipposideros*)

This species is the only representative of the Rhinolophidae or horseshoe bat family in Ireland. It differs from our other species in both habits and looks, having a unique nose leaf with which it projects its echolocation calls. It is also quite small and, at rest, wraps its wings around its body. Lesser horseshoe bats feed close to the ground, gleaning their prey from branches and stones. It often carries its prey to a perch to consume, leaving the remains beneath as an indication of its presence. The echolocation call of this species is of constant frequency and, on a heterodyne bat detector, sounds like a melodious warble. The species is confined to six counties along the Atlantic seaboard: Mayo, Galway, Clare, Limerick, Kerry and Cork. The current Irish national population is estimated at 12,500 animals. This species is listed on Annex II of the EC Habitats Directive and 41 Special Areas of Conservation have been designated in Ireland for its protection. Where it occurs, it is often found roosting within farm buildings. The conservation status of this species is Inadequate.

Appendix B Illumination Contour Drawing



Appendix C Derogation License

Derogation Number
DER-BAT-2026-177

EUROPEAN COMMUNITIES (BIRDS AND NATURAL HABITATS) REGULATIONS, 2011 (S.I. No 477 of 2011)

DEROGATION

Granted under Regulation 54 of the European Communities (Birds and Natural Habitats) Regulations 2011, hereinafter referred to as "the Habitats Regulations".

The Minister for Housing, Local Government & Heritage, in exercise of the powers conferred on him by Regulation 54 of the Habitats Regulations hereby grants to **Tadhg Twohig** of **Dipharma Unlimited Company, Cahernard, Castleisland, County Kerry** a derogation. It is stated that this derogation is issued:

A. 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
B. As there is no satisfactory alternative, and the action authorised by this derogation will not be detrimental to the maintenance of the population of **bats** referred to below at a favourable conservation status in their natural range.

This derogation authorises the following:

1. Roost disturbance
2. Actions authorised within the derogation

The derogation is issued in respect of the following **bat species**:

- **Soprano Pipistrelle** **Pipistrellus Pygmaeus**

Terms and Conditions

1. This derogation is granted solely to allow the activities specified in connection with the works located at **Countess Road, Killarney, County Kerry** for **Tadhg Twohig**
2. All activities authorised by this derogation, and all equipment used in connection herewith, shall be carried out, constructed and maintained (as the case may be) so as to avoid unnecessary injury or distress to any species of **BAT**. Anything done other than in accordance with the terms of this derogation may constitute an offence
3. This derogation may be modified or revoked, for stated reasons, at any time. In addition, the Minister reserves the right to revoke the derogation where updated information indicates that the basis upon which the derogation was granted has materially changed.
4. The mitigation measures outlined in the application report **(Bat Survey Large-scale Residential Development Countess Road Killarney Co. Kerry)** together with any changes or clarification agreed in correspondence between NPWS and the agent or applicant, are to be carried out. Strict adherence must be paid to all the proposed measures in the application.
5. The actions which this derogation authorise shall be completed between **2nd April – 31st December 2026, inclusive.**
6. The works will be supervised by bat ecologist(s): **Karen Banks**
7. If this derogation addresses works that are subject of a planning application, no such works permitted under this derogation can occur until planning permission is granted.
8. If this derogation expires prior to works permitted under this derogation commencing, a new application must be sought in advance, including the provision of any updated data or reports.
9. This derogation shall be produced for inspection on a request being made on that behalf by a member of An Garda Síochána or an authorised NPWS officer appointed under Regulation 4 of the Habitats Regulations.
10. The local **NPWS Conservation Ranger – Jason Lyne,** jason.lyne@npws.gov.ie**,** must be contacted prior to the commencement of any activity, and if bats are detected on site during the course of the work, under the terms of this derogation.
11. On completion of the actions which this derogation authorises, all recordings of bat species affected will be made using the standardised Returns form and must be submitted to the NPWS **within four weeks of the expiry date of this derogation**. Included with the Returns form, a report will also be submitted to wildlife.reports@npws.gov.ie detailing results of works and success of mitigation. **Both documents must be submitted to constitute a derogation return.**

For the Minister for Housing, Local Government & Heritage

(an officer authorised by the Minister to sign on his behalf)

02 April 2026

Any query in relation to this derogation should be sent to reg54derogations@npws.gov.ie



Derogation Assessment

Name of Applicant: Tadhg Twohig

Location/Name of Project: Countess Road, Killarney, County Kerry

Tick the following prohibition as chosen on the application:

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

Test 1: A reason(s) listed in Regulation 54 (a)-(e) applies to the proposed activity

i. Tick which reason <u>the applicant claims</u> should be applied to the derogation

(a) In the interests of protecting wild flora and fauna and conserving natural habitats,	☐
(b) To prevent serious damage, in particular to crops, livestock, forests, fisheries and water and other types of property	☐
(c) In the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment,	☒
(d) For the purpose of research and education, of re-populating and re-introducing these species and for the breeding operations necessary for these purposes, including artificial propagation of plants, or	☐
(e) To allow, under strictly supervised conditions, on a selective basis and to a limited extent, the taking or keeping of certain specimens of the species to the extent specified therein, which are referred to in the First Schedule.	☐

ii. Test 1: Conclusion

Please tick the following where it applies:

There is a valid reason(s) listed in Regulation 54 (a)-(e) which applies to the proposed activity:	Yes	☒
	No	☐

Please outline your analysis below and state how the applicant has provided evidence to support your conclusion:

The application form and associated documentation provided by the applicant has been reviewed in full. The application relies on regulation 54(2)(c) '*in the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment*' as the reason chosen for a derogation that they believe applies to the proposed activity.

In the detail provided, it is clear that the applicants are relying on the imperative reasons of overriding public interest, including those of a social or economic nature aspect of Reason C. As outlined on page two of the accompanying report titled "Bat Survey Countess Road", a derogation is required for proposed works at Countess Road, Dromhale (townlands), Killarney, Co. Kerry.

The objective of the works is the construction of a large-scale residential development, a crèche and associated development and infrastructure works. The report further outlines on page 20 that the proposed development located within walking distance to Killarney Town centre will support local housing needs and provide employment while being "adjacent to social and community infrastructure. The development will allocate 20% of the stock to social housing, which will assist with Kerry County Councils housing waiting list and the crèche will also providing a social and economic benefit for the area.

The applicant has provided evidence as to the nature and scale of the public interest including those of a social or economic nature for the proposed works and the proposed activity is necessary to achieve these overall objectives. Based on the above this application has passed Test 1 and can now proceed to Test 2

Test 2: Absence of a satisfactory alternative

Please tick the following where it applies and add a comment below to support the recommendation:

The applicant has provided satisfactory evidence that alternative solutions have been considered and have given reasons why the proposed approach is the only satisfactory alternative:	Yes	☒
	No	☐

Please outline your analysis below and state how the applicant has provided evidence to support your conclusion (If you wish to add additional conditions please complete pg. 6):

The documentation submitted by the applicant has been reviewed, including the evidence for alternative solutions.
The purpose of the derogation is to allow the following activity to take place: The demolition of two semi-detached dwellings currently supporting a minor soprano pipistrelle roost is required to facilitate the construction of a residential development.

The specific situation that needs to be addressed is that the proposed development is required to fulfil a housing need and, as such, is of public interest of a social and economic nature. The provision of a residential development supports social and economic development and, as such, outweighs the conservation interest of the bat species, particularly as the roost is minor and of low conservation importance.

The alternative solutions suggested by the applicant are:
"Do-Nothing" scenario [NPWS regional staff accept the reasoning outlined by the applicant in their report as to why this is not a satisfactory alternative, do-nothing would result in loss of much needed residential properties. The dwellings themselves are of limited use by bats, alternative roost are present in the wider environment considering the presence of Killarney National Park roughly 700m from the dwellings.

"Alternative Location" scenario [NPWS regional staff accept the reasoning outlined by the applicant in their report as the location of the works is in a location zoned for residential development, situated in an urban setting. An alternative location is not feasible.]

"Alternative Design" scenario [NPWS regional staff accept the reasoning outlined by the application in their report as, the demolition of the dwellings, is required for the provision of residential developments. An alternative design is not feasible

Upon completion of your assessment, please return this Recommendation to WLU to continue the application process.

Test 3: Impact of a derogation on conservation status of the species

Please tick the following where it applies and add a comment below to support the recommendation:

The derogation would NOT be detrimental to the maintenance of the populations of the species in question at a favourable conservation status in their natural range.	Yes	☒
	No	☐

Please outline your analysis below and state how the applicant has provided evidence to support your conclusion. (If you wish to add additional conditions please complete pg. 6)

A small soprano pipistrelle roost is present within one of the buildings on site. This species is widespread and abundant in Ireland and is in favourable conservation status. This species is also adaptable and quick to occupy new roosting features.

Suitable and proportionate mitigation has been proposed, including the erection of bat boxes and sensitive lighting.

Providing these mitigation measures are implemented, I am satisfied that the works will not be detrimental to the maintenance of the populations of the species in question at a favourable conservation status in their natural range.

If the answer above is Yes then the derogation may be granted, providing Tests 1 and 2 have also been met.

Upon completion of your assessment, please return this Recommendation to WLU to continue the application process.

Derogation decision

The application for a derogation under Regulation 54 of the European Communities (Birds and Natural Habitats) Regulations, 2011 (S.I. 477 of 2011), as amended, has been assessed by officials in the Department and the following decision has been made:

Tick box where appropriate:

There is no satisfactory alternative	☒
and the derogation is not detrimental to the maintenance of the populations of the species to which the Habitats Directive relates at a favourable conservation status in their natural range.	☒

Therefore, a derogation may be granted to the applicant, since it is—

(a) in the interests of protecting wild fauna and flora and conserving natural habitats	☐
(b) to prevent serious damage, in particular to crops, livestock, forests, fisheries and water and other types of property,	☐
(c) in the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment,	☒
(d) for the purpose of research and education, of repopulating and re-introducing these species and for the breeding operations necessary for these purposes, including the artificial propagation of plants, or	☐
(e) to allow, under strictly supervised conditions, on a selective basis and to a limited extent, the taking or keeping of certain specimens of the species to the extent specified therein, which are referred to in the First Schedule.	☐
OR **This application has been refused as one or more of the conditions set out above have not been met**	☐

The following conditions should be attached to the derogation:

1.
2.
3.
4.

[add additional conditions where required]

Signed: 

Date: April 2, 2026

Position: Ecologist