DEVOY BARRACKS SHD, NAAS, CO. KILDARE

ECOLOGICAL (BIODIVERSITY) APPRAISAL

Brady Shipman Martin

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Environmental Assessment **Built Environment**

Client: The Land Development Agency

Date: 31 March 2022

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Contents

1 Introduction

The Land Development Agency is seeking permission for a proposed strategic housing development (SHD) on a site at John Devoy Road, Naas, County Kildare (known locally as Devoy Barracks). The proposed development consists of 219 residential units, a childcare facility, public and communal open spaces and all associated site works and infrastructure.

This report has been prepared to accompany the planning application to An Bord Pleanála for the proposed strategic housing development.

The potential for any impacts on sites designated as European (Natura 2000) sites under the EU Habitats and Birds Directives was also appraised, and the results of that study are presented in a separate report (Appropriate Assessment Screening Report (BSM Report 6763_RPAA1)).

The work was carried out by Senior Ecologist Matthew Hague BSc MSc Adv. Dip. Plan. & Env. Law CEnv MCIEEM. Matthew is a highly experienced and qualified ecologist, with a master's degree in Ecosystem Conservation and Landscape Management. He has 20 years of experience in ecological and environmental consultancy, across a wide range of sectors. He has prepared numerous reports for AA Screening as well as Natura Impact Statements, for projects of all scales, from small residential developments to nationally important infrastructure projects.

Matthew is a Chartered Environmentalist (CEnv) and a full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM). Matthew has also completed an Advanced Diploma in Planning and Environmental Law, at King's Inns and is a member of the Irish Environmental Law Association (IELA).

2 Methodology

2.1 Desk study

A comprehensive desk-based assessment has been undertaken by the author, in March 2022.

This report has regard to the following **publications**:

- Environmental Protection Agency's (EPA) *Guidelines on the Information to be Contained in Environmental Impact Statements* (2002) (and revised and draft guidelines 2017);
- EPA *Advice Notes of Current Practice (in the Preparation of Environmental Impact Statements)* (2003) (and revised advice notes 2015);
- Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment (European Commission, 2013);
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (August 2018);
- *Guidelines for Assessment of Ecological Impacts of National Road Schemes* (Transport Infrastructure Ireland (formerly the National Roads Authority), 2009);
- *Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland: Terrestrial, Freshwater, Coastal and Marine* ('the CIEEM Guidelines') published by the Chartered Institute of Ecology and Environmental Management (CIEEM), September 2018 – updated in September 2019 (V1.1);
- *Guidelines for Preliminary Ecological Appraisal* published by the Chartered Institute of Ecology and Environmental Management (CIEEM), April 2013.

The report has regard to the following **legislative instruments**:

- The Planning and Development Act 2000 (as amended);
- The Wildlife Act 1976 (as amended);
- European Commission (EC) Habitats Directive 92/43/EEC;
- European Commission (EC) Birds Directive 2009/147/EC;

- European Communities (Birds and Natural Habitats) Regulations 2011(as amended);
- Flora (Protection) Order 2015.
- EIA Directive 2011/92/EU of the European Parliament;
- EIA Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014;
- European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018).

The report has regard to the following **Policies and Plans**:

- *Third National Biodiversity Plan 2017 – 2021* (Department of Culture, Heritage and the Gaeltacht, 2017);
- *Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters* (Inland Fisheries Ireland, 2016);
- *Planning for Watercourses in the Urban Environment* (Inland Fisheries Ireland, 2020);
- *All-Ireland Pollinator Plan 2011-2025* (National Biodiversity Data Centre);
- *Kildare County Development Plan 2017 – 2023*, including the associated Natura Impact Report;
- *Naas Local Area Plan 2021 – 2027*, including the associated AA Screening Report and Determination.

Information was also collated from the **sources** listed below:

- Data on rare and protected plant and animal species contained in the following databases:
  - The National Parks and Wildlife Service (NPWS) of the Department of Culture, Heritage and the Gaeltacht: www.npws.ie;
  - The National Biodiversity Data Centre (NBDC) www.biodiversityireland.ie;
  - Birdwatch Ireland www.birdwatchireland.ie;
  - Bat Conservation Ireland www.batconservationireland.org;
- Recent aerial photography and photographs taken at the site;
- Recent and historic ordnance survey mapping www.geohive.ie;
- Information on protected areas, as well as watercourses, catchments and water quality in the area available from https://gis.epa.ie/EPAMaps/;
- Information on soils, geology and hydrogeology in the area available from www.gsi.ie;
- Information on the Status of EU Protected Habitats and Species in Ireland (Article 17 report) (NPWS, August 2019);
- Information on land-use zoning from the online mapping of the Department of the Environment, Community and Local Government http://www.myplan.ie/en/index.html;
- Previous survey work, undertaken in the preparation of previous planning applications in the immediate vicinity, was also reviewed.

2.2 Field surveys

A preliminary ecological survey was undertaken at the site by the author on 31 January 2020. A full habitat survey, an invasive alien plant species survey and bat detector survey were all carried out on 9 June 2020, as part of the previous SHD application for development at the site.

In the preparation of this planning application a habitat and bat survey, including bat detector survey, was undertaken on 23 September 2021, by specialist bat ecologist Mr Brian Keeley. A final site visit and habitat survey took place on 4 March 2022.

During the course of the site visits the habitats were identified, described and mapped. Habitats were surveyed using the guidelines of Smith *et al.*[1] and were classified using *A Guide to Habitats in Ireland*[2]. Vascular plant

[1] Best Practice Guidance for Habitat Survey and Mapping (Smith, O.Donoghue, O'Hora and Delaney, 2011)

[2] A Guide to Habitats in Ireland (Fossitt, 2000)

nomenclature follows that of the *New Flora of the British Isles 3rd Edition*[3]. Biological kick-sampling, a method of assessing the ecological quality of a watercourse, was not undertaken due to the unsuitable substrate, flow regimes and overall condition of the only stream on the site – the Yeomanstown Stream in the southern corner (see Section 3.1).

The building/structures bat inspection survey comprised a visual and physical inspection of the small building that will be removed as part of the proposed development on the site. There are no other structures on the site with any possibility of being used by roosting bats. Given the nature of this building and its exposed, isolated location the survey results are considered to be sufficient to make an assessment of bat activity as it relates to buildings and structures on the site.

The visual inspection comprised a detailed day-time survey of the structure. All accessible crevices and cracks were inspected, with binoculars and high-powered torch employed as necessary. Evidence such as bat droppings and suitable entry/egress points was searched for. Particular signs of bats, such as corpses, oily marks, droppings, areas notably lacking in cobwebs, and feeding remains were sought.

The vegetation on the site, in particular the trees/tree line and hedgerow along the western and southern site boundary, was also checked for suitability for use by roosting bats.

The specialist bat survey (refer to **Appendix 1**) of the Devoy Barracks lands was undertaken on 23 September 2021, by two highly experienced bat specialists using two Echometer Touch 2 Pro (EMT) handheld "real time expansion" bat detectors and an Anabat Walkabout ultrasonic all-weather recorder. The survey was undertaken in a period of the year when bat activity is typically high. This allows a surveyor to identify feeding and commuting bats and the activity mating bats and to determine the presence of important bat roosts, important feeding areas and any commuting corridors of value to bats.

The only building within the site was examined over two separate visits: 23 September 2021 and 14 March 2022. This included external and internal examination for evidence of current occupancy and also of historical occupancy based on the presence or absence of bat droppings, staining and corpses.

The EMT units were held for the entire active survey while the Anabat was positioned on the perimeter of the only building within the site for the survey period. An examination of available information from Bat Conservation Ireland, previous data from neighbouring sites was also undertaken to compile a list of most likely species in the overall area in addition to the evaluation of the habitat and active bat survey. The survey was undertaken in a period of the year when bat activity is typically high. This should allow a surveyor to identify feeding and commuting bats and the activity mating bats and to determine the presence of important bat roosts, important feeding areas and any commuting corridors of value to bats. Weather conditions were dry and mild but with a crosswind where tree cover was absent. Sunrise was at 07.16 hours. The temperature at this time was 16 degrees Celsius. It was breezy but dry with 100% cloud cover.

2.3 Evaluation of ecological features

The methodologies used to determine the value of ecological resources, to characterise impacts of the proposed Project and to assess the significance of impacts and any residual effects are in accordance with the NRA (TII) *Guidelines for Assessment of Ecological Impacts of National Road Schemes*[4]. This is consistent with the approach taken in the CIEEM *Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland – Terrestrial, Freshwater, Coastal and Marine*[5].

In accordance with the NRA (TII) Guidelines, impact assessment is undertaken of sensitive ecological receptors (Key Ecological Receptors) within the Zone of Influence of the proposed Project. According to the guidelines, the Zone

[3] New Flora of the British Isles, 3rd Edition (Stace, 2010)

[4] NRA (TII), 2009. Guidelines for Assessment of Ecological Impacts of National Road Schemes. National Roads Authority

[5] The CIEEM Guidelines', CIEEM, September 2018

of Influence is the '*effect area*' over which change resulting from the proposed Project is likely to occur and the Key Ecological Receptors are defined as features of sufficient value as to be material in the decision-making process for which potential impacts are likely. As noted in the guidelines, the following geographic frames of reference are used when determining ecological value:

- International Importance;
- National Importance;
- County Importance; and
- Local Importance (Higher Value).

In the context of the proposed development site at Devoy Barracks, a Key Ecological Receptor is defined as any feature valued between Local Importance (Higher Value), such as sites containing semi-natural habitat types with high biodiversity in a local context, or populations of species that are uncommon in the locality, and International Value (such as a European site).

Features of local importance (Lower Value) and features without ecological value are not considered to be Key Ecological Receptors in this context.

3 Baseline environment

3.1 General description of the receiving environment

The proposed development site is located on John Devoy Road, Naas, Co Kildare, known locally as Devoy Barracks. The site has a total area of approximately 4.1ha.

The site (see **Figure 1**) is located to the south-west of the town, close to the town centre on a disused area of land to the west of the offices of Kildare County Council. Under the LAP, the site of the proposed development is predominantly zoned '*C – New Residential*', for which the corresponding objectives is "To provide for new residential development"; with small areas on the eastern margin of the site zoned '*A – Town Centre*', for which the corresponding objective is "*To protect, improve and provide for the future development of the town centre*". Uses permitted in principle under this objective include housing as the primary use but also recreation, education, crèche / playschool, community buildings and sheltered housing. Limited local shopping facilitates are open for consideration to serve local needs only.

The location of the proposed development is also identified as one of two '*Key Development Areas'* (KDA) under the LAP – the Devoy Barracks KDA and the Junction 9 (Maudlins) KDA:

> "*The Devoy Barracks KDA is located to the southwest of the town centre of Naas, with vehicular access off John Devoy Road. It encompasses a circa 4-hectare area under the ownership of the Land Development Authority as well as an area of land to the west and south which belong to Kildare County Council. These lands include the Kildare Civic Defence building and the MERITS building (currently under construction).*" (p. 161)

The site is dominated by a large area of unmanaged rank grassland, of relatively low species diversity. Patches of bramble-dominated scrub are encroaching in places. The western and southern boundaries comprise a gappy semi-mature/mature hedgerow/tree line. This area is of some limited ecological value for breeding birds and as a habitat corridor. The site is open and exposed and there are few features of any potential value for roosting bats – there is very limited potential for roost loss within the site. None of the trees are suitable for roosting bats. There is a small shed that was not in use as a bat roost at the time of survey but offers roost potential within the roof and walls.

No evidence of badgers or other protected mammal species was recorded. No evidence of invasive alien plant species was recorded on the site.

The site is in the Liffey sub-catchment of the Liffey and Dublin Bay catchment. A stream/drainage ditch, known as the Yeomanstown Stream[6] (or Rathasker Stream), a first order tributary of the River Liffey, runs along the southern site boundary. There are no other watercourses on or in the immediate vicinity of the proposed development site. The Yeomanstown Stream flows into the Liffey at a point approximately 3.5km to the north west of the Devoy Barracks site. The Grand Canal (Corbally Branch) is approximately 300m to the north of the proposed development site at its closest point.

Figure 1: The location of the proposed development at Devoy Road (indicative red line – refer to planning application documentation for full details) (source: Google Maps)

3.2 Designated conservation areas

No sites designated for nature conservation are present on the site, however there are seven European sites (5 SACs and 2 SPAs) located within approximately 15km radius of the proposed development site at Devoy Barracks (see **Figure 2**). A separate Appropriate Assessment Screening Report has been prepared in order to address any potential impacts on European sites. Due to the location of the proposed development site in Naas, within the catchment of the River Liffey, the AA Screening Report also appraises the potential for significant effects on the European sites associated with Dublin Bay.

[6] https://gis.epa.ie/EPAMaps/

As noted in Section 3.1, there is a surface water link between the proposed development site and the River Liffey via the Yeomanstown Stream. The Liffey flows into Dublin Bay, approximately 33km to the east. There is therefore a potential surface water link between the proposed development site and the European sites associated with Dublin Bay.

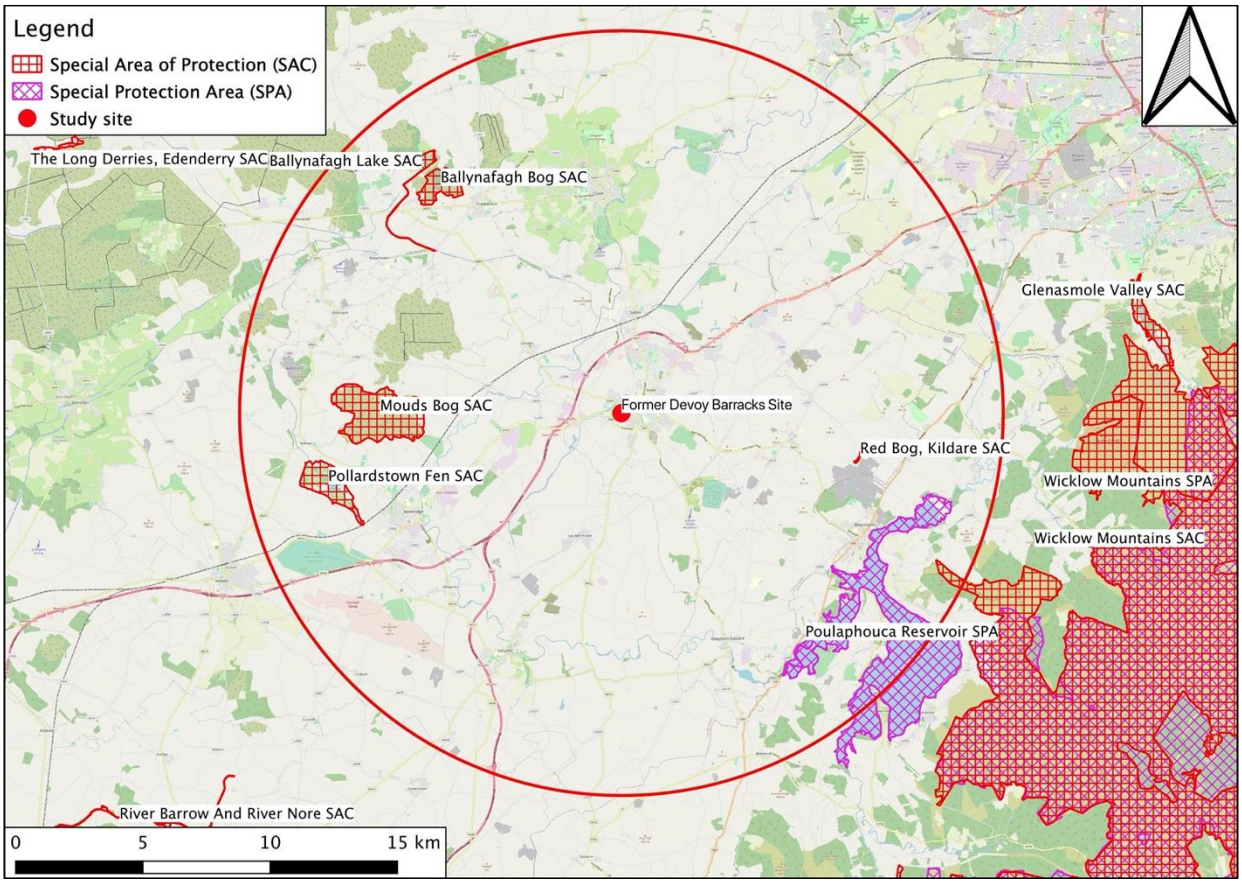

Figure 2: Study site showing European sites (with 15km buffer also shown)

The nearest site designated for nature conservation that is not also designated as a European site is the Grand Canal proposed Natural Heritage Area (pNHA site code 002104), which is within 300m of the northern boundary of the proposed development site. In addition a small pNHA (the Liffey at Osberstown, pNHA site code 001395) is situated approximately 2.3km to the north west. Kilteel Wood pNHA (site code 001394) is almost 10km to the east.

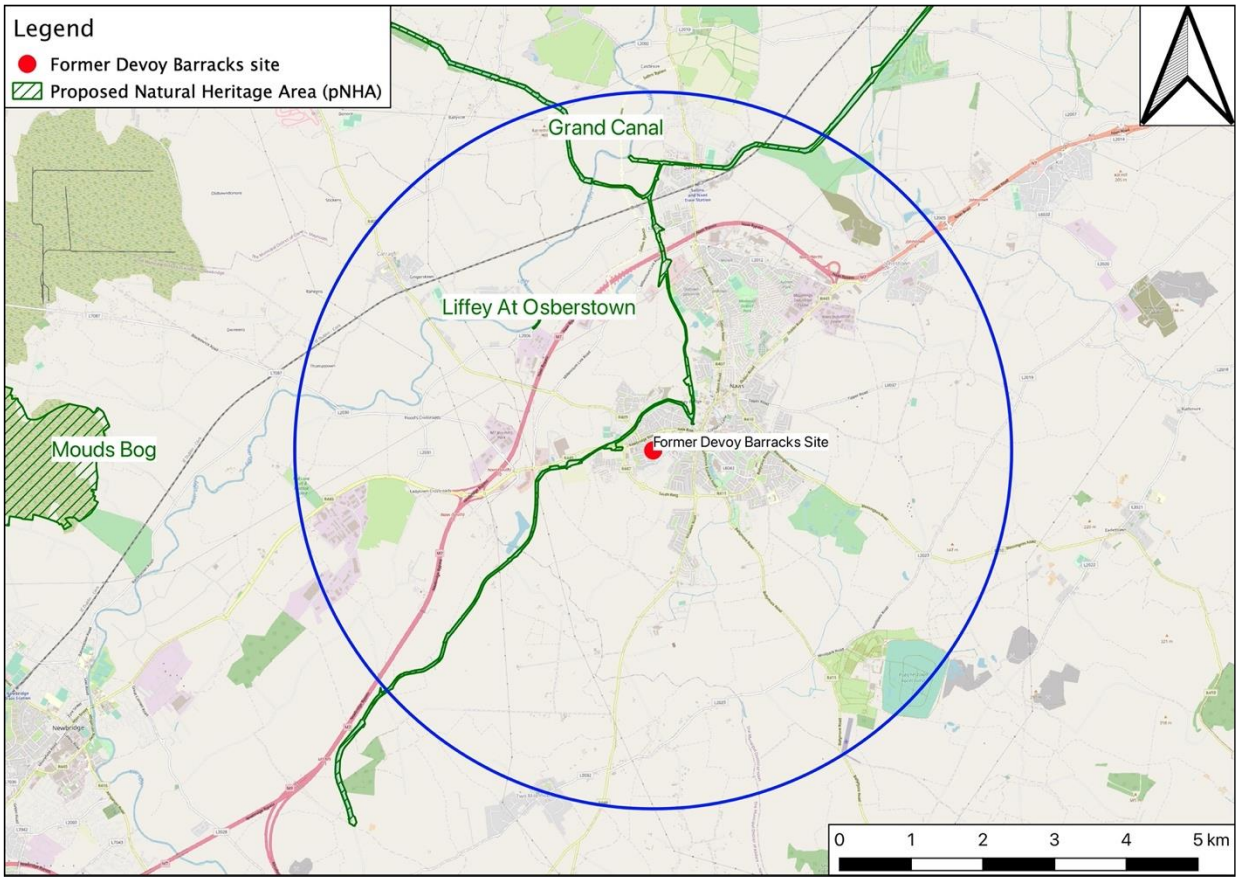

Figure 3: Designated Conservation Areas (non-European Sites) in relation to the study site (with 5km buffer also shown)

3.3 Rare and protected plant species

The NPWS and NBDC databases were consulted with regard to rare species[7] and species protected under the *Flora Protection Order*[8]. According to the NBDC database there are no records of protected or rare plants within the 10km grid square (N81) that covers the site. No protected or rare plants were recorded during the surveys undertaken at the site.

3.4 Ecological features

3.4.1 Habitats

The habitats present on the proposed development site are described in this section and are shown in **Figure 4**.

The main habitat present within the site is rough/abandoned grassland (equating to **GS2** – dry meadows and grassy verges). The area is quite species-poor, and is dominated by grasses such as cock's-foot (*Dactylis glomerata*), and Yorkshire fog (*Holcus lanatus*). Areas of rosebay willowherb (*Chamaenerion angustifolium*) are developing in parts of the open grassland. Other species present include corn poppy (*Papaver rhoeas*), bush vetch (*Vicia sepium*), dandelion (*Taraxacum officinale*), creeping buttercup (*Ranunculus repens*), thistles (*Cirsium* spp.), ribwort plantain (*Plantago lanceolata*), nettle (*Urtica dioica*), and common hogweed (*Heracleum sphondyllium*). Many of these species are indicative of disturbed ground, and there is evidence that parts of the site have been subject to disturbance in the past.

[7] The Irish Red Data Book 1 – Vascular Plants (Curtis & McGough, 1988)

[8] Flora Protection Order (2015)

As noted in the EIA Screening Report, Ecological Appraisal and AA Screening Report for the previous application at the site, submitted in April 2021 (ABP ref. TA09.309954), there was an area of young and semi-mature regenerating woodland in the centre of the proposed development site. In July 2021, archaeological test trenching was carried out at the site for the purposes of the proposed development. It was not possible to complete test trenching in the central portion of the site, which was inaccessible due to the presence of these trees. Over the winter of 2021/22, the area of trees was cleared to facilitate test trenching, which was subsequently carried out in January 2022. Therefore, this habitat is no longer present, and has not been considered as part of the baseline environment for the purposes of this assessment. The habitat in this area most closely represents a GS2/ED3 complex (dry meadows and recolonising bare ground).

The western boundary of the site consists of a former/highly modified hedgerow (WL1/WL2), mainly hawthorn (*Crataegus monogyna*) and elder (*Sambucus nigra*), with an expanding bramble scrub element. Other species include dog rose (Rosa canina) and occasional Norway maple (*Acer platanoides*) and whitebeam (*Sorbus aria*). Outside this boundary, within the Arconagh residential estate, there is a line of mature silver birch. The southern boundary contains a similarly gappy and bare hedgerow, mainly hawthorn. There are some Leyland cypress (x *Cupressocyparis leylandii*) in this location, again outside the site boundary.

The edges of the site, particularly along the western boundary but also elsewhere, comprise bramble (*Rubus fruticosus* agg.) dominated scrub (WS1). In parts the scrub is dominated by rosebay willowherb.

Outside the southern corner of the site the Yeomanstown Stream (or a tributary to the Yeomanstown stream according to various sources) flows westwards in a shallow, open channel. (FW2/FW4) The substrate is muddy and the flow is slow. Vegetation within the channel and along its grassy banks includes nettle, fool's watercress (*Apium nodiflorum*), docks (*Rumex* spp.) and angelica (*Angelica sylvestris*).

A construction access road (BL3) with associated earthen banks passes through the southern and eastern side of the site. A small shed (breeze block walls and a corrugated iron roof) is also present on the eastern side of the site.

No invasive species such as Japanese knotweed (*Fallopia japonica*), giant hogweed (*Heracleum mantegazzianum*) or giant rhubarb (*Gunnera tinctoria*), listed on the Third Schedule of the *Habitats Regulations* have to date been recorded on the site.

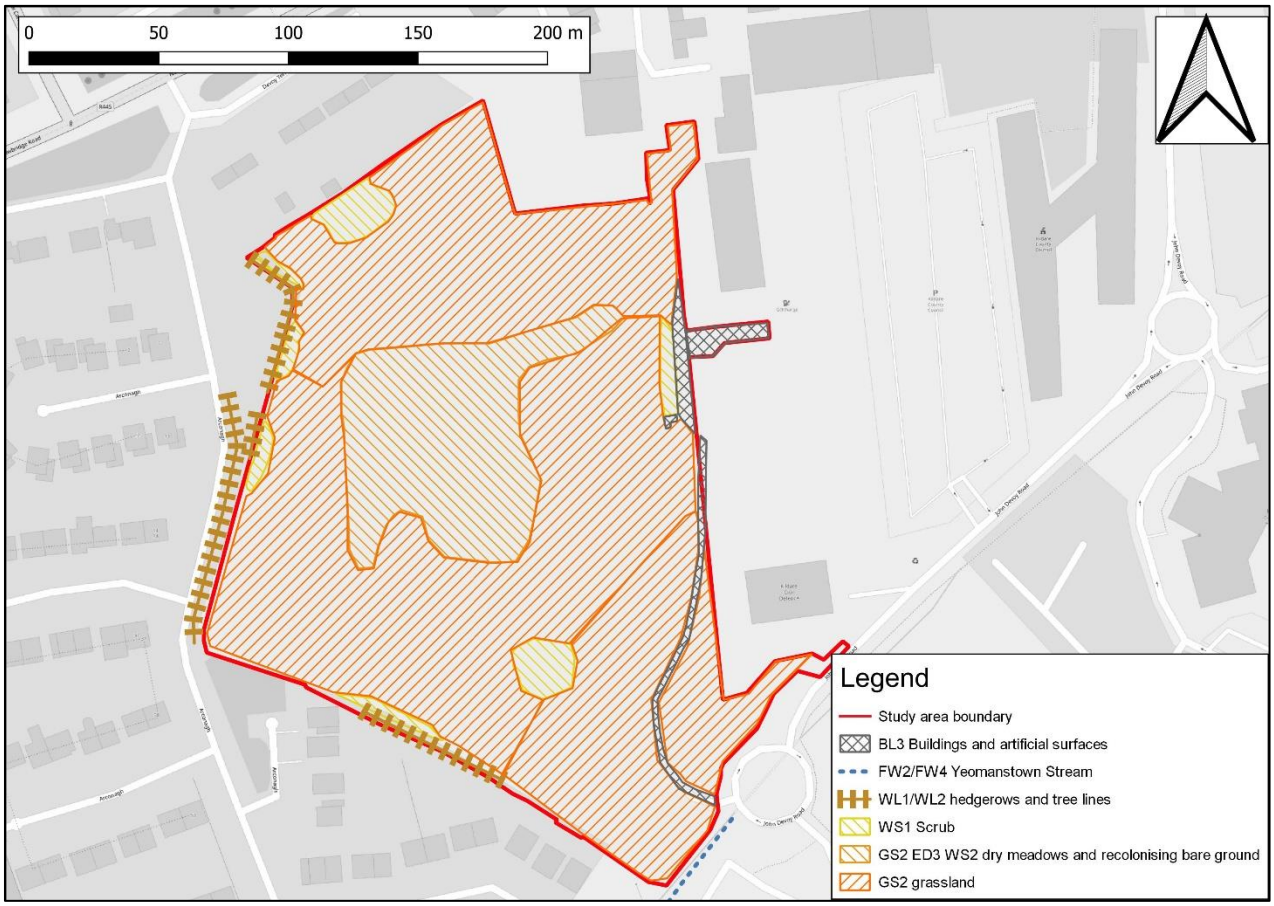

Figure 4: Habitat map for the proposed development site[9] (Note: red line indicates the approximate study area boundary)

3.4.2 Fauna

3.4.2.1 Bats

All Irish bat species are fully protected under the Wildlife Act 1976 and subsequent amendments, and under the EU Habitats Directive, which is transposed into Irish law by the European Communities (Birds and Natural Habitats) Regulations, 2011 (as amended). According to the available databases of BCI, there are no records of bats within the study area boundary. The NBDC database has numerous records of various bat species within an area up to 10km from the site. However, no roost locations are known to be present within the site boundary.

No bats were seen to emerge from or enter any structure (building or tree) within or around the site during the survey undertaken in September 2021. Bats were present prior to sunrise in the north-eastern corner of the site. The only structure with roost potential had been under examination for the entire time and it was clearly not the destination of any bats prior to sunrise. Equally, no bats emerged from this building after sunset or at any stage while surveyors were close enough to observe the building during the survey period.

Bat species feeding or commuting within the site

Common pipistrelle	*Pipistrellus pipistrellus*
Soprano pipistrelle	*Pipistrellus pygmaeus*
Leisler's bat	*Nyctalus leisleri*

[9] OpenStreetMap

Over most of the site, bat activity was primarily and exclusively common pipistrelle and was noted in several areas, including feeding around the storage building and around tree cover on the western and northern edges and less commonly around the small trees within the site. At all times, there were no m than two bats within the site based on the observations of the two surveyors and the bat monitors.

No bats were noted along the northern and western perimeters prior to sunrise with the exception of a brief common pipistrelle in the north-eastern corner of the site. Common pipistrelle activity was noted at the small shed prior to sunrise up to 06.52 hours but moved further north and was present north of the shed from 07.08 hours to 07.10 hours after which time no bats were encountered.

There was no evidence of any recent or historic use of the small structure on the site when it was searched in March 2022.

3.4.2.2 Birds

Birds, as well as their nests and eggs, are fully protected under the Wildlife Act 1976 and subsequent amendments. The bird community present is quite typical of such a site, with buzzard, robin, rook, jackdaw, magpie, blackbird, blue tit, goldfinch, woodpigeon and wren (all species of least conservation concern – green listed on the list of *Birds of Conservation Concern in Ireland 2014 to 2019* (Colhoun and Cummins 2013)) all recorded. One amber listed species, of medium conservation concern (house sparrow) was recorded during the field visits, and no red list species (of high conservation concern) were recorded.

An appraisal of the site was undertaken to assess its suitability for use by birds that favour open farmland or rough pasture, such as lapwing and curlew (red list species) or pale-bellied Brent goose (amber list). However, no signs of these or any similar species were recorded and the site itself is not of any significant value for these species.

3.4.2.3 Large mammals

Badgers, hedgehogs and Irish hare are fully protected under the Wildlife Act 1976 and subsequent amendments. There are no records of these species using this site and no signs of badger, hare or hedgehog were recorded on the site or in the immediate vicinity during the surveys undertaken.

Similarly, no evidence of otters, protected under the Wildlife Act 1976 and subsequent amendments, and under the EU Habitats Directive, as transposed into Irish law by the European Communities (Birds and Natural Habitats) Regulations, 2011 (as amended), was recorded. No evidence of the species (such as footprints or spraints) has been recorded at the site during the surveys undertaken.

Evidence of other large mammals (i.e. species not protected under the Wildlife Acts), such as fox and rabbit, was recorded at the site.

3.4.2.4 Other fauna

No amphibians (common frog or smooth newt) have been observed during the surveys undertaken to date at the site. Similarly, no evidence of common lizard has been recorded, and the area of suitable habitat (such as exposed rock) is limited.

Amphibians and reptiles are fully protected under the Wildlife Act 1976 and subsequent amendments.

3.4.3 Overall ecological valuation of the site

The proposed development site is not under any wildlife or conservation designation. Furthermore, no rare, threatened or legally protected plant species, as listed in the *Irish Red Data Book 1 – Vascular Plants (Curtis & McGough, 1988)*, the *Flora Protection Order*, 2015 or the EU Habitats Directive, are known to occur within the site and none were recorded.

No rare habitats or habitats of particularly high ecological value (i.e. International, National or County Importance) are present at the site. No rare plants have been recorded during any of the site visits undertaken. The western

boundary contains remnants of an old hedgerow. The features of most ecological interest are in fact outside the site boundary – the trees within the Arconagh Estate to the west, and the stream (the Yeomanstown Stream in the southern corner of the site).

All of the bird species recorded are very common, and no red-listed species were noted.

No evidence of badgers, otters, amphibians or reptiles has been recorded within the proposed development area, and no bat roosts have been recorded.

The proposed development site contains no features of any ecological significance, and is of Local (Lower Value) importance as defined by the ecological resource valuations presented in the National Roads Authority/Transport Infrastructure Ireland *Guidelines for Assessment of Ecological Impacts of National Road Schemes* (NRA/TII, 2009 (Rev. 2)).

4 Description of the proposed development

The development will consist of the construction of a residential development comprising of 219 no. residential units consisting of 42 houses and 177 apartments and duplexes (a total of 64no. 1 beds, 105 no. 2 beds and 50 no. 3 beds) ranging from 2 to 5 storeys in height including a crèche of 411 sq.m and outdoor play area.

The scheme is accessed through the existing vehicular and pedestrian access at the Roundabout on the John Devoy Road and a new pedestrian connection is provided to the east of the site adjacent to the recently completed MERITS Building. The development will provide 314 no. car parking spaces and 482 no. bicycle spaces.

5 Potential impacts from the proposed development

5.1 Designated conservation areas including Screening for Appropriate Assessment

As previously stated, the potential for any impacts on European sites under the EU Habitats and Birds Directives was considered. Full results of that study are presented in a separate report prepared by Brady Shipman Martin (*Appropriate Assessment Screening Report*). The following paragraphs comprise a summary of the conclusions outlined in that report:

> *In view of best scientific knowledge this report concludes that the proposed development, individually or in combination with another plan or project, will not have a significant effect on any European sites. This conclusion was reached without considering or taking into account mitigation measures or measures intended to avoid or reduce any impact on European sites.*
>
> *It is considered that this report provides sufficient relevant information to allow the Competent Authority (An Bord Pleanála) to carry out an AA Screening, and reach a determination that the proposed development will not have any likely significant effects on European sites under Article 6 of the Habitats Directive in light of their conservation objectives.*

There is no link (there are no pathways) between the proposed development site and any proposed Natural Heritage Areas (pNHAs) and there will be no impacts on any of these protected sites as a result of the proposed demolition works. This includes the Grand Canal pNHA. Although this designated site is within 300m of the northern boundary the Yeomanstown Stream is culverted where it crosses the canal and there is no significant pathway, such as via surface water, between the proposed development site and the pNHA.

5.2 Habitat loss and disturbance to habitats and species within the site

The proposed development will result in the removal of the open and abandoned/unmanaged grassland that dominates this site, as well the areas of encroaching scrub on the perimeter. These habitats will be replaced with the residential development and landscaping.

- In the absence of mitigation the loss of vegetation is considered to be a permanent, moderate impact at the site level. However, the extensive planting proposed will, over time, reduce this impact to minor.

The loss of vegetation on the site will result in impacts on nesting birds, however it is not expected that these impacts will be significant, particularly in view of the fact that landscape design for the proposed development will contain significant amounts of new planting.

- In the absence of mitigation the loss of vegetation is considered to be a permanent, minor impact at the site level. However, the extensive planting proposed will, over time, reduce this impact to neutral.

There is no more than very limited potential for roost loss within the site. None of the trees were suitable for roosting bats and there is no evidence that the shed is ever used by roosting bats. No impacts are expected on roosting bats. Regardless the small shed and the boundary vegetation will be subject to pre-demolition/pre-felling checks to ensure it is certain that no bats are present if bats are present.

- No impacts are expected on roosting bats, and in the absence of mitigation a slight, permanent impact on foraging and commuting bats is expected, as a result of reduced insect abundance and the introduction of new lighting to the site.
- At present, the site is an unlit green area with minor light overspill entering from housing. Lighting may affect bat species, in particular, light-intolerant bat species during foraging and if directed at emergence points would affect all bat species, even those that will feed in illuminated areas. This is a long-term moderate negative impact without the implementation of mitigation.

No impacts on badgers and their setts and territories, or on any other protected fauna, are expected as a result of the proposed development.

There will be no transfer of invasive plant material during the construction phase that could potentially lead to species such as giant hogweed or Japanese knotweed becoming established in the area. No invasive species will be introduced, either deliberately or inadvertently, to the site.

5.2.1 Water

Both the construction and operational phases of the proposed development at Devoy Barracks could have impacts on water quality, via contaminated run-off and sedimentation. However, all construction works will proceed in line with the recommendations and guidance provided in the Construction Management Plan for the proposed development (prepared by CS Consulting Engineers). Localised contamination of water from foul water, hydrocarbons, silt or other pollutants will be prevented by these mitigation measures.

Provided that site facilities are correctly designed and proper working procedures are strictly adhered to, no impacts on existing watercourses are expected, either during the construction or operation of the proposed development.

6 Mitigation measures

6.1 Designated Conservation areas

No designated conservation areas will be impacted in any way by the proposed development and no specific mitigation measures are required for the protection of such sites, including both European sites and proposed Natural Heritage Areas. Full details in relation to European sites are provided in the accompanying report (Appropriate Assessment Screening Report).

6.2 Habitats

As it is proposed to build on the site it is not possible to mitigate all the potential impacts on local ecological receptors.

In order to mitigate the habitat loss, and to maximise the biodiversity value of the developed site, substantial new planting will be incorporated into the landscape design for the proposed development. The proposed planting/landscaping strategy, designed by Mitchell and Associates Landscape Architects will use a mix of species appropriate to the site and will incorporate a range of species that will attract feeding invertebrates, including moths, butterflies and bees. It will take account of and implement the relevant objectives of the All-Ireland Pollinator Plan.

All site clearance and landscaping works will comply with current legislative requirements and best practice. In particular, trees and hedgerows to be retained will be protected in accordance with British Standard BS5837:2012 *Trees in Relation to Design, Demolition and Construction – Recommendations*, with fencing being installed around all trees and hedgerows to be retained, prior to commencement of development. All planting plans and landscaping proposals will further ensure that no invasive species are introduced, either deliberately or inadvertently, to the site.

6.3 Fauna

6.3.1 Bats and breeding birds

Where feasible and practicable, and should it be necessary, the removal of trees and other features suitable for use by nesting birds will be undertaken outside the bird nesting season (avoiding the period 1st March to 31st August, unless otherwise agreed). Should the construction programme require vegetation clearance between March and August bird nesting surveys will be undertaken by suitably experienced ecologist s. If no active nests are recorded, vegetation clearance will take place within 24 hours. In the event that active nests are observed, an appropriately sized buffer zone will be maintained around the nest until such time as all the eggs have hatched and the birds have fledged – a period that may be three weeks from the date of the survey. Once it is confirmed that the birds have fledged and no further nests have been built or occupied, vegetation clearance may take place immediately.

None of the trees were suitable for roosting bats and no bat roosts will be removed as part of the proposed development and it will not be necessary to apply for a derogation licence under Regulation 54 or 55 of the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended). Nevertheless, bats are mobile creatures, and the absence of bat roosts at the time of surveys does not preclude the presence of future bat roosts at the site. Therefore, as a precautionary measure, the small shed shall be examined for the presence of bats prior to its removal. This shall be undertaken by a suitably experienced bat specialist. If the building is demolished in winter, the specialist shall examine the structure for evidence of bats. If the survey is undertaken at a time when bats are active, a bat detector survey shall be undertaken of the structure. The discovery of a bat roost shall require a derogation from NPWS and additional mitigation.

Notwithstanding the limited roosting potential of the site it is proposed to install a number of bat and bird boxes both within the proposed development itself (for example within the open space on the western part of the site). The reason for this is to maximise the ecological value of the proposed development.

The boxes proposed are as follows (this list is subject to revision based on the availability of suitable boxes in the future):

- 2no. Schwegler 2F with double front panel or similar;
- 3no. assorted wooden or woodcrete bird boxes, suitable for use by robins, blue tits and tree creepers.

The lighting scheme, designed by JV Tierney & Co to Kildare County Council standards adheres to the following lighting characteristics:

- The minimum level of appropriate/required lighting level will be provided;
- Light standards will be fitted with low intensity, horizontal cut-off LED light fittings employing a narrow directional light or cowled light. This will avoid the effect of light spill arising;
- No floodlighting will be used in the development;

The lighting design adheres, where practicable, to the following standard guidance:

- Bats and Lighting – Guidance Notes for Planners, Engineers, Architects and Developers (Bat Conservation Ireland, 2010);
- Bats and Lighting in the UK – Bats and the Built Environment Series (Institute of Lighting Professionals, September 2018); and:
- Guidance Notes for the Reduction of Obtrusive Light GN01-21 (Institute of Lighting Professionals, 2021).

6.3.2 Badgers and other fauna

No badger setts will be in any way affected by the proposed development and no impacts on any badgers are likely, nevertheless, a watching brief will be maintained by the project ecologist throughout the construction phase, in the event that badgers should establish a sett close to the working area of the proposed development. at the site. In addition, day-to-day measures to ensure the welfare of badgers is maintained will be implemented as follows:

a. Good house-keeping measures will be maintained and no loose netting, fencing or other materials that could trap badgers will be left out on site;

b. Food waste will be secured so as not to attract badgers to the construction site at night;

c. Ramps will be included in any excavation deeper than 500mm to allow animals to escape if necessary.

No other mitigation measures will be required for the protection of badgers.

No amphibians or suitable ponds / wet areas were recorded during the ecological surveys completed at the site. However, frogs are mobile species that can exploit transitory wet areas, and their absence from the site at the time of surveys does not preclude potential future use. Therefore, as a precautionary measure, any ponds/wet areas present on the site to be disturbed will be inspected by a suitably experienced ecologist prior to works being undertaken. Should any frog spawn or tadpoles be discovered, a licence to remove frog spawn may be required from NPWS.

6.4 Water

Together with the implementation of the Construction Management Plan (prepared by CS Consulting Engineers), the following Best Practice measures will be adopted:

- All watercourses, drainage ditches and the newly constructed storm water systems will be protected from ingress of silt, debris and deleterious material during all phases of construction;
- Appropriately designed silt prevention measures will be installed if necessary and will be regularly maintained and retained *in situ* for the duration of the construction phase, until such time as all proposed permanent surface water protection measures are installed and operational;
- Discharge Licences – It will not be permitted to discharge into any newly constructed storm water systems or watercourse without adhering to the conditions of the discharge licence and agreeing the same with the Site Manager and Local Authority Area Engineer;
- Discharge of surface water from the construction site will be via silt/sediment trap and/or temporary hydrocarbon interceptors and will be monitored to meet any requirements set by the Local Authority/Environmental Protection Agency;
- No discharge will occur where there is a risk of cement or residue in the discharge;
- Concrete washout – The washing out of concrete trucks on site will not be permitted as they are a potential source of high alkalinity in watercourses. Consequently it is a requirement that all concrete truck washout takes place back in the ready-mix depot;
- Control of spoil and other materials to prevent spillage, and through appropriate handling and selection of spoil/material storage locations;

- Careful siting and bunding of fuel storage facilities and any areas used for the storage of potentially hazardous materials;

The strategy for controlling and mitigating potential adverse environmental during construction will also include the following, as appropriate:

- If required, sampling and testing of excavated spoil in order to assess the suitability of materials for reuse on site;
- Dust suppression from soils by the regular use of water sprays during any dry conditions, sheeting of haulage vehicle loads;
- Should invasive weeds be found, they will be treated as controlled waste and disposed of off- site at a landfill site that is licensed to receive such material;
- The storage of hazardous liquids (fuels and chemicals) will be avoided in so far as is possible. The handling and storage of any potentially hazardous liquids on site will be controlled and best practice guidance such as that published by the EPA, will be followed. Storage tank/container facilities will be appropriately bunded within designated compound areas and sited as far as possible from any watercourse or surface drain;
- If hazardous liquids escape during the works, the bunds and other protective measures will contain the spillage until remedial action, which will be taken as soon as possible;

The implementation and effectiveness of these standard best-practice mitigation measures will be inspected and recorded regularly during the construction period and where deficiencies or faults are identified they will be remedied immediately by the contractor.

7 Monitoring

A suitably experienced ecologist, arborist and landscape architect will be appointed for the duration of the project and regular monitoring of all related works will take place to ensure the correct and full implementation of the mitigation measures set out in this report.

- The project ecologist will monitor all site clearance activities in order to ensure compliance with legislative requirements and the commitments set out in the planning application documentation. This includes the monitoring of the installation of protective measures, specifically the tree protection fencing and the bat and bird boxes;
- The landscape architect will similarly ensure that all works undertaken are in full compliance with the landscape specification;
- The arborist will ensure that all hedgerow and tree management measures are fully implemented;
- All monitoring tasks will be recorded and logged for inspection by the site manager.

The bat and bird boxes installed on the site will be checked annually for a period of five years post-completion of the works, to ensure that they continue to be accessible to these species.

8 Conclusion

There will be no long-term residual impact on ecological receptors, either within or in the vicinity of the site, or associated with any site designated for nature conservation as a result of the proposed development.

Appendix – Bat Survey Report

An Evaluation of the Former Devoy Barracks Site in Naas For Potential For Bat Roost Sites and For Feeding and Commuting and Potential Impacts Of the Proposed Development of the Site Upon Bats

Brian Keeley B.Sc. (Hons) in Zool.

March 2022

Introduction

Bats are a widespread element of the Irish fauna and make up one quarter of all terrestrial mammal species. They are known to occur from much of the rural landscape which predominates on the island of Ireland, but they are also present within the urban environment and here they occupy buildings and occasionally trees for short or long periods. Buildings are a vital element of the annual cycle of all Irish bat species and at no time more so than the period summer to early autumn, but many bats may also avail of buildings as hibernation sites often when the presence of bats may be impossible to determine. Trees are less commonly noted as roost sites, partly due to a younger tree population for the island than in the rest of Europe and partly due to under-reporting.

Habitat loss or modification is an issue for bats as well as many other species. Changes to a site such as tree-felling and hedgerow clearance and the introduction of new houses and entire estates may remove roost sites and reduce the lands available to bats as a feeding site or in some way prevent full utilisation of the area by bats by interfering with a bat's ability to commute through a site or roost within the site.

Bats are protected by Irish and EU law and to prevent unlawful injury or death, it is essential that a full understanding of the site is available in advance to protect the resident bats from unintentional disturbance and to create a pathway by which a legal derogation and exemption may be designed in consultation with the National Parks and Wildlife Service. This is a service of the Heritage Division of the Department of Housing, Local Government & Heritage, if impacts are likely to be severe. Prior to further significant changes to a site, it may be necessary to ensure that there will be no impact upon protected species.

Bats of less common species may be present within a site unbeknownst to owners and residents and there is a requirement to undertake a survey by suitably qualified ecologists with the appropriate equipment to determine which species are present. Should bats be present, knowledge of the species concerned and the potential consequences of the modifications of the site can assist in identifying measures to alleviate the negative effects of these changes. This is a legal requirement given the protection level for these species to ensure that the nine species' conservation status are not reduced by major changes to an area.

Seasonal surveys provide a picture of the use of a site by bats. Feeding may, for example, be more concentrated in some areas due to better shelter from wind or rain. Trees or buildings may be occupied for various purposes at the different phases in the bat's annual cycle. Bats breed in the period May to August and maternity roosts may be encountered in trees, albeit that this is rare in Ireland. Individuals or small numbers of bats may use a tree throughout the rest of the year. Male bats may use trees to perch and establish mating perches or roosts in the summer and autumn. Bats may hibernate in trees from late October (in colder autumn / winter periods) to the end of March or April.

Similarly, buildings may serve for all of the above functions. In addition, the roosting potential of buildings and trees, these elements may serve as feeding areas for bats and a substrate for their prey. Trees are essential for insect diversity, shelter for wind and rain and as landmarks. Buildings are high-potential as roost sites but may also serve as feeding areas, especially during inclement weather, when insects may shelter from wind or rain and are available as prey for species such as pipistrelle, brown long-eared bat, Natterer's bat etc.

This assessment was undertaken after the breeding season in 2021, when young bats are flying and hunting for themselves. Mating is underway while some bats may undergo local (or greater) migrations to be closer to winter sites or to visit mating sites. In Ireland, it is unknown if migration is a significant feature of bat ecology but there is some evidence of migration in one species (Nathusius' pipistrelle). Surveying for bats in September is a suitable time to address the usage of a site during the mating period. Maternity roosts have dispersed by this time. The survey date in September provides information on the new recruits of the year from the young born in the summer and also provides information on the mating period as male bats are active attracting mates and establishing mating roosts or perches.

Methodology

The bat survey work was carried out by ecologist Brian Keeley B.Sc. (Hons) in Zool. Brian has been surveying for bats for over 30 years and has worked for county councils, NPWS, Irish Rail, ESBI, Eirgrid, Eircom Ltd., Waterways Ireland, OPW, the Heritage Council, NRA / TII and for developers, private individuals and voluntary organisations throughout Ireland. Brian has worked with Brady Shipman Martin on projects throughout Ireland undertaking mammal and bird surveys and specialist bat surveys to provide information on the resident bat fauna and potential impacts and mitigation for a variety of housing projects. Brian has been involved with bat conservation organisations since 1988 and has considerable experience on the bat fauna of Ireland and its conservation needs.

The survey of the Devoy Barracks lands was undertaken on September 23rd, 2021, by two bat specialists with the aid of two x Echometer Touch 2 Pro (EMT) handheld "real time expansion" (a term used by the manufacturer to explain that the equipment records all signals across the ultrasonic range and then speeds up the signal to create a real-time equivalent of the sounds produced by any bats encountered) bat detector and an Anabat Walkabout ultrasonic all-weather recorder.

The EMT units were held for the entire active survey while the Anabat was positioned on the perimeter of the only building within the site for the survey period. An examination of available information from Bat Conservation Ireland, previous data from neighbouring sites was undertaken to compile a list of most likely species in the overall area in addition to the evaluation of the habitat and active bat survey.

The only building within the site was examined over two separate visits: September 23rd 2021 and March 14th 2022. This included external and internal examination for evidence of current occupancy and also of historical occupancy based on the presence or absence of bat droppings, staining and corpses.

Survey constraints

The survey was undertaken in a period of the year when bat activity is typically high. This should allow a surveyor to identify feeding and commuting bats and the activity mating bats

and to determine the presence of important bat roosts, important feeding areas and any commuting corridors of value to bats.

Weather conditions were dry and mild but with a crosswind where tree cover was absent. Sunrise was at 07.16 hours. The temperature at this time was 16 degrees Celsius. It was breezy but dry with 100% cloud cover.

Existing Environment

Bat fauna of Devoy Barracks lands

Roosting species None

No bats were seen to emerge from or enter any structure (building or tree) within or around the site. Bats were present prior to sunrise in the north-eastern corner of the site. The only structure with roost potential had been under examination for the entire time and it was clearly not the destination of any bats prior to sunrise. Equally, no bats emerged from this building after sunset or at any stage while surveyors were close enough to observe the building during the survey period.

Bat species feeding or commuting within the site

Common pipistrelle	*Pipistrellus pipistrellus*
Soprano pipistrelle	*Pipistrellus pygmaeus*
Leisler's bat	*Nyctalus leisleri*

Over most of the site, bat activity was primarily and exclusively common pipistrelle and was noted in several areas, including feeding around the storage building and around tree cover on the western and northern edges and less commonly around the small trees within the site. At all times, there were no greater than two bats within the site based on the observations of the two surveyors and the bat monitors.

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No bats were noted along the northern and western perimeters prior to sunrise with the exception of a brief common pipistrelle in the north-eastern corner of the site. Common pipistrelle activity was noted at the small shed prior to sunrise up to 06.52 hours but moved further north and was present north of the shed from 07.08 hours to 07.10 hours after which time no bats were encountered.

Bat activity within the site in September 2021

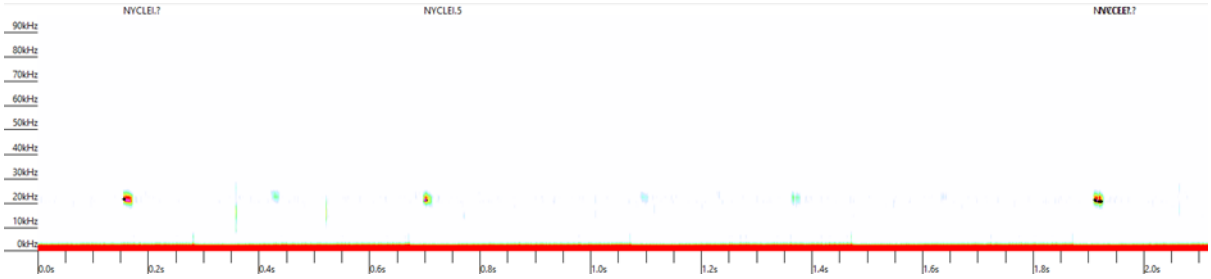
Legend

Red paddle	Location of small shed within the site
Yellow box	Leisler's bat activity noted
Green box	Common pipistrelle activity
With black border	Common pipistrelle at noted here prior to sunrise
With blue border	Soprano pipistrelle also present

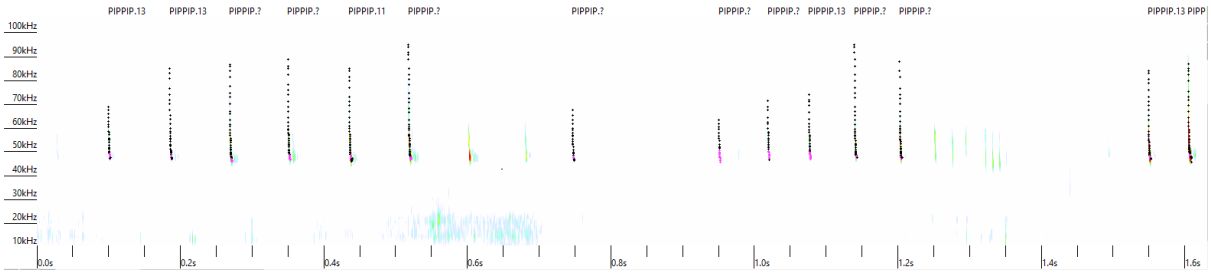
Bat activity within the site September 23rd, 2021, recorded on Echometer Touch 2 Pro

Date	Time	Auto Id*	Pulses	Matching	Manual Id
23/09/2021	19:58:27	Leisler's Bat	7	6	Leisler's Bat
23/09/2021	20:00:51	Noid	8	0	Common Pipistrelle
23/09/2021	20:05:03	Noid	16	0	Common Pipistrelle
23/09/2021	20:01:25	Noid	2	0	Common Pipistrelle
24/09/2021	07:09:24	Noid	2	0	Common Pipistrelle
23/09/2021	20:04:43	Common	105	105	Common Pipistrelle
23/09/2021	20:03:54	Common	26	26	Common Pipistrelle
23/09/2021	20:04:03	Common	18	18	Common Pipistrelle
23/09/2021	20:04:20	Common	18	17	Common Pipistrelle
23/09/2021	19:53:00	Common	15	15	Common Pipistrelle
24/09/2021	07:10:22	Common	10	10	Common Pipistrelle
23/09/2021	19:37:50	Common	8	8	Common Pipistrelle
23/09/2021	20:49:46	Common	8	8	Common Pipistrelle
23/09/2021	19:35:15	Common	9	8	Common Pipistrelle
24/09/2021	07:09:09	Common	9	8	Common Pipistrelle
23/09/2021	19:38:05	Common	6	6	Common Pipistrelle
23/09/2021	19:59:04	Common	6	6	Common Pipistrelle
23/09/2021	19:32:41	Common	5	5	Common Pipistrelle
23/09/2021	19:32:31	Common	5	5	Common Pipistrelle
23/09/2021	20:02:06	Common	5	5	Common Pipistrelle
23/09/2021	20:04:31	Common	5	5	Common Pipistrelle
23/09/2021	19:32:50	Common	4	4	Common Pipistrelle
23/09/2021	19:33:52	Common	4	4	Common Pipistrelle
23/09/2021	19:41:17	Common	4	4	Common Pipistrelle
24/09/2021	06:51:23	Common	4	4	Common Pipistrelle
24/09/2021	06:52:15	Common	4	4	Common Pipistrelle
24/09/2021	06:52:24	Common	4	4	Common Pipistrelle
24/09/2021	07:09:57	Common	3	3	Common Pipistrelle
23/09/2021	19:53:14	Common	2	2	Common Pipistrelle
23/09/2021	20:01:09	Common	2	2	Common Pipistrelle
23/09/2021	20:50:29	Common	2	2	Common Pipistrelle
24/09/2021	07:08:59	Common	2	2	Common Pipistrelle
24/09/2021	07:08:28	Common	2	1	Common Pipistrelle

Almost all recorded signals on the night were common pipistrelle



Leisler's bat at 19.58 hours at Devoy Barracks site 23rd September 2021



Common pipistrelle at 20.04 hours feeding around the storage building

Proposed development

The proposed development is for the construction of 219 no. residential units, comprising:

- 42 no. 3-bed houses;
- 64 no. 1-bed duplex / apartment units;
- 105 no. 2-bed duplex / apartment units;
- 8 no. 3-bed duplex / apartment units.

The proposed development will also include a 59 place childcare facility (with c. 11 staff members during the operational phase), car and bicycle parking, internal road network, open space and all associated site works and infrastructure. The proposed buildings will range in height from 2 to 5 storeys, with the prevailing building height across the site being in the range of 2 – 3 storeys.

Potential Impacts

Loss of roosts

There is very limited potential for roost loss within the site. None of the trees were suitable for roosting bats. There is a small shed that was not in use as a bat roost at the time of survey but offers roost potential within the roof and walls. This would be a long-term slight negative impact if it were a bat roost. Should bats be in it when it is being demolished, this would raise the significance of this to a long-term moderate negative impact as well as being a breach of the Wildlife Act and implementation of the Habitats Directive.

Loss of habitat

There will be a limited loss of scrub which provides good shelter for bats to feed. This will reduce insect abundance and feeding and commuting corridors. This is a long-term to permanent moderate negative impact without the implementation of mitigation.

Disturbance from lighting

At present, the site is an unlit green area with minor light overspill entering from housing. Lighting will be introduced for two different functions: 1) Access and safety 2) Security and policing. The former is to allow ease of use at night while the latter ensures a perceived higher security level.

Lighting may affect bat species, in particular, light-intolerant bat species during foraging and if directed at emergence points would affect all bat species, even those that will feed in illuminated areas.

This is a long-term moderate negative impact without the implementation of mitigation.

Mitigation

Examination of small storage building prior to removal

The storage building shall be examined for the presence of bats prior to its removal. This shall be undertaken by a suitably experienced bat specialist. If the building is demolished in winter, the specialist shall examine the structure for evidence of bats. If the survey is undertaken at a time when bats are active, a bat detector survey shall be undertaken of the structure. The discovery of a bat roost shall require a derogation from NPWS and additional mitigation.

Provision of bat boxes

Specially designed bat boxes shall be incorporated into the site to provide roosts for bats. The following Woodcrete design offer high roost potential - 2 x Schwegler 2F with double front panel (or similar). If these cannot be facilitated within the site (i.e., no area provides sufficient darkness, a height of 3 metres and low disturbance), bat access into the built structures shall be provided using specially designed bat access elements (e.g., bat access bricks, built-in boxes etc.).

Lighting

Lighting must be designed that will limit overspill from the required area for illumination and prevent light pollution. This should aim to avoid mature trees and flanking vegetation. LED is the most energy efficient source available and wherever a permanent source of night lighting is unessential, it should be motion-activated.

- •Dark corridor for movement of bats along the grounds of the site. Lighting should be directed downwards away from the treetops.
- •All luminaires shall lack UV elements when manufactured and shall be LED
- •A warm white spectrum (ideally <2700 Kelvin) shall be adopted to reduce blue light component
- Luminaires shall feature peak wavelengths higher than 550 nm
- Tree crowns in the adjacent lands shall remain unilluminated
- Planting shall provide areas of darkness suitable for bats to feed and commute through the site.

Trees must not be illuminated as this would prevent their use for feeding by bats.

Planting

Native shrubs and trees must be used within the new development. Where other climbers and shrubs are required, they should be taken from the approved list from the All-Ireland Pollinator Plan – All-Ireland-Pollinator-Plan-2021-2025-WEB.pdf (pollinators.ie). (https://pollinators.ie/wp-content/uploads/2021/03/All-Ireland-Pollinator-Plan-2021-2025-WEB.pdf)

Impacts of the Development following Mitigation

This will result in no negative impacts upon bat species with proper implementation of the proposed measures. The measures proposed meet the requirements proposed in the Commission notice Guidance document on the strict protection of animal species of Community interest under the Habitats Directive, (Brussels, 12.10.2021 C(2021) 7301 final).

APPENDICES

Bat Conservation Ireland data: search results 9 Mar 2022

Search parameters: Roosts Transects Ad-hoc observation sites with observations of all bats within 10000m of N8852418928.			
Roosts			
Name	Grid reference	Address	Species observed
12KECL1WC	N8796827079	Clane Tidy Towns Park;	
12KECL2WC	N8653627715	Nancy's Lane; Clane Tidy Towns;	
12KENS1T	N8939719690	Church of Our Lady and Saint David; Naas;	
Langton Park	N801105	Newbridge;	Pipistrellus spp. (45kHz/55kHz)
Blessington Rectory	N985144	Blessington; County Wicklow	Pipistrellus pygmaeus
Broadleas	N9308	Ballymore Eustace;	Unidentified bat
Lodge	N871100	Brannockstown; Naas;	Pipistrellus pygmaeus
House Roost	N876098	Harristown House; Kilcullen;	Plecotus auritus
House; Naas Rd. Blessington	N9717214563	Greenogue;Naas Road;Blessington	Pipistrellus pipistrellus
Residence	N9814	Cragmore; Belssington; County Wicklow	Pipistrellus spp. (45kHz/55kHz)
Killashee House	N809109	Naas;	
Residence	N9721	Furry hill; Rathmore; Naas;	Unidentified bat
House	N802102	The Curragh;	Pipistrellus pygmaeus
Lodge	N877161	Newlands; Naas;	Unidentified bat
House	N842098	Kilcullen;	Plecotus auritus
House	N883248	Sallins;	Pipistrellus spp. (45kHz/55kHz); Plecotus auritus
Newtown Great Quarry Buildings	N940153	CPI Sand and Gravel Pit; Newtown Great;Naas;.	Unidentified bat
Northern storage shed	N875216	Osberstown; Naas;	Pipistrellus pipistrellus; Unidentified bat
Palmerstown House; Palmerstown Demesne; Naas;	N920226	Palmerstown House; Palmerstown Demesne; Naas;	Pipistrellus spp. (45kHz/55kHz)
Robertstown Hotel	N792249	Robertstown;	Plecotus auritus
Robertstown Hotel Roost	N792249	Robertstown;	Plecotus auritus
Santry Hill	N9845115124	Blessington; County Wicklow	Pipistrellus pipistrellus
St Michaels and all Angels	N874258	Millicent; Clane;	Plecotus auritus
St Patrick Carnalway	N870108	Carnalway; Newbridge;	Nyctalus leisleri; Pipistrellus pygmaeus; Plecotus auritus
Stable buildings; Palmerstown Demesne; Naas;	N916226	Stable buildings; Palmerstown Demesne; Naas;	Plecotus auritus
House	N974132	Burgagemore; Blessington; County Wicklow	
House	N9408	Poulaphouca; Ballymore Eustace;	Unidentified bat
Transects			

Name	Grid reference start	Species	
Ballymore Eustace Bridge Transect	N9262009790	Myotis daubentonii;Pipistrellus pipistrellus;Pipistrellus pygmaeus;Unidentified bat	
Connell Ford Transect	N8135013680	Myotis daubentonii;Unidentified bat	
Henry Bridge Transect	N9565028250	Myotis daubentonii;Unidentified bat	
Kilcullen Transect	N8424009730	Myotis daubentonii;Unidentified bat	
Liffer Park Clane Transect	N8790027050	Myotis daubentonii;Unidentified bat	
Liffey Linear Park Newbridge Transect	N8070516005	Myotis daubentonii;Nyctalus leisleri;Pipistrellus pipistrellus;Pipistrellus pygmaeus;Unidentified bat	
Limerick Bridge Transect	N8730018700	Myotis daubentonii;Unidentified bat	
New	N8704009850	Myotis daubentonii;Unidentified bat	
New Bridge Transect; Kildare	N8704009850	Myotis daubentonii;Unidentified bat	
Oberstown M7 Bridge Transect	N8862121718	Myotis daubentonii;Unidentified bat	
Ponsonby Bridge Transect	N9370026600	Myotis daubentonii;Unidentified bat	
Sallins Village Transect	N8940022800	Myotis daubentonii;Unidentified bat	
Survey	Grid reference	Date	Species
Bat Eco Services	N9209621592	26/09/2018	Myotis nattereri; Nyctalus leisleri; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Plecotus auritus
Bat Survey - Scott Cawley	N888220	11/06/2008	Nyctalus leisleri; Pipistrellus pipistrellus; Pipistrellus pygmaeus
Bat Survey - Scott Cawley	N842098	29/08/2007	Myotis daubentonii; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Plecotus auritus
Bat Surveys - Tina Aughney	N8429009458	22/06/2012	Myotis daubentonii; Myotis nattereri; Nyctalus leisleri; Pipistrellus pipistrellus; Pipistrellus pygmaeus
BATLAS 2010	N787123	08/05/2009	Nyctalus leisleri; Pipistrellus pipistrellus; Pipistrellus pygmaeus
BATLAS 2010	N8634324123	26/07/2008	Myotis daubentonii; Nyctalus leisleri; Pipistrellus pipistrellus; Pipistrellus pygmaeus
BATLAS 2020	N9235317418	20/07/2016	Pipistrellus pygmaeus
BATLAS 2020	N8695309892	27/08/2018	Myotis daubentonii; Nyctalus leisleri; Pipistrellus pipistrellus; Pipistrellus pygmaeus
BATLAS 2020	N9369619699	19/07/2016	Myotis spp.; Pipistrellus pipistrellus; Pipistrellus pygmaeus
BATLAS 2020	N9306012098	20/07/2016	Myotis mystacinus; Pipistrellus pipistrellus; Pipistrellus pygmaeus
BATLAS 2020	N9211914399	20/07/2016	Pipistrellus pipistrellus
BATLAS 2020	N9361226656	03/07/2018	Myotis daubentonii; Pipistrellus pipistrellus
BATLAS 2020	N9537709644	13/06/2018	Myotis daubentonii; Pipistrellus pygmaeus
BATLAS 2020	N8649317415	27/08/2018	Pipistrellus pygmaeus
BATLAS 2020	N9265309719	13/06/2018	Myotis daubentonii; Nyctalus leisleri; Pipistrellus pipistrellus; Pipistrellus pygmaeus
BATLAS 2020	N9553428178	19/07/2018	Pipistrellus pipistrellus; Pipistrellus pygmaeus
BATLAS 2020	N9541618249	19/07/2016	Pipistrellus pipistrellus
BATLAS 2020	N8211812174	27/08/2018	Pipistrellus pipistrellus; Pipistrellus pygmaeus
BATLAS 2020	N9210624785	03/07/2018	Myotis daubentonii; Pipistrellus pipistrellus; Pipistrellus pygmaeus
BATLAS 2020	N9627115075	19/07/2016	
BATLAS 2020	N8765727499	01/10/2015	Nyctalus leisleri; Pipistrellus spp. (45kHz/55kHz)
BATLAS 2020	N9537709644	12/06/2018	Nyctalus leisleri; Pipistrellus pipistrellus

EIS and Road Surveys - Conor Kelleher	N8900016000	19/09/2005	Myotis mystacinus/brandtii; Myotis nattereri; Nyctalus leisleri; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Plecotus auritus
EIS and Road Surveys - Conor Kelleher	N8800016000	19/09/2005	Myotis mystacinus/brandtii; Myotis nattereri; Nyctalus leisleri; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Plecotus auritus
EIS surveys - Brian Keeley	N9380015500	16/11/2007	Pipistrellus spp. (45kHz/55kHz)
EIS surveys - Brian Keeley	N8435009650	29/08/2007	Myotis daubentonii; Pipistrellus pipistrellus; Pipistrellus pygmaeus
EIS Surveys - Niamh Roche	N867185	02/06/2004	Pipistrellus pipistrellus
EIS Surveys - Niamh Roche	N869184	02/06/2004	Myotis spp.
EIS Surveys - Niamh Roche	N868186	02/06/2004	Nyctalus leisleri
EIS Surveys - Niamh Roche	N791248	05/10/2005	Myotis spp.; Pipistrellus pipistrellus; Pipistrellus pygmaeus
Faith Wilson	N9122	2007-06-00	Myotis daubentonii; Myotis spp.; Nyctalus leisleri; Pipistrellus pipistrellus; Pipistrellus pygmaeus
Neighbourhood Bats 2021	N8309528761	08/07/2021	Myotis daubentonii; Nyctalus leisleri; Pipistrellus nathusii; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Pipistrellus spp. (45kHz/55kHz); Plecotus auritus
	N8309528761	24/07/2021	Nyctalus leisleri; Pipistrellus nathusii; Pipistrellus pipistrellus; Pipistrellus pygmaeus
	N8309528761	01/07/2021	Nyctalus leisleri; Pipistrellus nathusii; Pipistrellus pipistrellus; Pipistrellus pygmaeus
	N8309528761	17/07/2021	Myotis daubentonii; Nyctalus leisleri; Pipistrellus nathusii; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Plecotus auritus
	N8309528761	07/08/2021	Nyctalus leisleri; Pipistrellus pipistrellus; Pipistrellus pygmaeus
	N8309528761	10/07/2021	Myotis daubentonii; Nyctalus leisleri; Pipistrellus nathusii; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Plecotus auritus
	N8309528761	26/07/2021	Myotis daubentonii; Nyctalus leisleri; Pipistrellus nathusii; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Plecotus auritus
	N8309528761	03/07/2021	Myotis daubentonii; Nyctalus leisleri; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Plecotus auritus
	N8309528761	19/07/2021	Nyctalus leisleri; Pipistrellus nathusii; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Plecotus auritus
	N8309528761	09/08/2021	Nyctalus leisleri; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Pipistrellus spp. (45kHz/55kHz); Plecotus auritus
	N8309528761	12/07/2021	Nyctalus leisleri; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Plecotus auritus
	N8309528761	02/08/2021	Myotis spp.; Nyctalus leisleri; Pipistrellus nathusii; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Plecotus auritus
	N8309528761	05/07/2021	Nyctalus leisleri; Pipistrellus pipistrellus; Pipistrellus pygmaeus
	N8309528761	21/07/2021	Nyctalus leisleri; Pipistrellus nathusii; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Plecotus auritus
	N8309528761	14/07/2021	Nyctalus leisleri; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Plecotus auritus
	N8309528761	04/08/2021	Nyctalus leisleri; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Plecotus auritus
	N8309528761	07/07/2021	Nyctalus leisleri; Pipistrellus nathusii; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Plecotus auritus
	N8309528761	23/07/2021	Nyctalus leisleri; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Plecotus auritus
	N8309528761	16/07/2021	Myotis daubentonii; Nyctalus leisleri; Pipistrellus nathusii; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Plecotus auritus

	N8309528761	06/08/2021	Nyctalus leisleri; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Pipistrellus spp. (45kHz/55kHz); Plecotus auritus
	N8309528761	09/07/2021	Nyctalus leisleri; Pipistrellus nathusii; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Plecotus auritus
	N8309528761	25/07/2021	Myotis daubentonii; Nyctalus leisleri; Pipistrellus nathusii; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Plecotus auritus
	N8309528761	02/07/2021	Myotis daubentonii; Nyctalus leisleri; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Plecotus auritus
	N8309528761	18/07/2021	Myotis daubentonii; Nyctalus leisleri; Pipistrellus pipistrellus; Pipistrellus pygmaeus
	N8309528761	08/08/2021	Nyctalus leisleri; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Pipistrellus spp. (45kHz/55kHz); Plecotus auritus
	N8309528761	11/07/2021	Myotis daubentonii; Nyctalus leisleri; Pipistrellus nathusii; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Plecotus auritus
	N8309528761	27/07/2021	Myotis daubentonii; Nyctalus leisleri; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Pipistrellus spp. (45kHz/55kHz); Plecotus auritus
	N8309528761	04/07/2021	Myotis daubentonii; Nyctalus leisleri; Pipistrellus pipistrellus; Pipistrellus pygmaeus
	N8309528761	20/07/2021	Myotis daubentonii; Nyctalus leisleri; Pipistrellus nathusii; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Plecotus auritus
	N8309528761	10/08/2021	Nyctalus leisleri; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Plecotus auritus
	N8309528761	13/07/2021	Nyctalus leisleri; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Plecotus auritus
	N8309528761	03/08/2021	Myotis daubentonii; Myotis spp.; Nyctalus leisleri; Pipistrellus nathusii; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Pipistrellus spp. (45kHz/55kHz); Plecotus auritus
	N8309528761	06/07/2021	Nyctalus leisleri; Pipistrellus pipistrellus; Pipistrellus pygmaeus
	N8309528761	22/07/2021	Nyctalus leisleri; Pipistrellus nathusii; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Plecotus auritus
	N8309528761	15/07/2021	Myotis daubentonii; Nyctalus leisleri; Pipistrellus nathusii; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Plecotus auritus
	N8309528761	05/08/2021	Nyctalus leisleri; Pipistrellus pipistrellus; Pipistrellus pygmaeus; Pipistrellus spp. (45kHz/55kHz); Plecotus auritus
NPWS Calls	N967121	29/04/2008	Plecotus auritus

Field notes on bat activity

Leisler’s bat activity was very limited with no more than three times in the night. Soprano pipistrelle activity was noted along the western hedge and at the southwestern corner and was attributed to a single male bat. The first Leisler's bat signal was noted near the southwest field corner 19.32.

Common pipistrelle at small shed 19.53 hours and at 20.01 and 20.04 and between 20.05 and 20.07. Common pipistrelle at northwestern corner towards young trees. Common pipistrelle social call along the western hedge at 20.18 and at 20.19 a soprano pipistrelle. Social calls were heard towards the southwestern corner and a soprano pipistrelle was noted in the corner.

Both pipistrelles were noted in the very southern section at 20.28 including a social calling common pipistrelle at 20.29 hours. A common pipistrelle was calling near the small shed at 20.49 hours and common pipistrelle activity was noted towards the southern area of the site at 20.50 and again at 20.56 hours

Small shed with bat roost potential – no bats entered or emerged from this building during the activity survey. No bats were present on March 14th 2022 and there was no evidence of bat usage of the shed previously

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