Russell Environmental and Sustainability Services Limited

ECOLOGICAL IMPACT ASSESSMENT

WHITEBOX STUDENT CAMPUS, GROODY ROAD, NEWCASTLE, CASTLETROY, LIMERICK

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Executive Summary

This Ecological Impact Assessment has been prepared by Russell Environmental and Sustainability Services Limited (RESS Ltd.) on behalf of Groody Developments Limited in preparation for the planning application for the Whitebox Student Campus Development at Groody Road, Newcastle, Castletroy, Limerick.

The aim of this report was to identify, quantify and evaluate the impacts of the proposed development on ecosystems and their components, habitats, flora and fauna.

The site is located approximately 3.7Km from Limerick City centre and adjacent to the L5173, Groody Road and the Groody River, the latter which flows into the River Shannon and thus the Lower River Shannon Special Area of Conservation (SAC). The main habitats within the development site are improved grassland, scattered trees, scrub and a treeline on the boundary of the drainage ditch. These habitats are common and widespread in the surrounding area and are of negligible ecological importance. No protected plants or legally restricted invasive species (e.g., Japanese knotweed) were recorded on the site.

Some common bird species were recorded in the site, and it is likely that bird's nest in the scrub and treeline on the site. Impacts on nesting birds will be avoided by scheduling site clearance works outside of the nesting season.

The landscaping plan for the proposed development will include a green belt area that will be kept and enhanced for biodiversity. This will include grassed meadow areas with native species that will utilise the existing soil and retain the current vegetation seed bank, which will be managed by differential mowing to further promote biodiversity. Native and/or pollinator friendly trees will also be planted, together with a number of SuDs (Sustainable urban Drainage systems) measures. In addition, a riparian zone will be kept adjacent to the Groody River, together with a wet grassland area, seeded with native species.

The majority of the existing treeline will be retained, and this will be enhanced with additional native planting to fill in any gaps. Planting of standard native trees will compensate for the loss of the scattered trees and scrub that will be removed for the development. The SuDs measures will create new habitats. Thus, there will be no net biodiversity loss as a result of the proposed development and the biodiversity of the green belt area will be enhanced, hence, there will be an overall net gain for biodiversity.

1.0 Introduction

1.1 Background

This Ecological Impact Assessment (EcIA) relates to the planning application for the large-scale development of student accommodation on a greenfield site.

The aim of this EcIA is to identify, quantify and evaluate the impacts of the proposed development on ecosystems and their components, including habitats, flora, and fauna. It has been prepared in accordance with the Guidelines for Ecological Impact Assessment in the UK and Ireland (2018). The purpose of this document is to:

- Provide an objective and transparent assessment of the potential ecological impacts of the proposed development for all interested parties, including planning authorities and the general public.
- Facilitate objective and transparent determination of the consequences of the development in terms of national, regional and local policies relevant to ecology.
- Propose the steps will be taken to adhere to legal requirements relating to designated sites and legally protected species (CIEEM 2018).

Although the above guidelines provide a framework for EcIA, many processes rely on the professional judgement of an ecologist, including survey design, the valuation of ecological features, and the characterisation of impacts.

1.2 Author of the report

Russell Environmental and Sustainability Services Limited (RESS Ltd.) was contracted to conduct an ecological impact assessment on behalf of Groody Developments Limited, in preparation for the planning application for the Whitebox Student Campus Development at Groody Road, Newcastle, Castletroy, Limerick. This report details the likely effect of the potential works on the habitats and species of the development site and surrounding environs. The site was surveyed by ecologists from RESS Ltd. on 6th January 2024 and the 23rd and 24th of April 20205. The conditions were dry and there were no constraints to the survey.

2.0 Scoping

The objective of this assessment is to identify any ecological features that may pose a constraint to the proposed development. It involves the following steps:

1. Identification of designated sites within an appropriate zone of influence
2. A walkover survey incorporating the following elements:
   i) Classification and mapping of habitats
   ii) A search for rare / protected flora, and for problematic non-native plant species (e.g., Japanese Knotweed)
   iii) A search for field signs of rare or protected fauna (e.g., badgers), and habitat suitability assessments for species that are secretive, nocturnal or seasonal.
   iv) Valuation of ecological features, review of legal considerations, and selection of important ecological features.

       It is accepted that any development will have an impact on the receiving environment, but the significance of the impact will depend on the importance of the ecological features that would be affected. The following is outlined in the CIEEM guidelines:

       "One of the key challenges in an EcIA is to decide which ecological features (habitats, species, ecosystems, and their functions/processes) are important and should be subject to detailed assessment. Such ecological features will be those that are considered to be important and potentially affected by the project. It is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened, and resilient to impacts from the development, and that will remain viable and sustainable" (CIEEM, 2018).

   v) Assessment of impacts on important ecological features and development of appropriate mitigation strategies.

       Potential direct, indirect, or cumulative impacts on ecological features can be described in relation to their magnitude, extent, duration, reversibility and timing/frequency, as outlined in the CIEEM (2018) guidelines. Depending on the type of impact and the sensitivities of the important ecological feature, the ecologist may determine that the impact would have a 'significant effect'. The following definitions are provided in the CIEEM guidelines:

       "A significant effect is simply an effect that is sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the environmental consequences of permitting a project". "For the purpose of EcIA, a 'significant negative effect' is an effect that undermines biodiversity conservation objectives for 'important ecological features', or for biodiversity in general" (CIEEM, 2018).

       Where significant impacts are identified, measures will be taken to avoid, minimise or compensate for impacts (where possible). Based on these measures, any residual impacts are then described.

2.1 Description of the Proposed Development

Groody Developments Limited seeks planning permission for development of a Purpose-Built Student Accommodation (PBSA) scheme on land fronting the Groody Road and Dublin Road, Castletroy, in the townland of Newcastle, Limerick for a period of seven years.

The development consisting of 196 no. Bed Clusters, is distributed across 5 no. separate blocks, ranging in height from 5 - 8 storeys, with a total of 1,400 no. student bedspaces to be delivered in two phases of development including: (i) Block A comprising 8 storeys providing for (a) 28 no. bed clusters and 224 no. bedspaces; (b) Student library; (c) Student union; (d) Plant room; (e) Bin store; (f) Bicycle store; (ii) Block B comprising 7 storeys providing for (a) 52 no. bed clusters and 400 no. bedspaces; (b) Reception and Office; (c) Post room; (d) Laundry room; (e) Student canteen; (f) Maintenance store; (g) Plant room; (h) ESB substation and switch room; (i) Bin Storage; (j) and Bicycle store; (iii) Block C comprising 6 storeys providing for (a) 51 no. bed clusters and 355 no. bedspaces; (b) Student Gym; (c) Maintenance store; (d) Plant room; (e) ESB substation and switch room; (f) Bin Storage; (g) and Bicycle store; (iv) Block D comprising 6 storeys providing for (a) 32 no. bed clusters and 211 no. bedspaces; (b) Reception, Office; (c) Post room; (d) Laundry room; (e) Student canteen; (f) Student supply retail unit (60m2); (g) Plant room; (h) Maintenance store; (i) Bin Storage; and (k) Bicycle Storage; (v) Block E comprising 5 storeys providing for (a) 33 no. bed clusters and 210 no. bedspaces; (b) Reception and Office; (c) Laundry room; (d) Maintenance store; (e) Bicycle store; and (f) Plant room; and (vi) ancillary site development works including car and bicycle parking provision; boundary treatments; roof plant; public lighting; water supply; foul and surface water drainage infrastructure; signage; and a temporary construction access to facilitate Phase 2.

Vehicular access to the site will be from the Groody Road with pedestrian access to the Dublin Road. Extensive landscaping proposals, including (a) landscaped courtyards; (b) pedestrian and cycle connections from the Groody Road to the Groody Green Wedge; (c) natural landscaping and public walkways within the Groody Green Wedge; and (d) a Wetland area adjacent to the Groody River are also proposed. Planning permission is also sought for use of the accommodation, outside of student term time, for short-term letting purposes.

2.2 Valuation of Ecological Features

Based on the information from the desktop and walkover surveys, each feature is assigned an ecological importance based on its conservation status at different geographical scales (Table 1) For example a site may be

of ecological importance for a given species if it supports a significant proportion of the national population.

Ecological Value	Geographical Scale of Importance
International	International or European Scale
National	The Republic of Ireland or the island of Ireland
Regional	Munster and/or West of Ireland
County	County Limerick
Local	Limerick City, Castletroy
Negligible	None, the feature is common and widespread.

Table 1 The six-level ecological valuation scheme used in the CIEEM guidelines (CIEEM, 2018)

It is accepted that the proposed development will have an impact on the receiving environment, but the significance of the impact will depend on the importance of the ecological features that would be affected.

2.3 Ecological Impact Assessment

Potential, indirect or cumulative impacts on ecological features can be described in relation to their magnitude, extent, duration, reversibility and timing/frequency, as outlined in the CIEEM (2018) guidelines. Depending on the type of impact and the sensitivities of the important ecological features, it may be determined that the impact would have a significant effect. Where significant impacts are identified, measures will be taken to avoid, minimise or compensate for impacts (where possible). Based on these measures, any residual impacts are then described.

3.0 The Receiving Environment

3.1 Site Description, Location and Topography

The development site is that of a green field which is situated approximately 3.7Km from Limerick City centre and adjacent to the L5173, Groody Road and the Groody River (Figure 1). The Longitude is -8.5800219 and Latitude: 52.6632073 (EPA, 2024).

The site has its highest point to the east of the site at approximately 9m above sea level and the lowest point to the west at 4m above sea level (OSI, 2024).

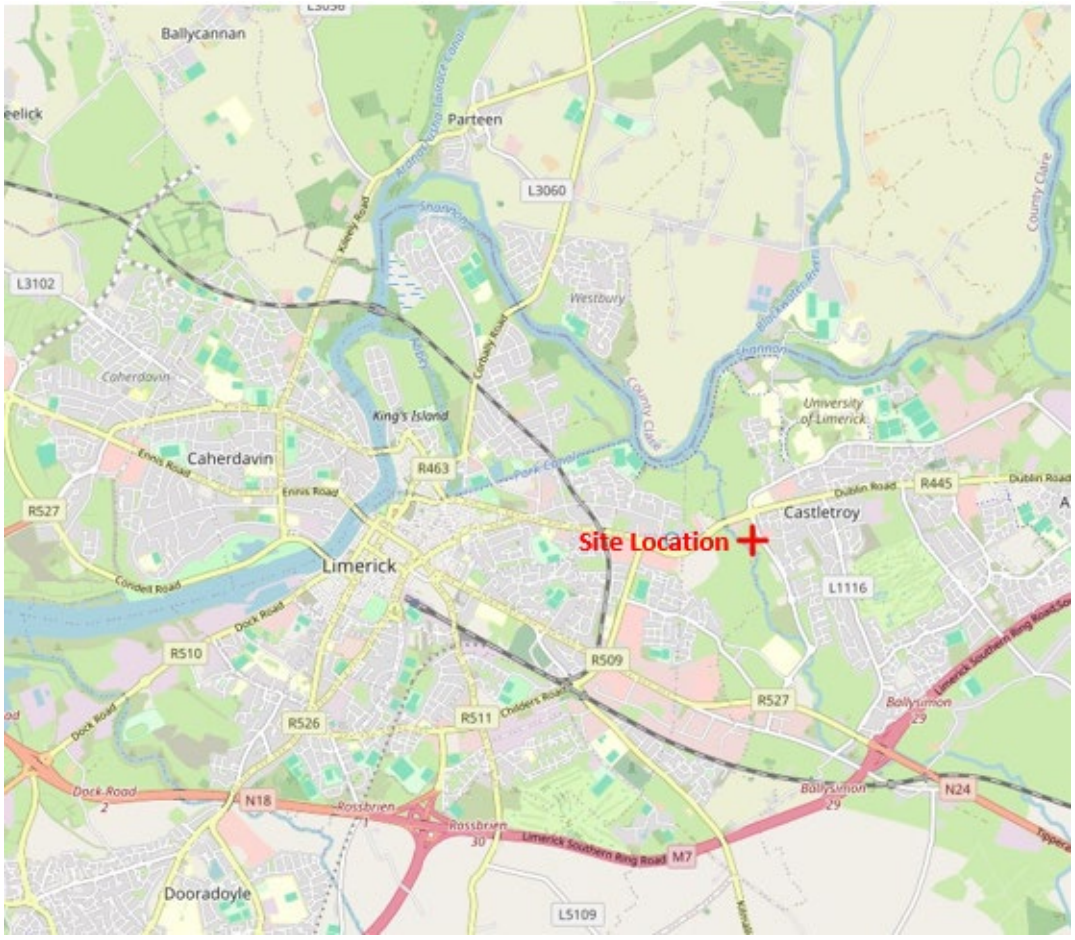

Figure 1 Location map (OSI, 2024).

3.2 Geology and Soils

The site has bedrock geology of calcareous, basalts and other volcanic rocks (Geological Survey of Ireland (GSI), 2024).

The soil type overlying the bedrock geology on the site is basic deep, poorly drained, mineral soil derived from marine and estuarine sediments (Teagasc, 2024).

3.3 Hydrology

The majority of the site is outside of the flood plain, however adjacent to the River Groody to the west of the site and the lowest point of the southern part of the site are within the flood zone (Figure 3). However, it should be noted that this part of Limerick is currently under review for flood mapping.

Running adjacent to the west of the site is the Groody River that discharges directly into the River Shannon and therefore the Lower River Shannon SAC and River Shannon and River Fergus Estuaries SPA down river (Figure 2).

The management of surface water will be via the use of Sustainable Drainage solutions (SuDs) incorporated into the proposed development as detailed in the accompanying engineering reports. These are as follows:

- 1 x Constructed wetland and 1 x attenuation tank complete with hydro-brake flow controls and bypass separators for metals and hydrocarbons
- Green roofs
- Bio-swales
- Rain gardens

Figure 2 Site location in relation to the flow network (EPA, 2024).

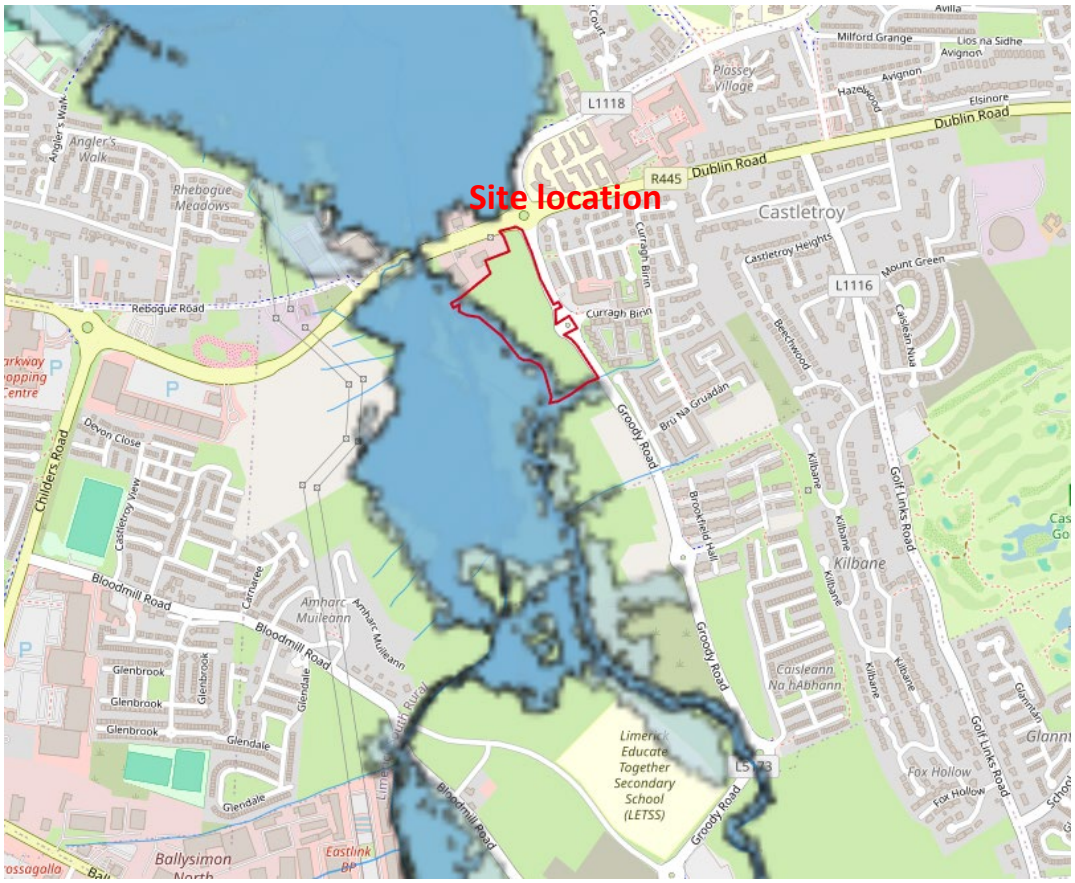

Figure 3 Proximity of the site to the flood plain showing indicative fluvial mapping for High probability, where probability is 1 in 10 for rivers (OPW, 2024).

3.4 Desk Based Survey

A desk-based study was undertaken to determine the proximity of any designated sites within the vicinity of the proposed development site. In addition, relevant legislation, documents and data bases were also reviewed in relation to the proposed housing development.

EU Habitats

Article 6(1) and article 6(2) of Council Directive 92/43/EEC of 21st May 1992 on the conservation of natural habitats and of wild fauna and flora aims to promote the maintenance of biodiversity. It forms the cornerstone of Europe's nature conservation policy with the Birds Directive and establishes the EU wide Natura 2000 ecological network of protected areas, safeguarded against potentially damaging developments." (EEC, 1992). These sites are known as European Sites or Natura 2000 Sites. The development site is not designated as a European Site. There are no other designations for the site.

Although there are a number of sites within the 15km radius of the site as indicated in Figure 4, a more accurate assessment is where the Source-Pathway-Receptor (SPR) model is applied together with the Zone Of

Influence (ZOI), which in the case of rivers may be outside of the 15km radius (OPR, 2021). Therefore, of the five sites identified in the Stage 1 Screening Report, the European Sites where there may be a potential impact as a result of the SPR where further assessment was required, are the Lower River Shannon SAC and River Shannon and the River Fergus Estuaries SPA. These sites are shown in Figure 4.

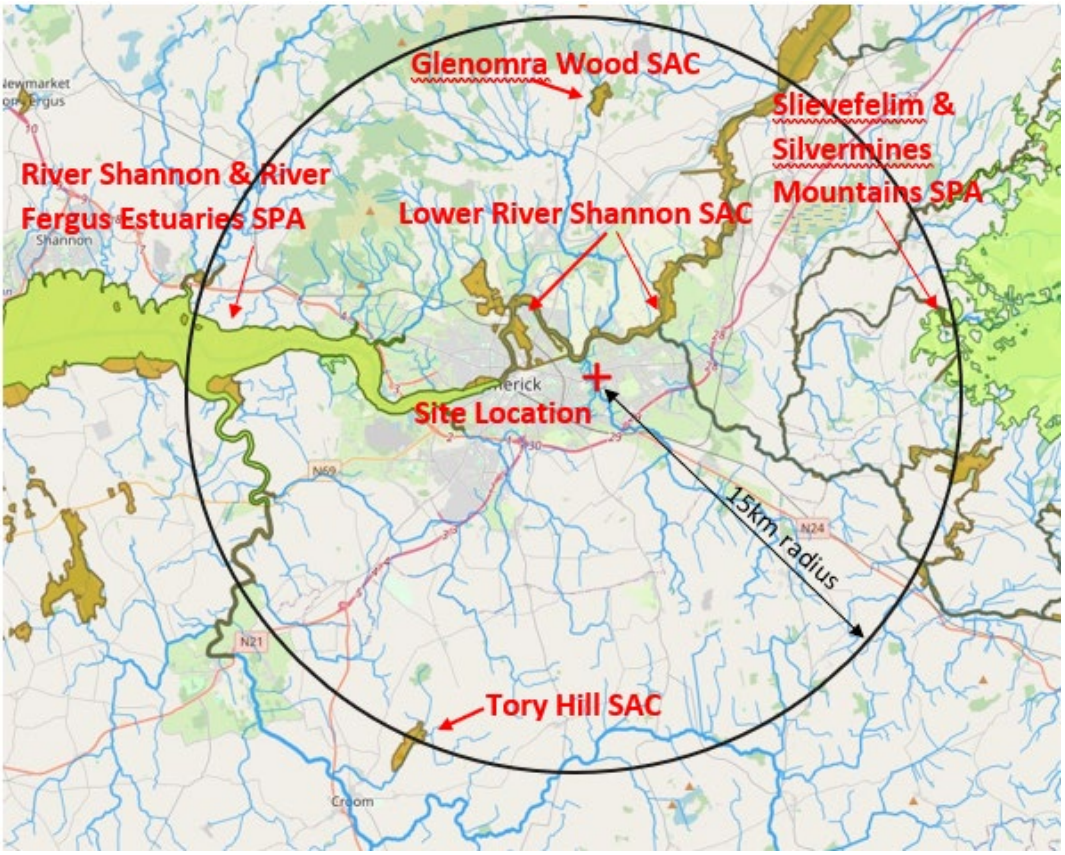

Figure 4 European Sites within 15km of the development site (EPA, 2024)

The European Commission Nature Restoration Law (2022) which has now been adopted in Ireland has the following objectives:

The proposal aims to restore ecosystems, habitats and species across the EU's land and sea areas in order to:

- enable the long-term and sustained recovery of biodiverse and resilient nature.
- contribute to achieving the EU's climate mitigation and climate adaptation objectives.
- meet international commitments.

Water Framework Directive

The EU Water Framework Directive (2000/60/EC) required all Member States to protect and improve water quality in all waters so that we achieve good ecological status by 2015 or, at the latest, by 2027. It was given legal effect in Ireland by the European Communities (Water Policy)

Regulations 2003 (S.I. No. 722 of 2003). It applies to rivers, lakes, groundwater, and transitional coastal waters.

With reference to the SEA within Limerick City Development Plan 2022-2028 (LCC, 2022) the following extract refers specifically to water:

The existing environmental pressures and problems in relation to water in Limerick are listed
below:

1. Quality of both surface and ground water resources in Limerick.

2. Ensuring that there is sufficient capacity in Wastewater Treatment Plants to avoid pollution from these sources and to ensure that their capacity keeps pace with development.

3. Ensuring that there is sufficient potable water resources to serve Limerick's population. It is important to avoid over abstraction as this will have adverse hydrological and ecological effects. Two settlements Adare and Croom have had new bore holes excavated since 2018 to ensure continuity of supply.

4. Ensuring that the issue of water management as a whole is addressed in Limerick. There is a need for water management to take into account not just flooding but variations in supply and demand as demand grows. There is also a need to ensure that the water supply system can function in a climate altered future, in a fashion that will not have adverse ecological and hydrological effects. (SEA, LCDP, 2022).

Hence, considerations are required to address surface water management in proposed developments. To address the issues of additional surface water created because of the loss of green field site, where natural soakage would usually occur to the ground, Sustainable Drainage Systems (SuDs) are an appropriate way to manage surface and storm water, whilst improving the quality of runoff water and as detailed in Section 3.3 have been incorporated into the design of the proposed development. Furthermore, agreement was sought in relation to Uisce Éireann to ensure that there is sufficient supply of potable water for the proposed development, together with capacity for foul water treatment as part of the municipal wastewater treatment system.

National and Local Plans, Directives and Data Bases

The EPA provides the AA Geotool that is a database of the protected sites and associated flow network for water courses within Ireland. The flow network was identified for water courses on or near to the site (Figure 2) (EPA, 2024).

The National Biodiversity Data Centre (Biodiversity Ireland, 2024) provides a national database of biological records from Ireland. The database was consulted with regard to species identified on the site.

The All-Ireland Pollinator Plan (2021-2025) was also reviewed with regard to planting and management of the proposed green areas of the development.

Limerick City's Development Plan 2022-2028 was reviewed with particular reference to Chater 4 Environmental Reports and Chapter 5 Designated Sites, Recoded Monuments and Places.

The Local Area Plan for Castletroy 2019-2025 (LCC, 2019) was reviewed and the area where the proposed development is located is zoned for residential development.

In relation to the above points, SuDs considerations will be applied to this development and site-specific mitigation measures will be carried out to protect the migratory birds and their habitats. Furthermore, the LRD as planned will provide housing to assist in the achievement of the housing supply targets for students.

In line with the EC Nature Restoration Law (2022) and Limerick City and County Council's Development Plan 2022-2028, the Biodiversity Net Loss and Net Gain was assessed for the proposed development.

3.4.1 Designated Sites

Within 5km of the site there are five designated sites which are detailed in Table 3 (the pNHA sites are detailed in Figure 5).

Designated Site	**Distance**	**Qualifying Interests (SAC & SPA)/Features of Interest (NHA)**	
		Code	**Species/Habitat**
Lower River Shannon SAC 002165	780m following water courses	1110	Sandbanks
		1130	Estuaries
		1140	Tidal Mudflats and Sandflats
		1150	Coastal Lagoons*
		1160	Large Shallow Inlets and Bays
		1170	Reefs
		1220	Perennial Vegetation of Stony Banks
		1230	Vegetated Sea Cliffs
		1310	Salicornia Mud
		1330	Atlantic Salt Meadows
		1410	Mediterranean Salt Meadows

		3260	Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation
		6410	*Molinia* meadows
		91E0	Alluvial Forests*
		1029	Freshwater Pearl Mussel (*Margaritifera margaritifera*)
		1095	Sea Lamprey (*Petromyzon marinus*)
		1096	Brook Lamprey (*Lampetra planeri*)
		1099	River Lamprey (*Lampetra fluviatilis*)
		1106	Atlantic Salmon (*Salmo salar*)
		1349	Bottle-nosed Dolphin (*Tursiops truncates)*
		1355	Otter (*Lutra lutra*)
River Shannon and River Fergus Estuaries SPA 004077	4.5Km following water courses	A017	Cormorant (*Phalacrocorax carbo*)
		A038	Whooper Swan (*Cygnus cygnus*)
		A046	Light-bellied Brent Goose (*Branta bernicla hrota*)
		A048	Shelduck (*Tadorna tadorna*)
		A050	Wigeon (*Anas penelope*)
		A052	Teal (Anas crecca)
		A054	Pintail (*Anas acuta*)
		A056	Shoveler (*Anas clypeata*)
		A062	Scaup (*Aythya marila*)
		A137	Ringed Plover (*Charadrius hiaticula*)
		A140	Golden Plover (*Pluvialis apricaria*)
		A141	Grey Plover (*Pluvialis squatarola*)
		A142	Lapwing (*Vanellus vanellus*)
		A143	Knot (*Calidris canutus*)
		A149	Dunlin (*Calidris alpina*)
		A156	Black-tailed Godwit (*Limosa limosa*)
		A157	Bar-tailed Godwit (*Limosa lapponica*)
		A160	Curlew (*Numenius arquata*)
		A162	Redshank (*Tringa totanus*)
		A164	Greenshank (*Tringa nebularia*)
		A179	Black-headed Gull (*Chroicocephalus ridibundus*)
		A999	Wetland and Waterbirds
Inner Shannon Estuary South Shore pNHA 000435			Same species and habitats as the Lower River Shannon SAC and River Shannon and River Fergus Estuaries SPA as these occupy the same location
Fergus Estuary and Inner Shannon North Shore pNHA 002048			Same species and habitats as the Lower River Shannon SAC and River Shannon and River Fergus Estuaries SPA as these occupy the same location

Knockalisheen Marsh pNHA 002001			Same species and habitats as the Lower River Shannon SAC as this site occupies the same location

Table 3 Designated sites within 5km of the development site. NB pNHA = proposed Natural Heritage Areas

Figure 5 Natural Heritage Area site within a 5km radius (EPA, 2024)

3.5 Walkover Survey

As detailed in section 1.2 a walkover field survey took place by ecologists from RESS Ltd. on the 6th of January 2024 and the 23rd and 24th of April 2025. The conditions were dry and there were no constraints to the survey.

3.5.1 Flora and Fauna Survey

The flora and fauna survey that took place was based on the Best Practice Guidance for Habitat Surveying and Mapping (Smith *et al.*, 2011). The habitats were classified according to Fossitt (2000). In addition, the habitats mapped, and their species were compared with Annex species and habitats of the E.U. Habitats Directive.

Both the common name and the Latin names have been provided for the main plant and animal species identified. The Latin names are in italics.

The letter and number codes i.e., GA1 for *Improved grassland* are the standard codes for habitat classification in Ireland (Fossitt, 2000).

In addition, the site was surveyed for invasive species.

4.0 Results

4.1 Flora and Fauna Survey

Flora

This report presents the results of a site visit by ecologists from RESS Ltd. on 6th of January 2024 and the 23rd and 24th of April 2025 when the site was surveyed.

Within the site (and adjacent to it), there were six vegetation habitats identified (Fossitt, 2000). These are detailed in Appendix i and the species present are as follows:

GA1 Improved Agricultural Grassland

This type of habitat occupies the majority of the site and has been heavily grazed by horses, where in some cases the grassland has been churned up by hoof action (Figure 6). The vegetation present typical of a heavily grazed grass sward of Perennial rye-grass *Lolium perenne*, Common bent *Agrostis tenuis,* Creeping bent *Agrostis stolonifera* and Yorkshire Fog *Holcus lanatus.* The predominant broadleaved species present is predominantly Creeping buttercup *Ranunculus repens* with Bartsia *Odontites vernus*, Broadleaf plantain *Plantago major*, Clover (white) *Trifolium repens,* Clover (red) *Trifolium pratense,* Daisy (Common) *Bellis perennis*, Dandelion *Taraxacum officinale*, Dock *Rumex acetosa,* Knapweed *Centaurea nigra,* Meadow buttercup *Ranunculus acris,* Meadow sweet *Filipendula ulmaria*, Nipplewort *Lapsana communis*, Ragwort *Jacobaea vulgaris,* Ribwort plantain *Plantago lanceolata,* Teasel *Dipsacus fullonum,* Square stalked St John's wort *Hypericum tetrapterum*, Tormentil *Potentilla erecta* and Yarrow *Achillea millefolium* (Figures 6 and 7).

At the northern boundary of the site Buddleia *Buddleja davidii*, Butterbur *Petasites pyrenaicus* and occasional Dogwood *Cornus sanguinea* are also present.

There are also some small wet areas where Bulrush *Typha latifolia* is present.

In addition, there are a number of large boulders present with Delicate fern moss *Thuidium delicatulum* and Silvergreen bryum moss *Bryum argenteum.*

Figure 6 Improved Agricultural Grassland showing trampling by horses (April 2025)

Figure 7 Heavily grazed Improved Agricultural Grassland (April 2025)

FW2 Depositing Lowland River and FW4 Drainage Ditch

To the south of the site is a drainage ditch which flows directly into the Groody River which flows adjacent to the western boundary of the site. Bulrush *Typha latifolia* Common reed *Phragmites australis*, Rush (Conglomerate) *Juncus conglomeratus,* Rush (Hard) *Juncus inlfexus* and Pendulous sedge *Carex pendula* are present on the banks and at the edges of the river and drainage ditch (Figure 8). In the drainage ditch itself Common Water-starwort *Callitriche stagnalis* and Greater spearwort *Ranunculus lingua* are present. The water in the River Groody at the time had a relatively fast flow compared with the drainage ditch which at the time of surveying was not flowing. The banks of the River Groody in this location were quite steep (Figure 9). There were clear riparian zones in both water courses.

Figure 7 FW2 Depositing Lowland River

Figure 8 FW4 Drainage Ditch

WD5 Scattered Trees

There are occasional scattered immature trees that are predominantly Grey willow *Salix cinerea.* Just outside of the redline boundary for the site is one mature White willow *Salix alba* and a small stand of Silver birch *Betula pendula* to the north-west.

WS1 Scrub

There are occasional scrub areas with Grey willow *Salix cinerea* and Gorse *Ulex europaeus* (Figure 10).

Figure 10 WS1 Scrub and Treeline outside of boundary fence.

WL2 Treeline

The drainage ditch is bordered on both sides by trees which are predominantly Grey willow *Salix cinerea* and Goat willow *Salix caprea*. Also present are Bramble *Rubus fruiticosus agg.,* Dog rose *Rosa canina* and Nettle *Urtica dioica.*

There were no invasive species (e.g., Himalayan Balsam or Japanese Knotweed) present on the site at the time of surveying.

Fauna

The site is currently grazed extensively by horses and ponies.

Avifauna

The bird species identified at the time of surveying were Blackbird *Tardus merula,* Goldfinch *Carduelis carduelis*, Great tit *Parus major*, House martin *Delichon urbicum*, Magpie *Pica,* Robin *Erithacus rubecula,* Song thrush *Turdus philomelos,* Starling *Sturnus vulgaris,* Willow warbler *Phylloscopus trochilus* and Wren *Troglodytes troglodytes.*

No ground nesting birds were identified on the site.

No overwintering waterfowl species were identified on the site.

No rare or Annex species were recorded on the site at the time of surveying.

Mammals

No other mammals were recorded at the time of surveying, but small mammals are likely to be found on the site such as Shrew *Sorex spp.* and Rat *Rattus rattus.* Considering that all habitats within the site boundary are well-represented elsewhere in the county and with more superior diversity, they are considered to be of Negligible importance for these taxa.

No evidence of Otters was recorded (spraint or tracks) on the site at the time of surveying.

A dusk and dawn bat survey was completed on the 23rd and 24th of April 2025, respectively. Five species of bats were recorded on and adjacent to the site . The species present were Common pipistrelle *Pipistrellus pipistrellus,* Soprano Pipistrelle *Pipistrellus pygmaeus,* Leisler's Bat *Nyctalus leisleri,* Daubenton's Myotis bat *Myotis daubentonii* and Brown Long-eared Bat *Plecotus auritus.* Two roost locations were identified. The first is the White willow *salix alba* where Leisler's Bat *Nyctalus leisleri* are roosting and the second location are the trees at the end of the treeline adjacent to the Groody River where Common pipistrelle *Pipistrellus pipistrellus* and Soprano Pipistrelle *Pipistrellus pygmaeus* are roosting.

Amphibians

There was no evidence, at the time of surveying, of reptiles and amphibians, especially as there are no areas of permanent standing water.

Considering that all habitats within the site boundary are well-represented elsewhere in the county and with more superior diversity, they are considered to be of Negligible importance for these taxa.

The habitats within the development site are common in peri-rural/urban landscapes in Ireland, so the site is considered to be of Negligible importance for invertebrates.

4.2 Identification of Important Ecological Features

Based on the desk-based survey and walkover surveys, Table 5 details a summary of ecological features on the development site together with their importance and legal/conservation status and duration of impact.

Ecological Feature	Valuation	Legal Status *	Important Feature?
GA1 Improved Grassland	Negligible	-	No
WL2 Treeline	High Local	-	Yes, habitat for birds and roosting/foraging for bats
WD5 Scattered Trees	High local	-	No- Immature trees. Yes- Mature trees
WS1 Scrub	Negligible	-	Yes – some value as food source for birds and insects
FW2 Depositing Lowland River and FW4 Drainage Ditch	High local and national	EU Habitat and Birds Directive	Yes – connection with SAC, SPA and NHA
Birds	Negligible	Wildlife Act (WA)*	No
Terrestrial Mammals	Negligible	Wildlife Act (WA)*	No
Reptiles and Amphibians	Negligible	Wildlife Act (WA)*	No
Invertebrates	Negligible	-	No

Table 5 Assessment of ecological features within the site (CIEEM 2018) * Wildlife [Amendment] Act 2000.

The treeline that borders the drainage ditch is considered an important feature as a valuable habitat for birds and foraging bats. In additon the trees at the end of the treeline, adjacent to the River Groody are being used as bat roosts. Although it is worth noting that there are no, notable vegetation species present in this boundary, it is its potential as a food source and linear wildlife corridor that gives rise to its value.

There will be a short-term impact on this habitat due to the cutting back of overgrown vegetation.

5.0 Predicted Impacts of the Proposed Development

Designated Sites

As identified in the Stage 1 Screening Report there is a source-pathway for potential impact on the receptors of the European Sites due to the

proximity of a drainage ditch and the Groody River, both of which are adjacent to the site and hydrologically connected to the Lower River Shannon SAC and down river, the River Shannon and River Fergus Estuaries SPA.

Although the habitats as identified in Table 5 are mostly valued as negligible, mitigating measures are required to ensure that any species occupying these habitats are protected in line with the EC Nature Restoration Law, and retained, where possible. The potential impacts and their nature are summarised in Table 6.

Avifauna
Disturbance of nesting birds and or breeding fauna may occur during the removal of scrub and overgrown vegetation. If site clearance works are carried out during the bird nesting season (between March and August, inclusive), it is possible that active nests could be destroyed. The killing of any birds, or the disturbance of their nesting sites, would constitute an offence under the Wildlife Act 2000 (as amended). Therefore, removal of any trees, scrub or treeline encroachment should be completed outside of this time period.

Habitats
Three of the habitats will be lost/partially as a result of the development, such as the improved grassland, scattered tees and scrub. The latter two habitats cover a minimal area, but do provide vegetation for nesting birds, mammals and invertebrates and if lost, then may result in the loss of species in the area, unless compensatory measures are implemented.

Bats
An initial assessment was carried out during the EcIA site survey on 6th of January 2024, for the suitability of habitats onsite to support bat roosting, foraging and commuting. All trees on site were inspected in accordance with guidance (Kelleher & Marnell, 2006). The most likely roost site is the mature White willow *Salix alba* near the Groody River.

Bats are undoubtedly using the site for foraging as there are records for a number of bat species (Common Pipistrelle, Soprano Pipistrelle, Daubenton's Bat and Lesser Noctule Bat) in the tetrad grid for the site, Grid R65D.

As mentioned above a full dusk and dawn survey was undertaken on the 23rd and 24th of April 2025, where five species of bat were identified (Common pipistrelle *Pipistrellus pipistrellus,* Soprano Pipistrelle *Pipistrellus pygmaeus,* Leisler's Bat *Nyctalus leisleri,* Daubenton's Myotis bat *Myotis daubentonii* and Brown Long-eared Bat *Plecotus auritus*) and two roost sites. The majority of the activity was in the treeline to the south of the site which is adjacent to the drainage ditch and the Groody River. The highest number of individuals recorded were Common

pipistrelle *Pipistrellus pipistrellus* and Soprano Pipistrelle *Pipistrellus pygmaeus* (See Appendix ii for full bat report and locations of roost sites).

Therefore, any small tree removal or undergrowth cutting back should take place during the bat hibernation period (1st November to 1st May). In addition, 'Bat-sensitive lighting' should be implemented for this development and during construction all lighting should be directed away from the treelines and watercourses. Should any treework/felling of the identified roost sites, then a derogation licence will be required from the NPWS.

All measures in relation to bats within the development site are precautionary/enhancement measures.

Ecological Feature	Nature of Impact	Duration & Likelihood	Mitigation Measures
GA1 Improved Grassland	Removal of this habitat	Permanent Likely	None
WS1 Scrub	Removal of this habitat	Permanent Likely	Removal of vegetation during appropriate time
WD5 Scattered Trees	Removal of this habitat	Permanent Likely	Removal of vegetation during appropriate time
WL2 Treeline	Vegetation cutting back/Tree removal	Short term Likely	Removal of diseased trees during appropriate time of year Cutting back of overgrown vegetation at appropriate time of year.
FW2 Depositing Lowland River and FW4 Drainage Ditch	None provided mitigation measures implemented	None	Erection of silt fencing to prevent any runoff into either watercourse
Birds	Vegetation cutting back/Tree removal	Short term Likely	Removal of vegetation during appropriate time
Bats	None	None as hibernation roosts will not be removed	Removal of vegetation during appropriate time

Terrestrial mammals	Vegetation cutting back	Short term Likely	Removal of vegetation during appropriate time
Reptiles and amphibians	None	None	None
Invertebrates	Vegetation cutting back/Tree removal	Short term likely	Removal of vegetation during appropriate time within the development

Table 6 Summary of potential impacts and mitigation measures

6.0 Proposed Mitigation and Compensatory Measures

As per the CIEEM Guidelines for EcIA (2018), protective measures are designed to preserve existing ecological features and mitigate any potential harm before it occurs.

Avifauna

Birds should be protected during site clearance works as under Section 22 of the Wildlife Act 1976 (as amended 2000), it is an offence to kill or injure a protected bird, or to disturb their nests. Most birds nest between March and August (inclusive), so it is strongly recommended that all scrub removal, tree removal, cutting back of vegetation and site clearance works are carried out between September and February (inclusive), i.e., outside the nesting season.

If this is not possible, an ecologist will survey the affected areas in advance in order to assess whether any breeding birds are present. If any are encountered, vegetation clearance will be delayed breeding has been completed, i.e., after chicks have fledged and a nest has been abandoned.

To minimise disturbance of birds and to avoid the nesting season, the optimal time for ground clearance works to take place would be between 1st September and 28th February.

Any tree removal or tree surgery works should take place between 1st September until the 28th of February to minimise impact on bird and bat species.

Provision of 'Bat-sensitive lighting'

Bats are highly sensitive to artificial lighting and may be displaced from the site if lights are particularly intense. However, if 'bat-sensitive' lighting techniques are incorporated into the lighting plan, bats should continue to

use the site.

'Bat-sensitive lighting' for this development would have the following design principles, which are taken from the Bats and Lighting guidelines (BCT 2018):

- Zero-UV LEDs or low / high pressure sodium lamps will be the preferred bulb type, as they have least effect on bats. Mercury or metal halide bulbs will not be used.
- All external lights will be fitted with directional hoods and/or luminaires to direct the light onto targeted areas and to prevent unnecessary light-spill.
- No lights will be directed towards the hedgerows/treelines.
- Where lighting is required for pedestrian safety (e.g., at site entrances and internal paths), lights will be installed at a low level, e.g., on lighting poles of up to one metre in height.
- Lights will be directed onto ground level, with no light spill above the horizontal. Lux levels will be the minimum required for pedestrian safety.
- External lights at site entrances will be fitted with motion sensors and timers in order to provide light only when required.

All works to be completed during daylight hours so as to minimise disruption to nocturnal animals.

These measures will apply both to temporary lighting during the construction of the proposed development, and to permanent lighting during the operation of the development. In order to ensure that these techniques are effective, and that bat mitigation measures can be balanced with public safety requirements, the developer's ecologist will liaise with the contractor on the lighting design.

Habitats

The individual habitats are discussed in more detail in Sections 6.1 and 6.2, however as there will be site clearance as a result of this development, it is imperative that the removal of vegetation impact as little as possible on any fauna occupying the habitats on site and therefore site clearance works should take place between 1st September and 28th February, outside of the majority of breeding seasons for mammals and other taxa. In addition, soil from site clearance should be retained and re-used in the landscaped areas to promote the naturalisation of the grassed areas and encourage locally native species as detailed in the habitat survey in Section 4.1.

Sustainable Drainage System (SuDs)

As mentioned above the proposed SuDs measures include:

- 1 x Constructed wetland and 1 x attenuation tank complete with hydro-brake flow controls and bypass separators for metals and

hydrocarbons
- Green roofs
- Bio-swales
- Rain gardens
- Permeable paving

The purpose of SuDs measures is to mimic natural drainage, which is now reduced due to the creation of man-made surfaces in the form of buildings, impermeable footpaths and roadways as part of the development. SuDs measures will therefore assist with the slowing down of runoff, thus reducing the potential for flooding and aid to improve the water quality of surface water and storm water runoff in line with the Water Framework Directive (2000). Furthermore, a riparian zone will be maintained adjacent to the Groody River as per the Inland Fisheries Ireland Guidelines (n.d.).

Construction Mitigation Measures

As the movement around the site will involve the use of large construction vehicles, then care should be taken with re-fuelling and dust suppression on the site as detailed below.

Good site management will assist with the maintenance of the quality of any water flowing from the site during storms and rainfall etc.

It is essential that a silt net is placed around the site, secured with posts and sandbags at the base. This should be checked on a daily basis and repaired if any holes appear, to ensure that there is no runoff into adjacent watercourses (See CEMP for specifications). This will need to be at least 10m from the River Groody and the drainage ditch to protect the riparian zone and any areas of seasonal flooding as per the Inland Fisheries Ireland Guidelines (n.d).

Any cutting back or removal of any trees or scrub should be carried out outside of the nesting season (1st March – 31st August).

Construction site works should take place only during daylight hours to minimise nocturnal animal activities and any lighting should be directed away from the drainage ditch and rivers where bats may be foraging.

To further ensure that the potential impact is reduced the following best practice measures will be implemented during the construction phase.

Mitigation Measure	How Measure Will Avoid/Reduce Adverse Effects	Implementation of Mitigation Measure and Likely Success	Monitoring scheme to prevent mitigation failure
Timing of the clearance works - 1st September – 28th February Should any active nests be encountered during the development work, then work will be ceased immediately, and the site inspected by an ecologist.	The clearance of the site should not take place during the spring or summer so as to avoid disruption to any nesting birds on the site. Should any active nests be encountered during the development work, then work will be stopped immediately, and the site visited by an ecologist.	Mitigation measure will be implemented by the Client	The Client will ensure that a suitably qualified person will be appointed by the Client to ensure that the CEMP is finalised prior to the development works and the measures detailed in the CEMP and this document implemented for the duration of the construction phase*.
All works to be carried out during daylight hours	Avoidance of disturbance to any nocturnal animal activities	Mitigation measure will be implemented by the Client	
A silt trap around the site for the duration of the construction phase will be erected with the use of wooden stakes, woven geotextile fabric and sandbags before the development works take place	This will ensure that any run-off of particulate matter or pollutants during construction will be contained on the site (see Appendix ii)	Mitigation measure will be implemented by the Client	
Removal of any construction material shall take place each day with no accumulation of material to take place on the site	Avoidance of any waste material remaining within the adjacent habitat	Mitigation measures will be implemented by the Client	
During the construction phase good construction practices such as dust suppression of on-site access roads and regular plant maintenance are required	This will ensure minimal risk of any pollutants and foreign matter entering the European Sites	Mitigation measure will be implemented by the Client	
All plant and machinery will be serviced before being mobilised to	This will ensure that there is no leakage or spillage of hydrocarbons/hydraulic	Mitigation measure will be implemented by the Client	

site. No plant maintenance will be completed on site, any broken-down plant will be removed from site to be fixed where applicable. If this isn't possible then a bund/container shall be used as part of the development works	fluid into the European Sites		
There will be no fuel stored on site. All refuelling will take place off-site Procedures and contingency plans will be set up to deal with emergency accidents or spills. An emergency spill kit with oil boom, absorbers etc. will be kept on-site for use in the event of an accidental spill	This will ensure that there is no leakage or spillage of hydrocarbons/hydraulic fluid into the European Sites	The Client will appoint a member of staff to act as a 'spotter' to check for spills or leaks from vehicles whilst in operation. Should any spills/leaks be identified a spill kit will be used and the vehicle concerned will be removed from the site.	
If there is heavy rainfall then no works shall take place e.g. >20mm of rain). Any works at any time where water levels may cause inundation of the works area will be avoided.	This will ensure that there is no surface water runoff.	Mitigation measures will be implemented by the Client	
Overnight parking of machinery is prohibited in the construction site, an area away from the site will be allocated for the storage of vehicles overnight	This will ensure that there is no leakage or spillage of hydrocarbons/hydraulic fluid into the European Sites	Mitigation measures will be implemented by the Client	
No soil shall be imported from outside of the site.	This will prevent the colonisation of species not native to the site	Mitigation measures will be implemented by the Client	
All waste generated on site must be removed on a daily basis and recycled where appropriate	This will ensure that no waste is blown into nearby habitats or the marine environment	Mitigation measures will be implemented by the Client	

Table 7 Site specific mitigation measures

* The contractor will assign a member of the site staff as the environmental officer with the responsibility for ensuring the environmental measures prescribed are adhered to. The following will be carried out by the appointed staff member.

- A checklist will be filled in on a weekly basis to show how the measures above have been complied with.
- A 'tool-box' talks shall be held with all construction employees to make them aware of their roles and responsibilities and the importance of no direct impact due to their work activities to the European sites.
- Any environmental incidents or non-compliance issues will immediately be reported to the project manager.
- The site manager will be continuously monitoring the works and will be fully briefed and aware of the environmental constraints and protection measures to be employed.

Further mitigation measures are identified in the CEMP and Technical Note, Groundwater Risk Assessment (Garland Consulting Engineers, 2025) as well as the Water Framework Directive Assessment (Traynor Environmental Ltd., 2025) to specifically protect surface water and groundwater quality.

Following completion of the works, the ecologist will complete a final audit report to show how the works complied with the environmental provisions described in this document.

This audit report may be forwarded to Limerick CC for their records if required.

6.1 Biodiversity Net Loss/Net Gain

Table 8 details the habitats that will be lost and the compensation measures that will be put in place as part of the proposed development. These were identified within the area occupied in the red line boundary for the proposed development. See accompanying biodiversity landscape plan. The species found within the habitats are in Part 1 Section 2.5 and Appendix i.

Habitat	Component of the site	Compensation measure	Overall net gain or net loss
GA1 Improved Agricultural Grassland	Main site component, grazed and low value for nature conservation	Wildflower meadow green areas sown with native species and planted with native trees. Grassland areas to be managed with differential mowing	Although reduction in habitat area, the biodiversity potential is greater than the existing habitat, therefore net gain in biodiversity
WL2 Treelines	This habitat will be retained and enhanced with	Additional native trees will be planted to fill gaps	Overall net gain as more trees are to be planted

	the planting of native species		
WD5 Scattered trees	These will be removed	Mature native or pollinator friendly trees will be planted as part of the landscaping plan	No net loss
WS1 Scrub	This habitat will be lost as a result of the development	However, there will be habitat creation for SuDs and additional tree planting as part of the landscaping	No net loss

Table 8 Habitat evaluation of net loss/net gain and compensation measures

Overall, although there is reduction in the area of habitats, the planned landscaping aims to improve the overall biodiversity by species rich habitat creation utilising native species planting and planting for pollinators and management of grassland with differential mowing. Therefore, the proposed development will provide an increase in biodiversity and net gain in the conservation value of the proposed habitats to be created. In addition, a riparian zone of ≥10m will be maintained adjacent to the Groody River.

6.2 Compensatory measures

The accompanying landscape plan details the proposals for green areas and planting. All trees in the green areas will be planted as standards and native and/or pollinator friendly species.

The grassed areas will utilise soil retained from the site to encourage naturalisation and deferential mowing will be used to encourage wildflower growth from the seed bank, which will provide a valuable habitat for pollinators, birds and other fauna. Any additional seeding will be with native species.

Any additional planting in flower beds will be with native and/or pollinator friendly species.

Any gaps in the existing hedgerows/treelines will be filled with native hedgerow species.

In addition, there will be new habitats created as part of the Sustainable Drainage System (SuDs) to include a bio-swale, constructed wetland, wet grassland, green roofs and rain gardens.

Thus, overall, there will be no net biodiversity loss as a result of the proposed development due to the biodiversity measures as a result of the landscaping of the finished development, but there will be an overall net gain for biodiversity.

7.0 Residual Impacts

Tree removal, cutting back of encroaching vegetation or scrub, and other site clearance works will take place outside the season of peak nesting activity in birds, or the area will be surveyed by an ecologist to confirm that no protected fauna are present. As a result, there will be no impact on nesting birds, and no legal offence under the Wildlife Act 1976 (as amended).

Bat-sensitive lighting will be utilised throughout construction and implemented in the development.

Site based measures during the construction phase will ensure that there is not surface runoff of particulate matter or other pollutants into the drainage system or nearby watercourses.

Landscaped areas will be managed for biodiversity (as detailed in Section 6.0 to compensate for the loss of habitats, together with native species/pollinator friendly planting.

Subject to the successful implementation of these measures, it can be concluded that the proposed development will not cause any significant negative impacts on the habitats, legally protected species, designated sites, or any other features of ecological importance.

This assessment has been undertaken on the basis of the best scientific knowledge in the field and the Precautionary Principle.

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Russell Environmental and Sustainability Services Limited

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Appendices


Appendix i Habitat Map
N
Dublin Road
R445
R445
R445
Dublin Road
Dublin Road
Curragh Birin
Groody Student Park
Groody Student Park
Brú na Gruada
Legend
WD5 Scattered Trees
WL2 Treeline
FW4 Drainage Ditch
FW2 Lowland River
WS1 Scrub
GA1 Improved Agricultural Grassland
Boundary
Russell Environmental and Sustainability Services Limited
Kilometers
Esri Community Maps Contributors, Esri UK, Esri, TomTom, Garmin, Foursquare, GeoTechnologies, Inc, METI/NASA, USGS, Maxar, Microsoft

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DUSK AND DAWN BAT SURVEY WHITEBOX STUDENT CAMPUS, GROODY ROAD, CASTLETROY, LIMERICK

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1st of May 2025

Table of Contents

SUMMARY

Site:	Greenfield site, treeline and scattered trees at Groody Road, Castletroy, Limerick.
Structure:	Treeline, scattered trees, stream and River Groody
Co-ordinates:	Longitude: -7.1364570 Latitude: 52.1801556
Bat Species Present:	Common pipistrelle *Pipistrellus pipistrellus* Soprano Pipistrelle *Pipistrellus pygmaeus* Leisler's Bat *Nyctalus leisleri* Brown Long-eared Bat *Plecotus auritus* Daubenton's bat *Myotis daubentonii*
Roost Location:	Mature trees
Survey By:	Dr. Jane Russell-O'Connor
Date:	Dawn and dusk on the 23rd and 24th of April 2025

1.0 Introduction

A proposal to undertake planning at a greenfield site at Groody Road, Newcastle, Castletroy (Planning Reference 25/60113) has resulted in a request for a bat survey to determine whether any of these animals are currently using the site. Russell Environmental and Sustainability Services Limited (RESS Ltd) were contracted by Groody Developments Limited to complete a bat survey of a greenfield site and adjacent watercourses.

1.1 Site Location and Access

The site is located at the L5173 Groody Road, Newcastle, Castletroy, Limerick. The Longitude is -8.5800219 and Latitude: 52.6632073 (EPA, 2025).

The site has a drainage ditch with a treeline to the south of the site, that discharges into the River Groody at the west of the site. The greenfield site is heavily grazed by horses, with a very short grass sward and occasional scrub. The River Groody discharges into the River Shannon (Figure 1), which is designated as the Lower River Shannon SAC and down river, the River Shannon and River Fergus Estuaries SPA.

Figure 1 Site location and relationship with European Sites and the Flow network

2.0 Bat Survey

This report presents the results of a site visit by ecologists from RESS Ltd. during dawn and dusk hours of the 23rd and 24th of April 2025 where the greenfield site, associated trees and watercourses were observed.

2.1 Survey Methodology

Survey of fauna was carried out by means of a thorough search within the treeline to the south of the site and occasional trees within the site by two surveyors. During the dusk and dawn survey a SSF Bat 2 heterodyne, ultrasonic detector and an Echo Meter Touch 2 Pro (for Android) Bat detector with software app on Samsung Galaxy were used. A SSF Bat 2 Fledermaus Detector was also used at a range of different frequencies.

Vantage points were adjacent to the River Groody, treeline and scattered trees. The nature and type of habitats present are also indicative of the species likely to be present. Direct visual sightings were obtained and bats were observed to be entering and exiting roosting sites on mature trees.

2.1.1 Survey Constraints

The survey was carried out by means of a thorough examination of the site. There were no climatic and seasonal constraints in regard to survey as it was undertaken within the active season. The temperature during the dusk survey was 12° Celsius and during the dawn survey 11° Celsius. The dusk survey commenced at 8.30pm and was completed at 10.30pm. The dawn survey commenced at 5.15am and was completed at 6.30am. There had been rain earlier during the 23rd of April, but there was no rain during the survey.

3.0 Brief Description of the Site

The site is located in an urban location of Limerick is adjacent to the L5173 and although surrounded by open grassland with scrub and occasional trees to the west, is also surrounded by student accommodation, hotels, industry and supermarkets as well as residential housing.

The treeline contained relatively mature trees, but were not of a great age and did not have extensive ivy growth. There were *WD5 scattered trees* (Fossitt, 2000) along the banks of the River Groody that were either Hawthorn *Crataegus monogyna* or Grey willow *Salix* as well as one very mature White willow *Salix alba* (Appendix iv, Figures 1 and 2). On the northwestern boundary of the site are two Silver birch *Betula* pendula trees. The more mature trees can be favourable to several species of bat.

Running adjacent to the *WL2 Treeline* at the southern boundary *is FW4 Drainage ditch,* which as mentioned above discharges into the River Groody which is classed

as *FW2 Depositing/Lowland River* (Fossit, 2000) that provides a valuable habitat for foraging by the bat species present on site (Appendix iv, Figure 3).

The site as a whole and the associated watercourses provide suitable habitats for foraging.

4.0 Results of Survey

In the survey conducted during the dusk of 23rd of April and the dawn of the 24th of April 2025 (Appendix iii), there was evidence of roosting sites in the one mature White willow *Salix alba* and Grey willow *Salix cinerea* trees adjacent to the River Groody at the southern section of the site.

The sonar results identified that five species of bat were using the treeline and River Groody foraging at the time of the survey and one Brown Long-eared bat was detected over the grassland. Although some species were recorded on the wider site, the greatest concentration of activity was in the southern treeline away from the road and along the River Groody. The species recorded on site were Common Pipistrelle *Pipistrellus pipistrellus,* Soprano Pipistrelle *Pipistrellus pygmaeus*, Leisler's Bat *Nyctalus leisleri,* Daubenton's bat *Myotis daubentonii* and Brown Long-eared Bat *Plecotus auritus*. The activity from the sonar recordings is shown Appendix iii.

Throughout dusk and dawn, the treeline and scattered trees were observed for emergence and re-re-entry of bat species. Soprano pipistrelle *Pipistrellus pygmaeus* and Common Pipistrelle *Pipistrellus pipistrellus* were seen to emerge from and re-enter the Grey willow *Salix cinerea* trees adjacent to the River Groody at the western edge of the treeline. Leisler's Bats *Nyctalus leisleri* were observed and recorded entering the one mature White willow *Salix alba* on the site during the dawn survey **thus indicating that trees within this habitat are used for daytime roosting (Figure 3).**

Figure 3 Roost locations

4.1 Indication of Significance of Site for Bats

During the dusk to dawn survey, there were a number of bats seen flying along, and in the treeline as well as along the River Groody. This activity was also recorded by both bat detectors and recorded by the Echo Touch meter as detailed in Appendix iii. Soprano pipistrelle *Pipistrellus pygmaeus* and Common Pipistrelle *Pipistrellus pipistrellus* were detected (both visually and recorded by sonar readings) emerging and re-entering the Grey willow *Salix cinerea* trees at the end of the treeline adjacent to the River Groody. The Leisler's Bat *Nyctalus leisleri* were seen and recorded entering the single mature White willow *Salix alba* at the dawn re-entry. The Daubenton's myotis *Myotis daubentonii* bats were recorded over the River Groody and the single Brown long-eared *Plecotus auritus* bat was recorded flying over the open grassland.

4.2 List of Irish Bat Species and Declared Status on Site

Within the greenfield site, a number of species were recorded via the bat detectors; these are detailed in Table 1.

Bat Species	Approximate Number *	Status on Site
Common Pipistrelle *Pipistrellus pipistrellus*	**26 (13)**	Present in treeline and over the river Groody. Roosting in trees at the end of the treeline
Soprano Pipistrelle *Pipistrellus pygmaeus*	**30 (15)**	Present in treeline and over the river Groody. Roosting in trees at the end of the treeline
Leisler's Bat *Nyctalus leisleri*	**14 (7)**	Present in the environs, over the River Groody and roosting in the White Willow *Salix alba*
Daubenton's bat *Myotis daubentonii*	**3**	Present in the environs over the River Groody
Brown Long-eared Bat *Plecotus auritus*	**1**	Present in the environs over the grassland

Table 1 Species and numbers recorded on site.

** Please note that the numbers represent all the recordings from both dusk and dawn and due to the crossing back and forth of individuals the numbers may be much lower, as many individuals may have been recorded more than once. In addition the same individuals roosting on the site are likely to have been recorded once at dawn and then again at dusk. Hence more realistic figures are shown in brackets.*

4.3 Indication of Significance of Site for Otter and Birds

There were no owls or other birds of prey. There were no otters present at the time of either survey. No otter spraint or tracks were detected during either survey.

5.0 Legal Status and Conservation Issues – Bats

All Irish bat species are protected under the Wildlife Act (1976) and Wildlife Amendment Act (2000). Also, the EC Directive on The Conservation of Natural habitats and of Wild Fauna and Flora (Habitats Directive 1992), seeks to protect rare species, including bats, and their habitats and requires that appropriate monitoring of populations be undertaken. Across Europe, they are further protected under the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1982), which, in relation to bats, exists to conserve all species and their habitats. The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention 1979, enacted 1983) was instigated to protect migrant species across all European boundaries. The Irish government has ratified both these conventions.

All bats are listed in Annex IV of the Habitats Directive and the lesser horseshoe bat is further listed under Annex II.

6.0 Potential Impacts of Proposed Works on Bat Fauna

As three species of bat were roosting in the trees (Common Pippistrelle *Pipistrellus pipistrellus*, Soprano Pipistrelle *Pipistrellus pygmaeus* and Leisler's Bat *Nyctalus leisleri*, should work be required to remove the treeline or any of the mature trees within it, then **a derogation licence will be required** and any works to the treeline or White willow will only be permitted once a licence is secured. However as these habitats are outside the footprint of the development they are unlikely to be impacted.

7.0 Mitigation Measures

As there are currently bats present in the treeline and White willow there is a requirement for compulsory mitigation measures. Works shall follow the measures indicated below.

Application for a derogation licence

NB: Works 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 can commence.

There is a licence required in this instance should the section of the treeline adjacent to the River Groody or the mature White willow Salix alba require tree surgery or felling.

Measure 1: maintenance
Any maintenance shall be done carefully during the hibernation period with the possibility that individual bats may be found. If discovered, the animals shall be retained in a box until dusk and released on site. A qualified ecologist shall be contacted and the NPWS wildlife ranger shall be notified.

Measure 2: rodenticides
No rodenticide usage in or near the treeline or adjacent to either the River Groody or drainage ditch.

Measure 3: bat boxes
Bat boxes are suitable for all five species of bats found in the environs and may be erected on trees.

Measure 4: lighting
Lighting should not be facing the treeline or River Groody during construction or operation of the development.

8.0 Predicted and Residual impact of the Proposal

Bat roosts are unlikely to be lost as the trees in the treeline and the White willow *Salix alba* are both outside of the development footprint and will not be impacted as a result of the proposed development.

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Appendices

Appendix i Bat Ecology – General

The bat is the only mammal that is capable of true flight. There are over 1,100 species worldwide, representing almost a quarter of all mammal species. There are 47 species in Europe - in Ireland, ten species of bat are currently known to exist, which are classified into two families, the *Rhinolophidae* (Horseshoe bats) and the *Vespertilionidae* (Common bats).

Prey

All the European bat species feed exclusively on insects. A Pipistrelle, weighing only 4 to 8 grams, will eat up to 3000 insects every night, ensuring a build-up of fat in the bat's body to allow it to survive the winter deep in hibernation.

Breeding and longevity

Irish bats can produce one young per year but, more usually, only one young is born every two years (Boyd & Stebbings, 1989). This slow rate of reproduction inhibits repopulation in areas of rapid decline. Although bats have been known to live for twenty or more years, this is rare as most die in their first and the average lifespan, in the wild, is four years.

Threats

All bat species are in decline as they face many threats to their highly developed and specialised lifestyles. Many bats succumb to poisons used as woodworm treatments within their roosting sites (Racey & Swift, 1986). Agricultural intensification, with the loss of hedgerows, treelines, woodlands and species-rich grasslands have impacted bat species also. Habitual roosting or hibernation sites in caves, mines, trees and disused buildings are also often lost to development. Summer roosts are prone to disturbance from vandals. Agricultural pesticides accumulate in their prey, reaching lethal doses (Jefferies, 1972). Chemical treatments in cattle production sterilise dung thus ensuring that no insects can breed within it to be fed upon by bats. Likewise, river pollution, from agricultural runoff, reduces the abundance of aquatic insects. Road building, with the resultant loss of foraging and roosting sites is a significant cause in the reduction of bat populations across Europe.

Extinction

As recently as 1992, the greater mouse-eared bat *Myotis myotis* became the first mammal to become extinct in Britain since the wolf in the 18th century.

Appendix ii Description of Bat Species in Ireland

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.

Soprano pipistrelle *Pipistrellus pygmaeus*

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

Nathusius' pipistrelle *Pipistrellus nathusii*

Nathusius' pipistrelle is a recent addition to the Irish fauna and has mainly been recorded from the north-east of the island in Counties Antrim and Down (Richardson, 2000) and also in Fermanagh, Longford and Cavan. It has also recently 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 status of the species has not yet been determined.

Leisler's bat *Nyctalus leisleri*

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

Brown long-eared bat *Plecotus auritus*

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

Natterer's bat *Myotis nattereri*

This species has a slow to medium flight, usually over trees but sometimes over water. It usually follows hedges and treelines to its feeding sites, consuming flies, moths, caddis-flies

and spiders. Known roosts are usually in old stone buildings but they have been found in trees and bat boxes. The Natterer's bat is one of our least studied species and further work is required to establish its status in Ireland.

Whiskered bat *Myotis mystacinus*

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

Brandt's bat *Myotis brandtii*

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

Daubenton's bat *Myotis daubentonii*.

Often called the 'water bat', this species is easily recognised in flight by its low, level flight a few centimetres above the surface of lakes, slow-moving rivers and canals. It skims like a hovercraft above the water in search of caddisflies, mayflies and midges, and may even scoop prey from the water surface using its big feet. Many other bats feed over lakes and rivers, but none has such a close association with water as the Daubenton's. The Daubenton's bat can even swim if it makes a mistake and ends up in the water. Daubenton's bats roost under stone bridges, in ruins, canal tunnels, trees and damp caves.

The Daubenton's bat annual trend is monitored using a volunteer-based programme – the All-Ireland Daubenton's Bat Waterways Survey. This scheme has been ongoing since 2006 and the Daubenton's bat trend has been reasonably stable since this time.

Appendix iii – Sonar Readings

Sonar readings for the whole site. Zoom in is required for individual species

Sonar readings for the White willow. Nyclei are Leisler's Bat

Appendix iv – Photographic Record

Figure 1 White willow Salix alba – Roost site for Leisler's Bat

Figure 2 White willow Salix alba and proximity to the Groody River

Figure 3 The Groody River at dawn 24th April 2025

Figure 4 Location of bat roosts for Soprano pipistrelle and Common pipistrelle. Photograph taken at dawn 24th April 2025