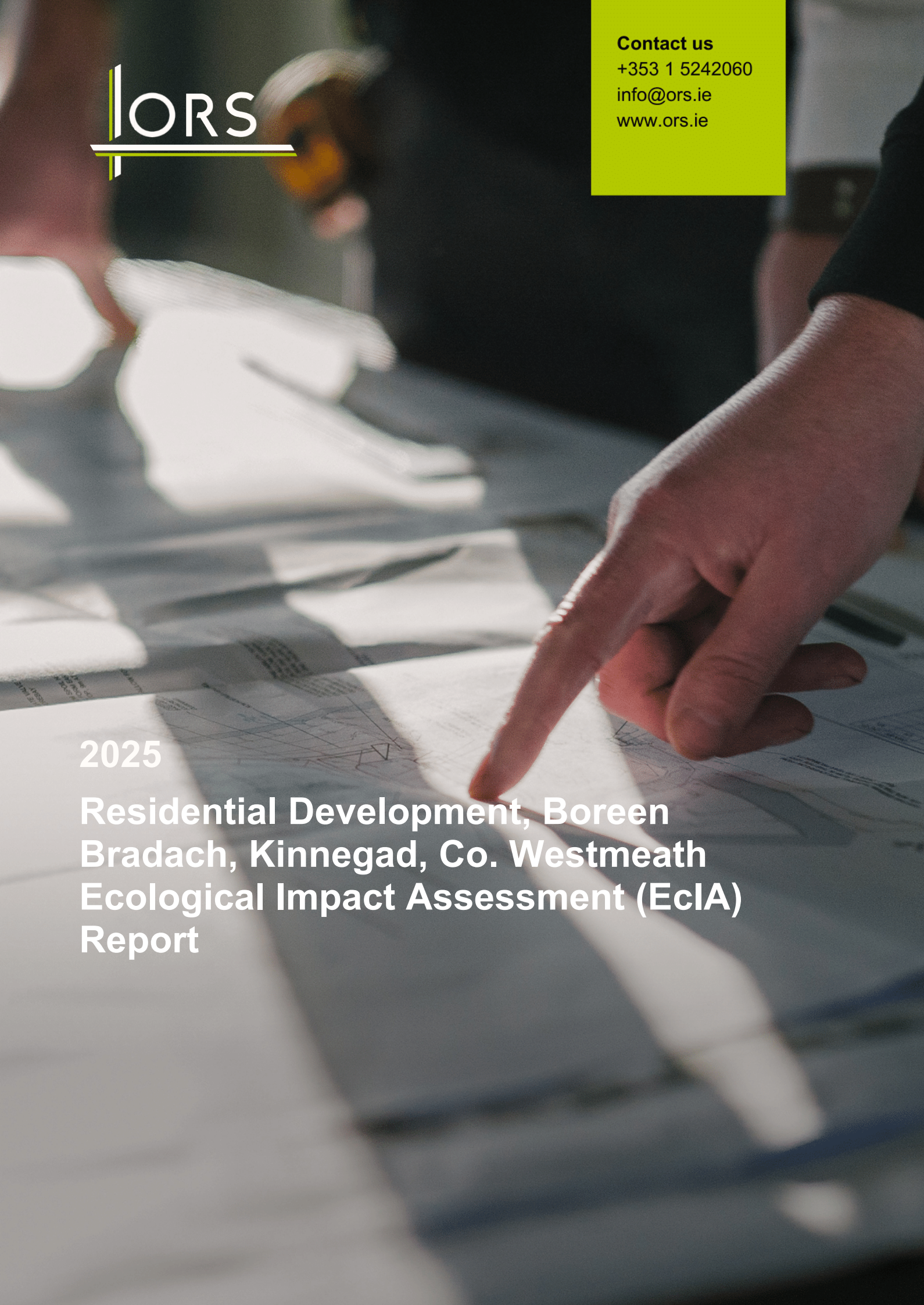

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2025

Residential Development, Boreen Bradach, Kinnegad, Co. Westmeath Ecological Impact Assessment (EcIA) Report

ORS

Residential Development, Boreen Bradach, Kinnegad, Co. Westmeath
Ecological Impact Assessment (EcIA) Report

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ORS

LRD Opinion response

The below summarises opinions raised by Westmeath County Council (WMCC) after the LRD Stage 2 meeting and our response to these items

Opinion / Recommendation	ORS Response
7.EIA and AA	
An EIAR Screening Report and Appropriate Assessment Screening Report with Natura Impact Statement, if required, to accompany any future planning application.	Both documents have been prepared and are submitted with this planning application as: • EIA Screening Report.pdf (Ref: 241139-ORS-XX-XX-RP-EN-13d-001), and • AA Screening Assessment.pdf (Ref: 241139-ORS-XX-XX-RP-EN-13d-008.pdf).
8.Other Matters	
Applicant to submit details in respect of the following:	
(i) All survey reports as noted in the Ecological impact Assessment such as the Bat Survey, Invasive Species, etc.	The Ecological Impact Assessment (EcIA.pdf - Ref: 241139-ORS-XX-XX-RP-EN-13d-007) addresses the detailed surveys conducted on the site as presented in Section 4 - Results. Invasive Species Survey can be found in the Section 4.3.1, page 23 of the EcIA, and the Preliminary Bat Roost Potential survey had it results included in Appendix B of the EcIA report.
(ii) A Construction and Environmental Management Plan (CEMP) to include a full tabled list of mitigation measures. Mitigation measures identified in the Ecological Impact Assessment, Invasive Species Report and any other reports submitted with any future application should be included in the CEMP.	The Construction and Environmental Management Plan (CEMP.pdf) has been prepared by ORS, 2025 (Ref: 241139-ORS-XX-XX-RP-EN-13d-002) for the construction phase of the development. Section 4 - Environmental Management Plan summarises the mitigation measures and incorporates the proposed measures contained in the following reports: • Arboricultural Impact Assessment, by John Morris Arboricultural Consultancy Ltd, 2025 (Ref: 24-398-04) • Invasive Species Survey Report, by ORS - 2025 (Ref: 241139-ORS-XX-XX-RP-EN-13d-005) • Noise Impact Assessment, by Amplitude Acoustics, 2025 (Ref: D240912RP1) • Ecological Impact Assessment, by ORS - 2025 (EcIA.pdf - Ref: 241139-ORS-XX-XX-RP-EN-13d-007) • Archaeological Assessment Report, by IAC, 2025 (Ref: IAC Project J4402.pdf) Appendix B of the CEMP presents the Schedule of Mitigation Measures
(iii) A Noise Impact Assessment Report which assess the existing noise impact (mainly traffic) on the proposed residential development. Reference	Amplitude Acoustics were commissioned to undertake a Noise Impact Assessment for the proposed development, resulting in a report NIA.pdf (Ref: D240912RP1) which accompanies this planning application. The report takes into account the Westmeath Noise Action Plan 2024-2028 and the WHO Guidelines for noise impacts at construction stage.

should be made to the Westmeath County Council Noise Action Plan 2024-2028 and the World Health Organisation Guidelines.	
(iv) A Construction and Demolition Resource Waste Management Plan for the proposed development.	A RWMP was carried out by ORS, 2025 (Ref: 241139-ORS-XX-XX-RP-EN-13d-003) and accompanies this planning application
(v) An Operational Waste Management Plan for the proposed development .	An OWMP has been prepared by ORS - 2025 - for the operational phase of the proposed development - OWMP.pdf (ref: 241139-ORS-XX-XX-RP-EN-13d-004) and accompanies this planning application. It also includes details and drawings of a 3-bin waste/compost/recycling facility for the Creche site.
(vi) A Site-Specific Flood Risk Assessment.	ORS 2025 has produced a Site-Specific Flood Risk Assessment - SSFRA.pdf (Ref: 241139-ORS-XX-XX-RP-EN-13d-009) for the development and is presented within the documentation which accompanies this planning application. It concludes that the Site is classified as Flood Zone C, and, therefore no justification test is required and it is not expected that its construction will increase the area flood risk. The proposed development is not exposed to any flood risk.
(vii) An updated Ecological report which considers all boundaries, trees and hedgerows located on site.	An updated Ecological Impact Assessment (EcIA.pdf - Ref: 241139-ORS-XX-XX-RP-EN-13d-007) is submitted with the planning application documentation and takes into account all boundaries, trees and hedgerows on the site.

1 Introduction

1.1 Background

This Ecological Impact Assessment (EcIA) report has been prepared for the proposed residential development at Boreen Bradach, Kinnegad, Co. Westmeath. The assessment adheres to the highest industry standards and methodologies stated in the Environmental Protection Agency (EPA) and Chartered Institute of Ecology and Environmental Management (CIEEM) guidelines to ensure comprehensive evaluation and mitigation of ecological impacts.

This EcIA follows a standard approach based upon the description of the existing baseline conditions within the site of the Proposed Development. An evaluation of the likely habitats and species currently present within the Proposed Development site is also given, along with the identification of the potential ecological impacts arising from the construction and operation of the Proposed Development. Where a significant negative impact has been identified, then suitable remedial mitigation measures are provided to prevent, reduce, or offset the impact.

The main objectives of this ecological assessment are to:

- Undertake a desktop review of existing baseline ecological data for the Proposed Development site and the wider area, including European and National sites of biodiversity importance within the Zone of Influence of the proposed development site.
- Undertake a field survey of the receiving environment.
- Evaluate the features of biodiversity value within the Proposed Development site and within the Zone of Influence of the Proposed Development site.
- Evaluate the potential negative impacts of the Proposed Development site on features of biodiversity value within the Proposed Development site and its Zone of Influence.
- Evaluate potential significant effects upon European or National sites.
- Consider measures to mitigate the potential negative impact(s) of the project on the ecology of the receiving environment.

1.2 Proposed Development

The proposed development will comprise a Large-Scale Residential Development (LRD) on a site at Boreen Bradach, Kinnegad, Co. Westmeath. The proposed development will comprise 129 no. houses (1 bed, 2 beds, 3 beds and 4 beds) and the provision of a crèche facility. Provision of car, cycle and motorbike parking. Provision of a new vehicular access and additional pedestrian/cyclist access from L-5014 (Boreen Bradach Road) and associated upgrades to the local road. All associated site development works and services provision, bin stores, residential private open space, public open space, substation, boundary treatments, landscaping and all associated site development works. A site layout plan is provided in **Figure 1.1** below.

Figure 1.1: Extract from site layout plan (Source: MCORM Architects)

1.3 Statement of Competency

Lead Author

This Ecological Impact Assessment (EcIA) was carried out by Larry Manning BSc (Hons). Larry has an honors degree in Applied Freshwater and Marine Biology from GMIT (ATU) Galway, where he gained an education in ecology and environmental management. Larry has worked on a wide variety of ecological assessments and habitat/species management surveys, including working as a consultant MMO for the Irish Whale and Dolphin Group Consulting, taking a lead role in marine engineering projects and overseeing regulatory compliance. He has extensive experience in the field of fisheries monitoring and research both in North Atlantic waters and in Antarctic waters for CAMMLR representing the South Georgia and South Sandwich Islands government. The author has worked as a fisheries scientist for the Marine Institute since 2017 on research projects, species management plans, and fisheries species-specific population analysis.

While working in the Fisheries Ecosystem Advisory Service at the Marine Institute, Larry engaged with the fishing fleet directly while data gathering at sea on trawlers and played a vital role in gathering sensitive data pertaining to national catch quotas and landings obligations, relevant to current regulations. Larry also has experience in implementing company strategy for offshore aerial surveys and hydrographic and geophysical surveys in line with current legislation for Offshore windfarm development. During seismic surveys the author was employed as an offshore fisheries liaison officer which required in depth knowledge of regulatory frameworks to ensure the fishing fleet, the survey company, and the ships officers of the watch were all compliant and safe during highly complex and dynamic operations. The author also works as an ornithologist and provides habitat and species assessments for terrestrial infrastructure developments. Larry has carried out a number of Appropriate Assessment Screenings, Ecological Impact Assessments, Environmental Impact Assessment Screenings and consultancies for developments in the marine and terrestrial spaces.

Co-Author

This Ecological Impact Assessment (EcIA) was partly carried out by Olivia Hamilton, BSc (Hons), MSc. Olivia has an honours degree in Environmental Science from the University of Galway and a master's degree in Conservation Behaviour from ATU Galway. During her education, Olivia gained knowledge and skills in environmental management, environmental impact assessment, and a wide range of ecological surveying techniques. She also has previous experience working in ecological roles and has worked as the lead marine biologist on a research vessel where she conducted and led marine mammal surveys. Olivia also has extensive surveying experience with bats, mammals, birds, habitats, and invasive species, having worked as an ecological surveyor for the ACRES scheme and as an assistant bat surveyor for the Galway City Ring Road EIAR planning application. She has a solid understanding of ecological surveying techniques, data collection, and scientific report writing and has experience in Appropriate Assessment, Environmental Impact Assessment, and Ecological Impact Assessment.

Co-Author

This EcIA was partly carried out by Seán Burke, MSc. Seán has a bachelor's degree in science – Single Honours Biology from Maynooth University and a master's degree in Ecology & Biodiversity from Stockholm University. His academic experience has provided fundamental

training in scientific methods and a strong knowledge of the theoretical background of biological and ecological processes. Seán has previous experience working in the agri-food sector developing biological control agents for the suppression of fungal pathogens which provided hands on experience in learning laboratory techniques and studying ecological interactions. His more recent work experience with ORS has provided the opportunity to take part in ecological field work consisting of macroinvertebrate sampling, bird surveying, habitat assessment and classification, preliminary bat surveying, mammal surveying, and ecological impact assessment. This experience has been applied to projects of varying sizes across commercial, industrial, and residential projects.

2 Legislation and Policy

2.1 Background

The EU Biodiversity Strategy and national biodiversity strategies reflect the need to conserve biodiversity in the face of pressure from development, other land-use change and climate change. These strategies reflect the aspirations of the Convention on Biological Diversity. International work on the benefits of nature to society (natural capital and ecosystem services), and The Economic and Social Aspects of Biodiversity in Ireland, have increased understanding of the importance of conserving biodiversity for human wellbeing and the economy. This is reflected in national policy objectives for biodiversity and nature conservation, such as the National Biodiversity Action Plan 2018-2027 in Ireland. EcIA supports implementation of national biodiversity strategies and national planning policies for safeguarding biodiversity and supporting the delivery of sustainable development. EcIA is a process of identifying, quantifying, and evaluating the potential effects of development-related or other proposed actions on habitats, species and ecosystems. EcIA can be used for the appraisal of projects of any scale: it is a systematic and repeatable process applicable to a wide range of projects.

Two uses of EcIA are:

- Providing the ecological component of Environmental Impact Assessment (EIA) required under EIA Regulations.
- Demonstrating how a project accords with relevant planning policy and legislation where an EIA is not required.

2.2 National Policy

The Habitats Directive ensures the conservation of a wide range of rare, threatened or endemic animal and plant species. Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora was adopted on the 21st of May 1992 and aims to promote the maintenance of biodiversity, taking account of economic, social, cultural and regional requirements. 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.

The Natura 2000 network of protected areas are known as Special Areas of Conservation (SAC) and Special Protection Areas (SPA). In general terms, they are considered to be of exceptional importance in terms of rare, endangered or vulnerable habitats and species within the European Community. The requirements of the Habitats Directive have been transposed into Irish law through the European Communities (Birds and Natural Habitats) Regulations 2011 [S.I. No. 477/2011]. This legislation affords protection to both Special Protection Areas and Special Areas of Conservation.

Special Areas of Conservation (SAC) are designated under the Conservation of Natural Habitats and of Wild Fauna and Flora Directive 92/43/EEC (Habitats Directive) which is transposed into Irish law by the EC (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011). Special Protection Areas (SPA) are classified under the Birds Directive (2009/147/EC on the Conservation of Wild Birds). Article 6(3) of the Habitats Directive requires an ‘appropriate assessment’ to be undertaken for any plan or project that is likely to have a significant effect on the conservation objectives of a Natura 2000 site. An ‘appropriate assessment’ is an evaluation of the potential impacts of a plan or project on the integrity of a Natura 2000 site, and the

incorporation, where necessary, of measures to mitigate or avoid negative effects.

The European Communities (Birds & Natural Habitats) Regulations 2011 – 2021 restrict the importation, distribution, sale or release of approximately 70 species of plants and animals considered to be the most harmful Invasive Alien Species. Japanese knotweed is one of the plant species listed in Part 2 of the Third Schedule of the 2011 regulations and it is also listed as a vector material in Part 3 of the Third Schedule.

Regulation 49 (2) states the following:

"*Save in accordance with a license granted under paragraph (7), any person who plants, disperses, allows or causes to disperse, spreads or otherwise causes to grow in any place specified in relation to such plant in the third column of Part 1 of the Third Schedule, any plant which is included in Part 1 of the Third Schedule, shall be guilty of an offence*."

Regulation 50 (1) states the following:

"Save in accordance with a license granted under paragraph (7), and subject to Regulation 74, a person shall be guilty of an offence if he or she has in his or her possession for sale, or for the purposes of breeding, reproduction or propagation, or offers or exposes for sale, transportation, distribution, introduction or release—

a) an animal or plant listed in Part 1 or Part 2 of the Third Schedule,
b) anything from which an animal or plant referred to in subparagraph (a) can be reproduced or propagated,
c) a vector material listed in Part 3 of the Third Schedule,

in any place in the State specified in the third column of the Third Schedule in relation to such an animal, plant or vector material."

Regulation 50 (2) states the following:

"Save in accordance with a license granted under paragraph (7), a person shall be guilty of an offence if he or she imports or transports—

a) an animal or plant listed in Part 1 or Part 2 of the Third Schedule,
b) anything from which an animal or plant referred to in Part 2 of the Third Schedule can be reproduced or propagated, or
c) a vector material listed in Part 3 of the Third Schedule,

into or in or to any place in the State specified in relation to such an animal or plant or vector material in relation to that animal or plant or vector material in the third column of the Third Schedule".

It is also an offence under the Wildlife Acts 1976 – 2023 to plant or otherwise cause to grow in a wild state in any place in the State any species of (exotic) flora, or the flowers, roots, seeds or spores of (exotic) flora.

Flora and fauna in Ireland are also protected at a national level by the Wildlife Acts 1976 to 2023 and the Floral (Protection) Order 2015. Natural Heritage Areas (NHA) are areas that are considered to be important for the habitats present or for the species of plants and animals supported by those habitats. Under the Wildlife Amendment Act 2000, NHAs are legally

protected from damage from the date they were formally proposed for designation. Section 19(1) of the Act states that 'Where there is a subsisting natural heritage area order in respect of any land, no person shall carry out, or cause or permit to be carried out, on that land any works specified in the order or any works which are liable to destroy or to significantly alter, damage or interfere with the features by reason of which the designation order was made'.

In addition, a list of proposed NHAs (pNHAs) was published in 1995 but to date these have not had their status confirmed. Prior to statutory designation, pNHAs are subject to limited protection under various agri-environment and forestry schemes and under local authority planning strategies such as County Development Plans.

2.3 Regional Policy

Planning at the regional level is now guided by the Regional Spatial and Economic Strategy (RSES). The RSES is a strategic plan which identifies regional assets, opportunities and pressures and provides appropriate policy responses in the form of Regional Policy Objectives. The RSES recognises the requirement to conserve and enhance the nation's protected habitats and species along with its landscape and heritage. The Strategy also recognises the need to identify, protect and enhance green infrastructure and ensure effective management of natural resources. Establishing a healthy natural environment is addressed in the Strategy with regards to supporting the transition to a low carbon economy and building climate resilience, as well as ensuring provision of clean air and water.

2.4 Local Policy

Chapter 12 – Natural Heritage and Green Infrastructure of The Westmeath County Development Plan 2021-2027 (WCDP) provides local policy objectives relating to the conservation and management of biodiversity and natural heritage. **Table 2.1** below provides a summary of relevant policies and objectives relating to ecological protection and management as per the WCDP.

Table 2.1: WCDP Objectives

Policy/Objective No.	Description
CPO 12.1	Contribute as appropriate towards the protection of designated sites in compliance with relevant EU Directives and applicable national legislation.
CPO 12.2	Support the implementation of any relevant recommendations contained in the National Biodiversity Plan, the All Ireland Pollinator Plan and the National Peatlands Strategy.
CPO 12.3	Support the implementation of the Westmeath Biodiversity Action Plan 2014-2020 and any revisions made thereto.
CPO 12.4	Protect and conserve Special Areas of Conservation, candidate Special Areas of Conservation, Special Protection Areas and candidate Special Protection Areas, designated under the EU Birds and Habitats Directives respectively.
CPO 12.5	Ensure that no plans, programmes, etc. or projects giving rise to significant cumulative, direct, indirect or secondary impacts on European Sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects shall be permitted on the

	basis of this Plan (either individually or in combination with other plans, programmes, etc. or projects). Footnote: Except as provided for in Article 6(4) of the Habitats Directive, viz. There must be a) no alternative solution available, b) imperative reasons of overriding public interest for the project to proceed; and c) Adequate compensatory measures in place.
CPO 12.6	Ensure that any plan or project that could have a significant adverse impact (either by themselves or in combination with other plans and projects) upon the conservation objectives of any Natura 2000 Site or would result in the deterioration of any habitat or any species reliant on that habitat will not be permitted. Footnote: Except as provided for in Article 6(4) of the Habitats Directive, viz. There must be a) no alternative solution available, b) imperative reasons of overriding public interest for the project to proceed; and c) Adequate compensatory measures in place.
CPO 12.7	Assess any plan or project in accordance with Article 6 of the Habitats Directive to determine whether the plan or project is likely to have a significant effect on the site either individually or cumulatively upon the integrity, conservation objectives and qualifying interest of any Natura 2000 Site.
CPO 12.8	Require an ecological appraisal for development not directly connected with or necessary to the management of Natura Sites, or a proposed Natura Site and which are likely to have significant effects on that site either individually or cumulatively.
CPO 12.9	Identify and provide appropriate buffer zones between Designated Sites and local biodiversity features and areas zoned for development.
CPO 12.10	Prepare Strategic Habitat Management Plans for Natura 2000 Sites in Council ownership in consultation with the National Parks and Wildlife Service and relevant stakeholders.
CPO 12.11	Promote the maintenance and as appropriate, achievement of favourable conservation status of habitats and species and to improve the ecological coherence of the Natura 2000 network, by maintaining and where appropriate, developing features in the landscape which are of major importance for wild fauna and flora.
CPO 12.12	Require that new development proposals affecting designated sites have regard to the sensitivities identified in the SEA Environmental Report prepared in respect of this plan.
CPO 12.13	Protect, manage and enhance the natural heritage, biodiversity, landscape and environment of County Westmeath, in recognition of its importance as both a non-renewable resource and a natural asset.
CPO 12.14	Require all new developments in the early pre-planning stage of the planning process to identify, protect and enhance ecological features by making provision for local biodiversity (e.g. through provision of swift boxes, bat roost sites, green roofs, etc.) and provide links to the wider Green Infrastructure network as an essential part of the design process.
CPO 12.15	Support the protection of all native woodlands listed in the National Survey of Native Woodlands 2003 to 2008.
CPO 12.16	Apply the precautionary principle in relation to development proposals in areas identified as being of national nature conservation interest, by requiring a Scientific/ Ecological Risk Assessment to ensure that the development will not impact on the integrity and habitat value of the site.

CPO 12.17	Support and cooperate with Statutory Authorities and other relevant bodies in support of measures taken to manage designated nature conservation sites, in order to achieve their conservation objectives. Specific regard shall be had to Conservation Management Plans and their conservation objectives/ management practices, where they exist.
CPO 12.18	Consult with the National Parks and Wildlife Service (NPWS) in regard to any developments (those requiring permission and those not requiring planning permission) which the Council proposes to carry out within pNHAs, NHAs, SACs, SPAs, and other important ecological sites.
CPO 12.19	Maintain the conservation value of Council owned land within NHAs and pNHAs and promote the conservation value of Council owned lands adjoining NHAs.
CPO 12.20	Protect and conserve NHAs and pNHAs including NHAs that become designated and notified to the Local Authority during the lifetime of the Plan and seek to develop linkages between designated sites, where feasible and as resources permit.
CPO 12.21	Lighting fixtures should provide only the amount of light necessary for personal safety and should be designed so as to avoid creating glare or emitting light above a horizontal plane. Lighting fixtures should have minimum environmental impact and Dark Sky lighting should be considered in the interest of reducing the impact of lighting on wildlife as part of any future planning application, thereby contributing towards the protection of amenity and the protection of light sensitive species such as bats. EUROBATS guidelines should be applied in informing proposed development(s), where relevant.
CPO 12.22	Require, in special circumstances where protected species/habitats are identified in association with a development proposal, that an 'Ecological Impact Assessment (EcIA)' prepared by a suitably qualified and indemnified person be undertaken for a proposed development which may potentially have a significant impact on rare and threatened species.
CPO 12.23	Seek to create and enhance ecological linkages and buffer zones from development.
CPO 12.24	Protect and where possible enhance biodiversity and ecological connectivity, including woodlands, trees, hedgerows, semi-natural grasslands, rivers, streams, natural springs, wetlands, geological and geo-morphological systems, other landscape features, natural lighting conditions, and associated wildlife where these form part of the ecological network and/or may be considered as ecological corridors or stepping stones in the context of Article 10 of the Habitats Directive. Appropriate mitigation and/or compensation to conserve biodiversity, landscape character and green infrastructure networks will be required where habitats are at risk or lost as part of a development.
CPO 12.25	Recognise that nature conservation is not just confined to designated sites and acknowledge the need to protect non-designated habitats and landscapes and to conserve the biological diversity.
CPO 12.26	Investigate a protocol in relation to the application of an ecosystem services scoring approach to inform the assessment of planning applications.

CPO 12.27	Prevent the spread of invasive species within the plan area, including requiring landowners and developers to adhere to best practice guidance in relation to the control of invasive species.
CPO 12.28	Ensure that proposals for development do not lead to the spread or introduction of invasive species. If developments are proposed on sites where invasive species are or were previously present, the applicant will be required to submit a control and management program for the particular invasive species as part of the planning process and to comply with the provisions of the European Communities Birds and Habitats Regulations 2011 (S.I. 477/2011).
CPO 12.29	Support, as appropriate, the National Parks and Wildlife Service's efforts to seek to control and manage the spread of non-native invasive species on land and water. Where the presence of non-native invasive species is identified at the site of any proposed development or where the proposed activity has an elevated risk of resulting in the presence of these species, details of how these species will be managed and controlled will be required.
CPO 12.37	Preserve and enhance the amenity and biodiversity value of the County, by promoting the protection of trees, groups of trees and ancient woodlands, of significant amenity value, especially native and broadleaf species.
CPO 12.38	Protect trees subject to Tree Preservation Orders and seek to designate additional Tree Preservation Orders, where appropriate.
CPO 12.39	Discourage the felling of mature trees and hedgerow, particularly species rich roadside and townland boundary hedgerows to facilitate development and seek Tree Management Plans to ensure that trees are adequately protected during development and incorporated into the design of new developments.
CPO 12.40	Protect and preserve existing hedgerows in new developments, particularly species rich roadside and townland boundary hedgerows, and where their removal is necessary during the course of road works or other works seek their replacement with new hedgerows of native species indigenous to the area.
CPO 12.41	Support increases in tree cover (of suitable species) and native species hedgerows in all towns and villages across Westmeath due to air quality, shade, aesthetic and health benefits they provide.
CPO 12.42	Encourage the development of proposals for new woodlands and community woodlands in urban/urban fringe areas utilising funding available through schemes such as the NeighbourWood and Native Woodland Schemes.
CPO 12.43	Encourage the protection of the trees which are considered an important component of demesne landscapes.
CPO 12.44	Support the development of a plan for the protection and maintenance of public trees and public native hedgerows in urban areas.
CPO 12.45	Require, where necessary, a Tree Management Plan (with suitable native species) to be submitted as part of new development proposals. Ensure that, where possible, established trees are incorporated into the overall design of new developments and are fully protected during development works in accordance with BS standards.
CPO 12.46	Support the use of suitable marginal lands in Council ownership for community projects such as neighbourwood schemes and biodiversity projects.

CPO 12.47	Support the preparation of a Tree Planting Policy for the County which promotes biodiversity and indigenous tree planting.
CPO 12.48	Resist development that would destroy, fragment or degrade any wetland in the County.
CPO 12.49	Support the implementation of recommendations made in the County Westmeath Wetlands Survey 2019 and subsequent versions thereof.
CPO 12.50	Require an Ecological Impact Assessment where is it proposed to fill or reclaim a wetland area.
CPO 12.51	Protect floodplains, wetlands and watercourses, for their biodiversity and flood protection value.
CPO 12.52	Ensure that all proposed land zonings take cognisance of appropriate riparian setback distances that support the attainment of high ecological status for water bodies, the conservation of biodiversity and good ecosystem health, and buffer zones from flood plains.
CPO 12.53	Implement the relevant parts of the Planning and Development (Amendment) (No. 2) Regulations 2011 and the European Communities (Amendment to Planning and Development) Regulations 2011, which require planning permission to be applied for where the area impacted by works relating to the drainage or reclamation of a wetland exceeds 0.1 hectares or where such works may have a significant effect on the environment. Such applications for permission would need to be supported by an Appropriate Assessment where necessary.
CPO 12.54	Seek the continued improvement of water quality, bathing facilities and other recreational opportunities in waterways and to protect the ecology and wildlife thereof.
CPO 12.55	Provide for public access to waterways where feasible and appropriate, in partnership with the National Parks and Wildlife Service (NPWS), Waterways Ireland and other relevant stakeholders, whilst maintaining them free from inappropriate development, subject to Ecological Impact Assessment and Appropriate Assessment, as appropriate.
CPO 12.56	Protect the biodiversity of rivers, streams and other water courses and maintain them in an open state and discourage culverting and realignment.
CPO 12.57	Consult with Waterways Ireland and the National Parks and Wildlife Service, Government, Inland Waterways Association of Ireland and local communities on development proposals that may affect inland waterways, rivers, lakes, canals or water courses.
CPO 12.58	Ensure that the County's watercourses are retained for their biodiversity and flood protection values and to conserve and enhance where possible, the wildlife habitats of the County's rivers and riparian zones, lakes, canals and streams which occur outside of designated areas to provide a network of habitats and biodiversity corridors throughout the county.
CPO 12.59	Consult, as appropriate, with Inland Fisheries Ireland in relation to any development that could potentially impact on the aquatic ecosystems and associated riparian habitats.
CPO 12.60	Ensure that run off from a proposed development does not result in a deterioration of downstream watercourses or habitats.

CPO 12.61	Seek to manage any increase in visitor numbers in order to avoid significant effects including loss of habitat and disturbance, including ensuring that any new projects, such as greenways, are a suitable distance from ecological sensitivities, such as riparian zones.
CPO 12.62	Have regard to the Inland Fisheries guidelines "*Planning for watercourses in the Urban Environment*" in relation to nature-based surface water management.
CPO 12.63	Protect waterbodies and watercourses from inappropriate development, including rivers, streams, associated undeveloped riparian strips, wetlands and natural floodplains. This will include the preservation habitat features/structure, such as treeline density, and protection buffers in riverine and wetland areas, as appropriate.
CPO 12.64	Protect the county's designated peatland areas and landscapes, including any ancient walkways through bogs and to conserve their ecological, archaeological, cultural, and educational heritage.
CPO 12.65	Require the preparation of Hydrological Reports for significant developments within and in close proximity to peatlands, and to take account of same in the assessment of impacts on the integrity of peatland ecosystems.
CPO 12.74	Support the implementation of the 'National Raised Bog Special Areas of Conservation Management Plan 2017-2022' within the County.

Furthermore, Westmeath County Council published the Fingal Biodiversity Action Plan 2014-2020 which outlines strategic objectives for the protection and management of biodiversity in the county. Section 6 of the plan provides a list of actions to be implemented with the aim of promoting biodiversity within the county. The actions are categorised into three main categories namely:

- ***Protection and development of the ecological network.***
  - *Promoting habitats connectivity through:*
  - *Raising awareness,*
  - *Incorporating planning and legislation,*
  - *Education,*
  - *Protection,*
  - *Establishing new connections.*
  - *Preparing management plans for conservation worthy habitats.*
- ***Monitoring and research.***
  - *Identifying Local Biodiversity Sites.*
  - *Assessing gaps in knowledge on Westmeath biodiversity.*
  - *Seeking to fill these gaps by both professional and volunteer bodies (applies also to Raising Awareness).*
  - *Facilitating free public access to information on Westmeath biodiversity (applies also to Raising Awareness).*
- ***Raising awareness.***
  - *Promoting and/or delivering biodiversity education among Members of the Public and Local authorities employees.*
  - *Facilitating and promoting free public access to nature enjoyment.*
  - *Raising pride of local biodiversity.*
  - *Bringing together communities in protecting, enhancing and enjoying nature (applies also to Protection and Development of the Ecological Network).*

3 Methodology

The following section outlines the methods used to evaluate the importance of ecological features in the area of the proposed development and to carry out a thorough ecological impact assessment of the site.

3.1 Study Area

The proposed site consists of greenfield land *ca*. 4.279ha (gross) in size located within Kinnegad town. The site is bounded to the north/northeast by Bun Daire housing estate. The site is bounded to the east by the Riverside Lawns estate and to the west by playing fields associated with St. Etchen's National School located immediately southwest of the site. The site is bounded to the south by properties associated with St. Etchen's Court estate and ruins of a Roman Catholic church on the lands of the Church of the Assumption located along the southeast boundary of the proposed site.

The site location and environs is presented in **Figure 3.1**.

An approximate outline of the subject site and its environs is provided in **Figure 3.1** below.

Figure 3.1: Site location and environs (Map Data © Google, adapted by ORS, 2025)

3.2 Zone of Influence

The proposed development was assessed to identify its potential ecological impacts and from this, the Zone of Influence (ZoI) of the proposed development was defined. Based on the

potential impacts and their ZoI, the Natura 2000 sites potentially at risk from direct, indirect, or in-combination impacts were identified. The assessment considered all potential impact sources and pathways connecting the proposed development to Natura 2000 sites, in view of the conservation objectives supporting the favourable conservation condition of the site's Qualifying Interests (QIs) or Special Conservation Interests (SCIs).

The conservation objectives relating to each Natura 2000 site and its QIs/SCIs are cited generally for SACs as "*to maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or Annex II species for which the SAC has been selected*", and for SPAs "*to maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA*".

As defined in the Habitat's Directive, the favourable conservation status of a habitat is achieved when:

- Its natural range and area it covers within that range is stable or increasing.
- The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future.

The favourable conservation status of a species is achieved when:

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

Where site-specific conservation objectives (SSCOs) have been prepared for a European site, these include a series of specific attributes and targets against which effects on conservation condition, or integrity, can be measured. Where potential significant effects are identified, then these SSCOs should be considered in detail.

Taking the nature and location of the works, the existing land use of the site, and the likely effects of the proposed development into account, a precautionary approach to selecting the zone of influence has been adopted. Therefore, a zone of influence of 5 km has been selected for the purpose of assessment of the potential effects of the proposed development on biodiversity and ecological functions and features.

3.3 Important Ecological Features

Ecological features can be important for a variety of reasons and the rationale used to identify them is explained in the text. Importance may relate, for example, to the quality or extent of the site or habitats therein; habitat and / or species rarity; the extent to which such habitats and / or species are threatened throughout their range, or to their rate of decline.

3.4 Determining Importance

The importance of an ecological feature should be considered within a defined geographical context. The following frame of reference has been used in this case, relying on known/published accounts of distribution and rarity where available, and professional experience:

- International (European).
- National (Ireland).
- Regional (Leinster).
- County (Westmeath).
- Townland (Kinnegad).
- Local (Intermediate between the Site and Townland).
- Site ("the Site")

The above frame of reference is applied to the ecological features identified during the desk study and surveys to inform this report.

In assigning a level of value to a species, it is necessary to consider its distribution and status, including a consideration of trends based on available historical records. Examples of relevant lists and criteria include species of European conservation importance (as listed on Annexes II, IV and V of the Habitats Directive or Annex 1 of the Birds Directive), species protected under the Wildlife Acts 1976 - 2021 and red or amber listed on Birds of Conservation Concern in Ireland (BoCCI).

The approach to impact assessment, as set out in CIEEM guidelines, only requires that ecological features (habitats, species, ecosystems, and their functions/processes) that are considered to be important and potentially affected by the proposed development are carried forward to detailed assessment. It is not necessary to carry out detailed assessment of receptors that are sufficiently widespread, unthreatened, and resilient to impacts from the proposed development and will remain viable and sustainable. Therefore, for the purposes of this report, only ecological features of local importance or greater and/or subject to legal protection have been subject to detailed assessment.

The Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009) were adopted as part of this methodology for the purpose of evaluating the importance of ecological features within the survey area. The site evaluation criteria from this assessment methodology is produced in accordance with NRA guidelines (2009) and CIEEM (2018), impact assessment is only undertaken of Key Ecological Receptors (KERs). These are features within the zone of influence of the proposed scheme which are "both of sufficient value to be material in decision making and likely to be affected significantly". According to NRA guidelines (NRA, 2009), KERs are of local importance (higher value) or higher as per NRA value criteria. Features of local importance (lower value) are not considered in the guidance to be KERs and are therefore excluded from impact assessment.

3.5 Impact Assessment

Ecological features can be important for a variety of reasons and the rationale used to identify them is explained in the text. Importance may relate, for example, to the quality or extent of the site or habitats therein; habitat and / or species rarity; the extent to which such habitats and / or species are threatened throughout their range, or to their rate of decline.

The impact assessment process involves the following steps:

- Identifying and characterising potential impacts.
- Incorporating measures to avoid and mitigate (reduce) these impacts.
- Assessing the significance of any residual effects after mitigation.
- Identifying appropriate compensation measures to offset significant residual effects (if

required).
- Identifying opportunities for ecological enhancement.

When describing impacts, reference has been made to the following characteristics, as appropriate:

- Positive or negative
- Extent
- Magnitude
- Duration
- Timing
- Frequency
- Reversibility

The impact assessment process considers both direct and indirect impacts: direct ecological impacts are changes that are directly attributable to a defined action, e.g. the physical loss of habitat occupied by a species during the construction process. Indirect ecological impacts are attributable to an action, but which affect ecological resources through effects on an intermediary ecosystem, process or feature, e.g. the creation of roads which cause hydrological changes, which, in the absence of mitigation, could lead to the drying out of wet grassland.

Consideration of conservation status is important for evaluating the effects of impacts on individual habitats and species and assessing their significance:

- Habitats – conservation status is determined by the sum of the influences acting on the habitat that may affect its extent, structure and functions as well as its distribution and its typical species within a given geographical area.
- Species – conservation status is determined by the sum of influences acting on the species concerned that may affect its abundance and distribution within a given geographical area.

3.6 Significant Effects

The concept of ecological significance is addressed in paragraphs 5.24 through to 5.28 of the CIEEM guidelines. Significance is a concept related to the weight that should be attached to effects when decisions are made. For EcIA, a ‘significant effect’ is an effect that either supports or undermines biodiversity conservation objectives for ‘important ecological features’ or for biodiversity in general. Conservation objective may be specific (e.g., for a designated site) or broad (e.g. national/local nature conservation policy) or more wide-ranging (enhancement of biodiversity). Effects can be considered significant at a wide range of scales from international to local and the scale of significance of an effect may or may not be the same as the geographic context in which the feature is considered important.

The nature of the identified impacts on each assessed feature is characterised. This is considered, along with available research, professional judgement about the sensitivity of the feature affected, and professional judgement about how the impact is likely to affect the site, habitat, or population’s structure and continued function. Where it is concluded that an effect would be likely to reduce the importance of an assessed feature, it is described as significant.

3.7 Cumulative Effects

Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location. Cumulative effects can occur

where a proposed development results in individually insignificant impacts that, when considered in combination with impacts of other proposed or permitted plans and projects, can result in significant effects.

Other plans and projects that should be considered when establishing cumulative effects are:

- Proposals for which consent has been applied but which are awaiting determination.
- Projects which have been granted consent, but which have not yet been started or which have been started but are not yet completed (i.e. under construction).
- Proposals which have been refused permission, but which are subject to appeal, and the appeal is undetermined.
- Constructed developments whose full environmental effects are not yet felt and therefore cannot be accounted for in the baseline.
- Developments specifically referenced in a National Policy Statement, a National Plan or a Local Plan.

3.8 Avoidance, Mitigation, Compensation and Enhancement

When seeking mitigation or compensation solutions, efforts should be consistent with the geographical scale at which an effect is significant. For example, mitigation and compensation for effects on a species population significant at a county scale should ensure no net loss of the population at a county scale. The relative geographical scale at which the effect is significant will have a bearing on the required outcome which must be achieved.

Where potentially significant effects have been identified, the mitigation hierarchy has been applied, as recommended in the CIEEM Guidelines. The mitigation hierarchy sets out a sequential approach beginning with the avoidance of impacts where possible, the application of mitigation measures to minimise unavoidable impacts and then compensation for any remaining impacts. Once avoidance and mitigation measures have been applied residual effects are then identified along with any necessary compensation measures, and incorporation of opportunities for enhancement.

It is important for the EcIA to clearly differentiate between avoidance, mitigation, compensation and enhancement and these terms are defined here as follows:

- Avoidance is used where an impact has been avoided, e.g. through changes in scheme design.
- Mitigation is used to refer to measures to reduce or remedy a specific negative impact in situ.
- Compensation describes measures taken to offset residual effects, i.e. where mitigation in situ is not possible.
- Enhancement is the provision of new benefits for biodiversity that are additional to those provided as part of mitigation or compensation measures, although they can be complementary.

3.9 Site Environmental Considerations

3.9.1 Hydrology

Maps generated by the Environmental Protection Agency (EPA) and featuring data from the EU Water Framework Directive (WFD) were consulted to assess the extent and quality of waterbodies present in the vicinity of the proposed development. The principal hydrological

feature in the vicinity of the site consists of the Kinnegad River (KINNEGAD_020) which flows from southeast to northwest and located *ca*. 330m south of the proposed site. Additional waterbodies in the vicinity of the site are listed in **Table 3.1** below.

Table 3.1: Waterbodies in the Vicinity of the Proposed Site

Waterbody	Code	Distance from Site	Direction from Site
Kinnegad River	IE_EA_07K010100	330m	South
Monganstown River	IE_EA_07K010100	1.9km	West
Correllstown River	IE_EA_07K010200	990m	Northeast
Aghnagillah River	IE_EA_07B040600	1.1km	East

The WFD runs in 6-year cycles with the most recent data being generated between 2016-2021. The Directive takes rivers, lakes, estuaries, groundwater and coastal waters into consideration and each waterbody can be awarded one of five statuses: High, Good, Moderate, Poor, and Bad. Additionally, waterbodies can be assigned a risk level ("At Risk", "Not at Risk", "Review") which represents the risk of the waterbody of failing its WFD objectives by 2027.

According to the EPA maps, the risk level of the Kinnegad River is "under review" and possesses a WFD Status of "Poor".

The site is located across two WFD river sub basins – KINNEGAD_030 and KINNEGAD_020; Catchment 07 – Boyne, Boyne_SC_030 Sub Catchment.

3.9.2 Soils and Geology

Teagasc soil mapping indicates that surface soils at the site are comprised of till derived chiefly from limestone. The Geological Survey of Ireland (GSI) bedrock database indicates that soils of the proposed site are underlain at depth by the Lucan Formation which is comprised of dark limestone and shale.

3.9.3 Groundwater Vulnerability

According to the Geological Survey of Ireland map viewer, the site is underlain by a locally important aquifer, i.e., bedrock which is moderately productive only in local zones. The groundwater vulnerability is classed as "High".

4 Results

4.1 Natura 2000 Sites and Natural Heritage Areas

4 no. ecologically sensitive sites were identified within a 5km Zone of Influence of the proposed development. **Table 4.1** below comprises a list of Natura 2000 sites within 5km of the proposed site at The Old Schoolhouse, Clonsilla.

Table 4.1: Natura 2000 Sites and Natural Heritage Areas Within 5km of the Proposed Site

Site Name & Code	Distance & Direction from Site	Qualifying Interests
Mount Hevey Bog SAC/pNHA, 002342/001584	Located *ca.* 2.0km NE from site.	Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] Depressions on peat substrates of the Rhynchosporion [7150]
Royal Canal pNHA, 002103	Located *ca.* 3.2km NE from site.	N/A
River Boyne and River Blackwater SAC, 002299	Located *ca.* 4.6km NE from site.	Alkaline fens [7230] Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) [91E0] River Lamprey (*Lampetra fluviatilis*) [1099] Salmon (*Salmo salar*) [1106] Otter (*Lutra lutra*) [1355]
River Boyne and River Blackwater SPA, 004232	Located *ca.* 4.6km NE from site.	Kingfisher (*Alcedo atthis*) [A229]

4.2 Habitat Survey and Classification

Walkover of the site was completed in mid-August 2024 by ORS Ecologists. The habitats within the site of the proposed development were identified and classified according to 'A Guide to Habitats in Ireland' (Fossitt, 2000). The plant species present in each habitat type were recorded.

The habitat mapping exercise had regard to the 'Best Practice Guidance for Habitat Survey and Mapping' (Smith et al., 2011) published by the Heritage Council. Scientific and common names for plants follow Streeter et al, (2016). Habitats were appraised and evaluated according to their occurrence as protected habitats under Annex I of the EU Habitats Directive (92/43/EEC) and for their capacity to support rare, threatened, and endangered species.

Appendix A provides an overview of the habitats present on site and **Table 4.2** provides a summary of the qualities of the habitats recorded.

The proposed development will result in significant disturbance to the existing grassland and treeline habitats on site. The presence of mammal runs across the site indicate use of the site as a foraging/commuting area for small mammals. While burrows were observed, they have since been abandoned and it is no occupied mammal nests/burrows were observed on site. It

is not foreseen that impacts upon nesting mammals will occur as a result of the proposed works. Nesting and foraging birds were observed among the treelines occupying the centre of the site. Existing trees on site can provide a suitable refuge for multiple species. It is recommended that a suitably qualified arboriculturist be consulted to assess the extent and quality of trees existing on site prior to site clearance works.

Assuming the use of best practice construction measures, and adherence to the mitigation measures outlined in **Section 6** below, it is not predicted that significant effects on any sensitive or important ecological pathways will occur due to development on this site when considering the existing habitats on site. Taking the scale and nature of the proposed development into account, it is not foreseen that emissions or runoff from this development will present any significant effects on the nearest habitats or Natura 2000 sites.

A summary of the evaluation of habitats can be found in **Table 4.2**. It is recommended that an arboriculturist is consulted prior to the removal of trees on site. No mitigation measures outside of the usual CEMP and good housekeeping practices are recommended. The project proposal indicates that an integrative approach will be taken with regards to the community integration and protection of nature on site.

Table 4.2: Evaluation of habitats within the study area

Habitat Classification	Evaluation	Rationale	Regional Importance
BL3 – Buildings and artificial surfaces	Low	Built surfaces on site primarily consist of concrete block boundary walls that are low in ecological value. The site access road leading to Bun Daire also comprises built surfaces comprised of tarmac and concrete footpaths.	Site
GS2 – Dry meadows and grassy verges	High	The interior of the site is dominated by high quality unkept grassland. While no mammals were directly observed, mammal runs could be seen crossing the site and a number of old nests/burrows had been recolonised by wasps.	Local
WL1 – Hedgerows	Moderate-High	The hedgerows observed on site showed signs of mammal activity by means of mammal runs leading to/from site. The dense foliage observed to the east/northeast of the site provides suitable nesting and foraging habitat for birds and mammals and as such is considered of local importance.	Local
WL2 - Treelines	High	Treeline was observed along the north, east and south boundaries of the site. Treeline/hedgerow mixture also subdivides the site into three parts as can be observed in **Figure 4.1**. This habitat provides suitable nesting and foraging habitat for birds. Trees were assessed for bat roost suitability and overall suitability was considered negligible on account of thin branches and dense foliage preventing roost establishment. It is recommended that an arboriculturist be consulted prior to removal of trees on site.	Townland

4.3 Flora

The current list of plant species protected by Section 21 of the Wildlife Act, 1976 is set out in

the Flora (Protection) Order, 2022, which super cedes orders made in 1980, 1987, 1999 and 2015. No rare or protected flora species protected under the Flora Protection Order (2022), listed in Annex II and IV of the EU Habitats Directive (92/43/ECC), or listed in the Irish Red List were recorded during the survey.

It is illegal to cut, uproot or damage listed species in any way, or to offer them for sale. This prohibition extends to the taking or sale of seed. In addition, it is illegal to alter, damage or interfere in any way with their habitats. This protection applies wherever the plants are found and is not confined to sites designated for nature conservation.

A vegetative species list of plants and trees within and along the site boundary was recorded. This list can be found in **Table 4.3**.

Table 4.3: List of Plant Taxa Recorded on Site	
Common Name	**Scientific Name**
Wood speedwell	*Veronica montana*
Perennial ryegrass	*Lolium perenne*
Meadow Buttercup	*Ranunculus acris*
White clover	*Trifolium repens*
Oxford ragwort	*Senecio squalidus*
Blackthorn	*Prunus spinosa*
Common Sorrel	*Rumex acetosa*
Yorkshire-fog	*Holcus lanatus*
False Oat Grass	*Arrhenatherum elatius*
Common Hazel	*Corylus avellana*
Blackberry	*Rubus ferus*
English Ivy	*Hedera helix*
European privet	*Ligustrum vulgare*
Common Elder	*Sambucus nigra*
English Hawthorn	*Crataegus laevigata*
Sycamore maple	*Acer pseudoplatanus*
Lesser Stitchwort	*Stellaria graminea*
Common Bent	*Agrostis capillaris*
Herb-Robert	*Geranium robertianum*
Water Dock	*Rumex aquaticus*
Noble Yarrow	*Achillea nobilis*
Narrow-leaf plantain	*Plantago lanceolata*
Great Hairy Willow-herb	*Epibolium hirsutum*
Great Bindweed	*Calystegia silvatica*
Field thistle	*Cirsium arvense*
Timothy	*Phleum pratense*
Silverweed	*Argentina anserina*
Smooth Meadow-grass	*Poa pratensis*
Hogweed	*Heracleum sphondylium*
Broad-leaved Dock	*Rumex obtusifolius*
Ash	*Fraxinus excelsior*
Stickywilly	*Galium aparine*
Stinging nettle	*Urtica dioica*

No mitigation measures are required regarding the flora on the site of the proposed development. The proposed development will only have an effect on the species outlined in **Table 4.3** and will be confined within the site boundaries. Construction and operational phases will not likely impact flora communities and ecological functions beyond the site assuming adherence to best practice construction and mitigation measures outlined in **Section 6**.

4.3.1 Invasive Species Survey

A dedicated Invasive Species Survey was carried out for this project and a report published (Document No. 241139-ORS-XX-XX-RP-EN-005). This report is attached in **Appendix C** of this report.

In this case, there were no invasive species found on the site, therefore there is no likelihood the proposed development would cause the spread of invasive species beyond the site boundaries and into sensitive ecosystems associated with SAC's, SPA's or NHA's in the vicinity. Best practice measures for the prevention of spread of invasive species into the site as a result of development are nevertheless included in **Section 6** of this report.

4.4 Fauna

4.4.1 Bird Survey

Bird survey was conducted during the breeding season (13th, 14th and 15th August 2024) for many resident and migratory passerines. Site walkover techniques were employed, but to maximise the detection and presence of likely species which use the site, three days of continuous effort were carried out to cover each of the three fields, as a hedgerow boundary exists between each of the fields and prevented effective bird watch across the whole site in one go. The fields were surveyed starting at the Westernmost area, the middle field surveyed on the 14th August and lastly, the easternmost field was surveyed on the 15th August. A vantage point survey technique was employed throughout the 8 hours of site walkovers per day. Use of binoculars and bird call playback for detection were employed.

Species identification and abundance presented in **Table 4.12** below along with the conservation status within Ireland. Surveyors should be mindful of the zone of influence of the development scheme (i.e. the distance beyond the redline boundary that a scheme may still have an impact on breeding birds, either during construction or operation). Surrounding habitat (outside of the redline boundary) should also be surveyed to a reasonable distance – particularly land immediately surrounding the site itself, and any nearby potentially valuable habitat which is likely to be impacted by development/disturbance (including but not restricted to waterbodies and woodland).

Table 4.12: Bird species and counts recorded on site

Species	Count	Conservation Status	Date	Location
Jackdaw (*Coloeus monedula*)	110	Green	13/08/2024	East Field
House martin (*Delichon urbicum*)	53	Amber	13/08/2024	East Field
Swallow (*Hirundo rustica*)	70	Amber	13/08/2024	East Field
Collard dove (*Streptopelia decaocto*)	1	Green	13/08/2024	East Field
Wood pigeon (*Columba palumbus*)	16	Green	13/08/2024	East Field

Magpie (*Pica pica*)	2	Green	13/08/2024	East Field
Dunnock (*Prunella modularis*)	1	Green	13/08/2024	East Field
Robin (*Erithacus rubecula*)	2	Green	13/08/2024	East Field
Blackbird (*Turdus merula*)	4	Green	13/08/2024	East Field
Goldfinch (*Carduelis carduelis*)	8	Green	13/08/2024	East Field
Rook (*Corvus frugilegus*)	3	Green	13/08/2024	East Field
Wren (Troglodytes trogladytes)	3	Green	13/08/2024	East Field
Starling (*Sturnus vulgaris*)	135	Amber	13/08/2024	East Field
Bullfinch (*Pyrrhula pyrrhula*)	1	Green	13/08/2024	East Field
Hooded crow (*Corvus cornix*)	1	Green	13/08/2024	East Field
Great tit (*Parus major*)	1	Green	13/08/2024	East Field
Willow warbler (*Phylloscopus trochilus*)	2	Amber	13/08/2024	East Field
Herring gull (*Larus argentatus*)	1	Amber	13/08/2024	East Field
Starling (*Sturnus vulgaris*)	43	Amber	14/08/2024	Middle Field
Swallow (*Hirundo rustica*)	15	Amber	14/08/2024	Middle Field
House martin (*Delichon urbicum*)	47	Amber	14/08/2024	Middle Field
Wood pigeon (*Columba palumbus*)	14	Green	14/08/2024	Middle Field
Wren (*Troglodytes trogladytes*)	3	Green	14/08/2024	Middle Field
Jackdaw (*Coloeus monedula*)	13	Green	14/08/2024	Middle Field
House sparrow (*Passer domesticus*)	7	Amber	14/08/2024	Middle Field
Goldfinch (*Carduelis carduelis*)	5	Green	14/08/2024	Middle Field
Buzzard (*Buteo buteo*)	1	Green	14/08/2024	Middle Field
Rook (*Corvus frugilegus*)	3	Green	14/08/2024	Middle Field
Magpie (*Pica pica*)	2	Green	14/08/2024	Middle Field
Blackbird (*Turdus merula*)	1	Green	14/08/2024	Middle Field
Hooded crow (*Corvus cornix*)	2	Green	14/08/2024	Middle Field
Black cap (*Sylvia atricapilla*)	3	Green	14/08/2024	Middle Field
Swallow (*Hirundo rustica*)	35	Amber	15/08/2024	West field
Wood pigeon (*Columba palumbus*)	18	Green	15/08/2024	West field
Blackbird (*Turdus merula*)	3	Green	15/08/2024	West field
Black cap (*Sylvia atricapilla*)	3	Green	15/08/2024	West field
House martin (*Delichon urbicum*)	46	Amber	15/08/2024	West field
Wren (*Troglodytes trogladytes*)	2	Green	15/08/2024	West field
Rook (*Corvus frugilegus*)	4	Green	15/08/2024	West field

Bird surveys were conducted across three days due to the fact that the fields earmarked for the proposed development had large hedgerows which inhibited the visibility across the three

fields. Each field received a dedicated day to survey as it was deemed necessary for reliable and rigorous survey results and methodology. The hedgerows were seen to be providing nesting habitat for a number of bird species, some resident in Ireland all year round, and others such as the willow warbler (*Phylloscopus trochilus*) which migrate into Ireland annually for breeding purposes. Migration for breeding is an essential ecological function of the life history of those species which take part in the activity. It is an offence to disturb or displace the nests and roosts of any bird species in Ireland , therefore it is recommended that any cutting be carried outside of the nesting season where "*The National Parks & Wildlife Service (NPWS) of the Department of Housing, Local Government and Heritage is reminding the public the cutting, grubbing, burning or other destruction of "vegetation growing in any hedge or ditch" between 1st March and 31st August is prohibited*". As well as feral pigeons, a number of other bird species were observed nesting at the site including Blackbird (*Turdus merula*), Dunnock (*Prunella modularis*), Wren (*Troglodytes troglodytes*), Chiffchaff (*Phylloscopus collybita*) and Willow warbler (*Phylloscopus trochilus*).

The site may be of larger importance to bird species in the surrounding area due to the presence of house martins (*Delichon urbicum*), swallows (*Hirundo rustica*) which are listed as Amber in the conservation status listing and are therefore afforded further protections.

4.4.2 Mammal Survey

Survey techniques employed on this site investigation utilised direct observation methods, camera traps, looking for tracks, footprints, and other signs such as scat and faeces ID. Mammal trapping methods were also used. The techniques employed for this were mammal footprint tunnel traps and Longworth traps. The surveys were carried out in August 2024.

The mammal survey focused on identifying terrestrial mammals within the site. There were no badger (*Meles meles*) setts or other resting places of mammals identified on site. Infra-red trail camera traps were set throughout the site over two nights, see **Figure 4.1** below to see where the camera traps were located. One camera was pointed towards badger bait in the form of peanuts (300 grams) and syrup (400 grams) mixed with red pellets. This allowed ascertaining possible movements of badger if they are present and using the site as the badger would have ingested the pellets, which would then be identifiable in the faeces. This would mark out their minimum foraging territory. Small burrows potentially suitable for mice or voles were observed throughout the site. Camera traps were set up and pointed at these burrows. No camera footage of wildlife was captured. The cameras were triggered by domestic cats only.

Mammal footprint tunnels were placed in areas with possible mammal runs, small burrows, and along hedgerows as they provide shelter and protection from predators. The location of these tunnels is shown in **Figure 4.1**. Each mammal footprint tunnel was baited with seeds (100 grams) and meat-based cat food (100 grams). The tunnels were left overnight and checked the following day. No identifiable footprints were recorded on the footprint tunnels. The paper within the tunnel was bitten and chewed. It was not possible to identify the species that bit the paper, however, it was likely mice, voles, or shrews. No hedgehog (*Erinaceus europaeus*) faeces were observed at the site, however, the site provides suitable habitat for hedgehog.

Longworth traps were employed for surveying small mammals such as rodents. The placement of these traps is shown in **Figure 4.1**. The best suitable location for the traps was based on the location of small burrows and suitable habitat. The traps were baited with seeds (50 grams) and meat-based cat food (50 grams). They were left overnight and checked the following day. The bait was not taken, and the traps were not triggered.

Measures for the protection of mammal species on site are included in **Section 6** below.

Figure 4.1: Map showing the location of mammal traps and camera traps placed throughout the site.

4.4.3 Amphibians, Reptiles, and Invertebrates

No suitable breeding habitats for common frog or smooth newt are within the proposed site boundary. The proposed site does offer the opportunity for winter hibernation of Smooth newts (*Lissotriton vulgaris*), due to the presence of extensive grassland and woodland habitat. No common lizard (*Zootoca vivipara*) or slow worms (*Anguis fragilis*) were found. Retention of some unmanaged grassland is advisable in order to provide some refuge for amphibians and invertebrates which may be present within the proposed site or in the site vicinity. There will likely be no negative impacts on reptile and amphibian ecology with the proposed development or in the surrounding environments during the construction or operational phase.

4.4.4 Preliminary Bat Roost Potential (BRP) Survey

Preliminary Bat Roost Potential survey was carried out across the site, the results of which are included in **Appendix B** of this report.

5 Ecological Impact Assessment

5.1 'Do Nothing' Scenario

Should the proposed development not proceed, the site will remain in an overgrown state and existing vegetative cover will continue to persist. The lands may be subject to alternative development proposals if the proposed development does not go ahead.

5.2 Potential Effects upon Designated Sites

5.2.1 Natura 2000 Sites

The closest Natura 2000 site consists of the Mount Hevey Bog SAC/pNHA located *ca*. 3.0km northeast of the subject site. There are no hydrological links to this receptor, and it is not reasonably expected that potential air emissions arising from site will reach this receptor. It is not envisaged that potential contaminants arising from site will have significant effects upon any other Natura 2000 sites when taking best practice construction measures into account.

5.2.2 Natural Heritage Sites

The Royal Canal pNHA is the second closest pNHA behind Mount Hevey Bog. The canal is located *ca*. 3.2km northeast of the subject site. There are no direct hydrological links to this designated site arising from the subject site, and it is not envisaged that potential contaminants arising from site could reach the pNHA via air emission. Significant effects upon natural heritage areas as a result of the proposed works are not considered likely.

5.3 Construction Phase

5.3.1 Habitat Effects

The existing habitats on site consist of predominantly of dry meadow that is bounded and subdivided by treeline and hedgerows. The area of meadow surveyed on site displayed some signs of mammal activity with mammal runs and vacant nests observed. The treelines within the site displayed signs of bird foraging and activity and can be considered high value habitat for the support of local bird populations. The proposed plans will see the existing vegetative cover transformed to areas of hardstanding and built surfaces which will see a significant reduction in biodiversity value and ecological connectivity from baseline levels. 4 no. public open spaces are proposed which will provide support for a limited range of species on site, once development is completed.

Applying the precautionary principal and in the absence of mitigation, there is potential for significant disruption to these habitats resulting from the proposed development.

5.3.2 Wildlife Effects

Birds

The existing treeline that bounds and subdivides the site is considered high quality habitat for birds and disruption to this habitat type will have a significant impact on nesting and foraging bird species. In the absence of mitigation, works to existing structures onsite could result in the mortality of resting birds. Local bird populations may also be disturbed as a result of increased noise, traffic, and human activity during the construction phase of the development.

Mammals

A mammal survey and preliminary bat roost potential survey were carried out for the development. Camera traps and footprint tunnels were set up on site to capture and record any signs of mammal activity within the site confines. No definitive evidence of wild mammal activity was provided by this equipment, with the exception of signs of small mammal chewing on footprint tunnel. The existing treeline on site was not considered suitable for potential bat roosting. The value of this site for mammals lies in the foraging space it provides and not the nesting/roosting habitat.

During site preparation and construction, local populations of mammals may be disturbed by the increase in noise, traffic and human activity. Local bat populations may be negatively impacted by on-site floodlights during the construction phase. There is potential for mortality of small mammal species as a result of excavation works and traffic movement on site.

In the absence of mitigation, there is potential for negative impacts upon local mammal populations to occur.

Amphibians, Reptiles, and Invertebrates

No signs of amphibian or reptile activity were recorded on site.

Significant effects on local reptile and amphibian populations are not considered likely.

Surface and Ground Water Effects

There are no waterbodies present within the immediate vicinity of the proposed development site, meaning risks of contamination of surface water receptors is considered low.

The groundwater vulnerability of the site is considered high, and the site is underlain by a locally important aquifer. This means that potential pollutants arising from site have a greater chance of reaching the aquifer in the absence of suitable mitigation measures.

5.4 Operational Phase

5.4.1 Habitat Effects

The change of habitat distribution across the site compared to existing levels will see a dramatic reduction in the level of ecological connectivity and biodiversity once the proposed project is completed. The proposed development will have a significant long-term effect on biodiversity, once completed.

5.4.2 Wildlife Effects

Birds

No significant effects on bird populations are anticipated during the operational phase of the development.

Mammals

The operational phase of the development may lead to negative effects on mammals, particularly bats, mainly relating to nighttime lighting and noise emanating from the

development.

Amphibians, Reptiles, and Invertebrates

No significant effects on amphibians or reptiles are anticipated during the operational phase of the development.

Surface and Ground Water Effects

The retention and conversion of areas of hardstanding across the site will increase the risk of runoff emanating from the site and reaching local surface water receptors during the operational phase. The utilisation of Sustainable Drainage Systems (SuDS) onsite should mitigate excessive runoff emanating from the site, provided that a regular schedule of inspection and maintenance is carried out.

5.5 Cumulative Effects

Cumulative effects take into consideration the potential impacts to the surrounding environment arising from the proposed development in conjunction with additional developments in the local area that are anticipated to be carried out within a similar timeframe.

There are no nearby approved planning applications that are considered of a sufficient scale to pose significant cumulative effects upon ecologically sensitive sites in the vicinity of the proposed development.

6 Mitigation Measures

6.1 Pre-Construction Phase

- Site preparation and construction must be confined to the Proposed Development site only. Work areas should be kept to the minimum area required to carry out the proposed works and this area should be clearly marked out in advance of the proposed works.
- Measures to mitigate emissions of dust and fuels/chemicals should be clearly outlined to mitigate the risk of pollutants potentially reaching the underlying aquifer or migrating from site via ground surfaces.
- Consultation with an arboriculturist is recommended prior to tree removal and groundworks commencing on site.

6.2 Construction Phase

The nearest designated site consists of the Mount Hevey Bog SAC/pNHA located to the north of the site. There are no direct hydrological links to this designated site arising from the proposed development. The groundwater vulnerability of the site is classed as ‘high’ and as such, the following mitigation measures for protection of watercourses/waterbodies should be implemented onsite to prevent any undue impacts to this potential receptor during the construction phase:

- Intrusive site works should be avoided during periods of heavy rainfall.
- During construction re-fuelling of equipment and machinery must be done off site. If this is not possible, then a dedicated re-fuelling location must be established on site away from ground clearance activities or surface water drains or gullies.
- Spill kits stations must be provided at the fuelling location for the duration of the works.
- Staff must be provided with training on spill control and the use of spill kits.
- All fuel storage containers must be appropriately bunded, roofed and protected from vehicle movements. These bunds will provide added protection in the event of a flood event on site.
- All chemicals must be stored as per manufacturer’s instructions. A dedicated chemical store within a building must be provided on site if chemicals are to be stored on site.
- Procedures and contingency plans must be established on site to address cleaning up small spillages as well as dealing with an emergency incident. A stock of absorbent materials such as sand, spill granules, absorbent pads and booms should be kept on site, on plant working near the water and at the refuelling area.
- Daily plant inspections will be completed by all plant operators on site to ensure that all plant is maintained in good working order. Where leaks are noted on these inspection sheets, the applicant must remove the plant from operations for repairs.
- All personnel shall observe standard precautions for handling of materials as outlined in the Safety Data Sheets (SDS) for each material, including the use of PPE. Where conditions warrant, emergency spill containment supplies should be available for immediate use.
- Concrete Washout Skip: Chutes of concrete trucks are only to be washed out into an impermeable lined (polythene) skip. The washout water is to be removed off-site for treatment.
- Best practice in bulk-liquid concrete management should be employed on site, addressing pouring and handling, secure shuttering, adequate curing times etc.
- Stockpile areas for sands and gravel must be kept to a minimum size, well away from

drains on site.
- Activities which result in the creation of cement dust should be controlled by dampening down the areas.
- Raw and uncured waste concrete should be disposed of by removal from the site.

Measures to protect undue impacts to surrounding habitats and wildlife during the construction phase include:

- The use of herbicides within the proposed development site should be minimised. The clearance of vegetation around the site boundary, where necessary, should be done by hand if possible. Where spraying is necessary, it should be done with a knapsack sprayed to minimise spray and target required areas only.
- All rodenticides used on the proposed development site, if any, should be in accordance with the Campaign for Responsible Rodenticide use.
- It is recommended that a suitably qualified arboriculturist be consulted to assess the existing treeline on site prior to removal.
- Treeline and hedgerow cover to the north of the site should be maintained and undisturbed where possible to minimise impacts to nesting/foraging wildlife such as birds and mammals.
- Muffled equipment should be utilised, and generators should operate with doors closed to prevent excessive noise emanating from site.
- Where scrub/hedgerow/treeline habitat is to be removed, this should be done so outside of the bird nesting season (March to August).

General measures for the management of non-native species are outlined in the guidance document 'Field Guide to Invasive Species in Ireland' published by Invasive Species Ireland. The general steps for invasive species management and mitigation follow a process of Inspect-Remove-Clean-Dispose-Report as outlined below:

1. ***Inspect:*** *all equipment that has been in a waterbody (boats, trailers, engines, outboards, dredgers, weed cutting or harvesting boats, cruisers or even clothing) or terrestrial site for attached vegetation, contaminated soil or obvious animal life before moving to another waterway, catchment or site.*
2. ***Remove:*** *any adhering plant, soil or animal material from your equipment before relocating to another watercourse, section of waterway or site. Ensure that all water is drained from your boat and equipment before transportation to another site and all soil is removed from machinery, as this may contain seed or plant fragments.*
3. ***Clean:*** *power hose all equipment. Use hot water (>60 degrees centigrade) where possible.*
4. ***Dispose:*** *of all plant material and animal material appropriately. This material should be contained in sealed bags or containers prior to removal. Do not throw them back into the water or leave them lying at the water's edge.*
5. ***Report:*** *Report any sightings of an invasive species on the www.invasivespeciesireland.com website in the 'Alienwatch' section.*

With regards to the subject site, no invasive species were observed following site survey. Despite this, best practice measures for the prevention of translocation of invasive species are recommended as follows:

- All machinery and equipment used during the construction works will be inspected and will be completely dry prior to entering site to prevent the risk of invasive species translocation. A 'Check, Clean, Dry' protocol will be undertaken with all equipment, machinery and vehicles entering and leaving the proposed development site.

- It is recommended that construction traffic follows predetermined haul routes to ensure that threat of invasive species translocation is minimised. Pre-set haul routes should be adhered to as often as possible.
- Prior to commencement of works, staff should be made aware of the risk and impacts of introducing INNS on to site.

6.3 Operational Phase

The proposed development will utilise SuDS measures to ensure surface water emissions from the site are controlled and do not pose significant effects to the surrounding surface water network and in particular the nearby Royal Canal watercourse.

Measures to protect undue impacts to surrounding habitats and wildlife during the operational phase include:

- Lighting should be kept to a minimum around the site perimeter. Guidelines from Bat Conservation Ireland will be provided for considering how to avoid light pollution of the hedgerows to allow for feeding, commuting, and roosting.
- There should be no lighting directed from the proposed development site towards mature vegetation or directed outside of the site perimeter.
- Lighting shall be controlled to avoid light pollution of green areas and shall be targeted to areas of human activity and for priority security areas. Motion-activated sensor lighting is preferable to reduce light pollution.
- Several actions can be taken during the design phase to promote biodiversity within the site, once operational. Bat and bird boxes, particularly owl boxes could be installed and affixed to new buildings or where possible around the site boundary. If bat boxes are utilised, a minimum of three should be installed and face different directions to provide a range of temperature conditions. Boxes should be installed at least 4m from the ground.
- The installation of pollinator-friendly flower beds is recommended to promote plant and insect biodiversity. Depending on the landscaping plan for the proposed development, nesting areas for solitary bees could be included by providing south or east-facing banks or areas of bare earth. Bee boxes for cavity-nesting bees could be created by drilling holes in untreated wooden blocks and attaching them to an outdoor structure. The holes should be 10cm in depth and 4-8mm in diameter at a height of at least 1.5-2m. It is important to have holes of different sizes for the different species. The planting of native tree species is encouraged as part of the landscaping plan. Species such as oak promote high biodiversity as they mature.

6.4 Residual Effects

6.4.1 Construction Phase

Considering best practice measures implemented onsite during the construction phase, residual effects posed by the proposed development are considered to be negligible, slight, and temporary in nature.

6.4.2 Operational Phase

Considering the scale and nature of the proposed development, residual effects posed during the operational phase are considered to be neutral, imperceptible, and long term in nature.

7 Conclusions

The proposed development is situated within 5km of 4 no. Natura 2000 sites/Natural Heritage Areas as outlined in **Table 4.1**.

Despite the proximity to ecologically sensitive habitats, there is no reason to conclude that the proposed development at Kinnegad will have any negative impacts on ecological functions, Species of Qualifying Interest (SQI's) or their habitats. The loss of biodiversity on site as a result of the proposed development is expected to be slight to moderate. The site features well-established habitats, however, taking into account best practice construction methods, significant long-term impacts on biodiversity are not thought to be likely. Effects of construction and post construction activity will not impact ecologically sensitive habitats and species within the 5km zone of influence when factoring in best practice construction methods.

The mitigation of excessive noise and management of light emanating from site during the construction phase will ensure minimal impact to local bat and other mammal populations. It is recommended that construction be carried out during daylight hours and floodlights are directed towards the inside of the site confines. If construction is taking place in the Autumn months, lights should be turned off half an hour before dusk. Lights should be turned off two hours before dusk during summer months. It is not foreseen that any negative impacts on local bat populations will result from the operational phase of the proposed development as long as the tree lines are kept intact.

Residual effects arising from the construction phase are considered to be negligible, slight, and temporary in nature. Residual effects arising from the operational phase are considered to be neutral, imperceptible, and long term in nature.

Appendix A: Habitat Classification


241139 - Kinnegad Housing Development
HABITATS
N
659550E
659650E
659750E
659850E
659950E
745750N
745650N
745550N
745450N
745350N
GS2
WL2
WL1
BL3
Kinnegad
WESTMEATH
An Iarmhi
Legend
Proposed Development Site
BL3 - Buildings and artificial surfaces
GS2 - Dry Meadows and grassy verges
WL2 - Treelines
WL1 - Hedgerows
25 0 25 50 75 100 125 m
Image: Google Earth Base Map (Map Data, ©2015 Google)

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Appendix B: Bat Roost Potential Survey

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2024
Residential Development, Boreen Bradach, Kinnegad, Co. Westmeath
Preliminary Bat Roost Assessment

Residential Development, Boreen Bradach, Kinnegad, Co. Westmeath

Preliminary Bat Roost Assessment

Document Control Sheet

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1 Introduction

ORS were commissioned by *Corcom Development Partners* to carry out an Ecological Impact Assessment (EcIA) for a proposed residential development at Boreen Bradach, Kinnegad, Co. Westmeath. This Preliminary Bat Roost Assessment was carried out to inform the EcIA. The information gathered herein is supported by site investigations carried out in mid-August 2024.

1.1 Objective of Preliminary Bat Roost Potential Assessment

The objective of this report is to assess the trees and features within the subject site for bat roost suitability. This report details the methods and results of the survey and provides suitable recommendations where necessary.

1.2 Legislative Context

The legislative context for preliminary bat roost surveys is shaped by national and EU environmental laws, primarily focused on protecting bat species and their habitats due to their ecological importance and vulnerability. Bats in Ireland are protected under the Wildlife Act 1976, as amended by the Wildlife (Amendment) Act 2023. Under these acts, all bat species are safeguarded, prohibiting disturbance or destruction of their habitats without a license. This aligns with obligations under EU directives and reflects a commitment to biodiversity conservation, ensuring that development and land use activities account for bat conservation, especially where there is a risk to potential roost sites.

In view of their sensitive status across Europe, all species of bat have been listed on Annex IV of the EC 'Habitats and Species Directive' and some, such as the lesser horseshoe bat, are given further protection and listed on Annex II of this Directive. This Directive was transposed into Irish law as the European Communities (Natural Habitats) Regulations, 1997 and combined with the Wildlife Acts (1976 to 2023), ensures that individual bats and their breeding sites and resting places are fully protected. This has important implications for those who own or manage sites where bats occur. All bat species are protected under the Wildlife Acts 1976-2018 which make it an offence to wilfully interfere with or destroy the breeding or resting place of these species; however, the Acts permit limited exemptions for certain kinds of development. All species of bats in Ireland are listed on Schedule 5 of the 1976 Act, and are therefore subject to the provisions of Section 23, which make it an offence to:

1. Intentionally kill, injure or take a bat,
2. Possess or control any live or dead specimen or anything derived from a bat,
3. Wilfully interfere with any structure or place used for breeding or resting by a bat,
4. Wilfully interfere with a bat while it is occupying a structure or place which it uses for that purpose.

A derogation licence may only be granted:

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

Where both conditions are satisfied, the derogation licence may only be granted where it is

a) in the interests of protecting wild fauna and flora and conserving natural habitats,
b) to prevent serious damage, in particular to crops, livestock, forests, fisheries

and water and other types of property,

c) in the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment,
d) for the purpose of research and education, of repopulating and reintroducing these species and for the breeding operations necessary for these purposes, including the artificial propagation of plants, or
e) to allow, under strictly supervised conditions, on a selective basis and to a limited extent, the taking or keeping of certain specimens of the species to the extent specified therein, which are referred to in the First Schedule.

The first aim of the developer, working with professional advice, should be to entirely avoid or minimise the potential impact of a proposed development on bats and their breeding and resting places. Current NPWS advice is that there should be no net loss in local bat population status, taking into account factors such as population size, viability and connectivity. Hence, when it is unavoidable that a development will affect a bat population, the mitigation should aim to maintain a population of equivalent status in the area.

One of the key aims of the Habitats Directive is to encourage member states to maintain at, or restore to, favourable conservation status those species of community interest (Article 2(2)). 'Favourable conservation status' is defined in the Habitats and Species Directive (Article 1(i)). Conservation status is defined as "*the sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its population within the territory*." It is assessed as favourable when "*population dynamics data on the species concerned indicate that it is maintaining itself on a long term basis as a viable component of its natural habitats, and the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and there is, or will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis*." Note that even though there is apparent overlap between the Wildlife Acts and the Habitats Regulations, they run concurrently. No action in relation to bats that would not be permitted under the Habitats Regulations may be licensed under the Wildlife Acts.

Derogation licences granted under the Regulations include reference to the relevant provisions of the Wildlife Acts to ensure that all requirements for licensing are covered in the one document. It should also be noted that a licence only allows what is permitted within its terms and conditions; it does not legitimise all actions related to bats at a given site.

Preliminary bat roost surveys are often the first step in these assessments, helping to identify the presence of bats and evaluating potential impacts before any planning permission or licenses are granted

1.3 Methodology

1.3.1 Ground Level Roost Assessment

A preliminary ground level roost assessment was carried out on the 13th of October 2024 on lands located to the centre of Kinnegad town subject to the proposal of a new residential development being developed.

The survey was carried out during daylight hours while utilising binoculars to assess trees within the site boundary for any features suitable for bat roosting. Suitable features for assessment can include trunk/branch cavities, splits, cracks, holes, and hollow sections of the trunk or branches. Where possible, the base of trees as well as trunks and branches were assessed for signs of droppings, urine staining, scrapes, and insect remains which may suggest the presence of roosting bats.

Table 1.1 below outlines the grading criteria used to assess trees in line with guidance set out in the Bat Conservation Trust's (BCT) 'Bat Surveys for Professional Ecologists: Good Practice Guidelines' (Collins, 2016). As outlined, the suitability of trees for roosting can be designated as Negligible, Low, Moderate, or High.

Table 1.1: Bat Roost Suitability Grades (Collins, 2016)

Suitability	Roosting Habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e., unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

The context of the surrounding area was also taken into consideration for this assessment. Environmental factors such as lighting, noise pollution, and human activity along bordering footpaths and industrial premises were also taken into account to assess the overall suitability of the site for roosting bats.

1.3.2 Desktop Survey

A desktop survey was used to assess the approximate bat roost suitability index of the site location and its surrounds using online maps produced by the National Biodiversity Data Centre (NBDC).

1.4 Site Location

The proposed site consists of greenfield land ca. 3.9ha in size located within Kinnegad town. The site is bounded to the north/northeast by Bun Daire housing estate. The site is bounded to the east by the Riverside Lawns estate and to the west by playing fields associated with St. Etchen's National School located immediately southwest of the site. The site is bounded to the south by properties associated with St. Etchen's Court estate and ruins of a Roman Catholic church on the lands of the Church of the Assumption located along the southeast boundary of the proposed site.

The site features mature boundary treeline as well as two distinct treelines running through the centre of the site which were assessed for bat roost suitability.

The site location and environs can be seen in **Figure 1.1** below.

Figure 1.1: Site location and survey area. (Map Data © Google, adapted by ORS, 2025)

2 Results

2.1 Bat Suitability Index

The overall suitability of the landscape for bats was determined using the geographic suitability index from The National Biodiversity Data Centre (NBDC). The index ranges from 0 (least favourable) to 100 (most favourable) for bats.

Results displayed in **Table 2.1** indicate that across all bat species found in Ireland, the subject site lies within a moderate suitability area with a suitability index rating across all bat species found within that zone of 27.22. The highest suitability result was for Common pipistrelle (*Pipistrellus pipistrellus*) with an index of 46. The lowest suitability index was assigned to Lesser horseshoe bat (*Rhinolophus hipposideros*) with an index of 0.

Table 2.1: Bat Suitability Index for the Subject Site and Surrounds (NBDC)

Bat Species	Suitability Index
All Bats	27.22
Soprano pipistrelle (*Pipistrellus pygmaeus*)	42
Brown long-eared bat (*Plecotus auritus*)	32
Common pipistrelle (*Pipistrellus pipistrellus*)	46
Lesser horseshoe bat (*Rhinolophus hipposideros*) *	0
Leisler's Bat (*Nyctalus leisleri*)	43
Whiskered bat (*Myotis mystacinus*)	10
Daubenton's bat (*Myotis daubentoniid*)	32
Nathusius's pipistrelle (*Pipistrellus nathusii*)	8
Natterer's bat (*Myotis nattereri*)	32

**Annex II Species*

2.2 Ground Level Survey

The trees and hedgerows occupying the interior and boundaries of the subject site were assessed for signs for any potential roost features. There were no derelict structures within the site boundaries suitable for roosting bats.

Mature trees were identified along the boundaries of the northwest corner of site, with additional occasional mature trees located within the linear hedgerow habitats located within the central portion of the site. Mature trees were observed from ground level using binoculars to search the trunks and branches for suitable roosting features such as cracks, knot holes and crevices. The primary mature tree species on site consisted of Ash (*Fraxinus excelsior*) and the individual trees observed did not display any notable suitable roosting features. Tree branches were mostly narrow and trunks did not feature any notable cracks or holes suitable for roosting bats. Bat roost suitability across the site was considered negligible, although the large areas of grassland may provide suitable foraging habitat for bat populations that may be active in the area.

An overview of the suitability for bat roosting is provided in **Figure 2.1** below.

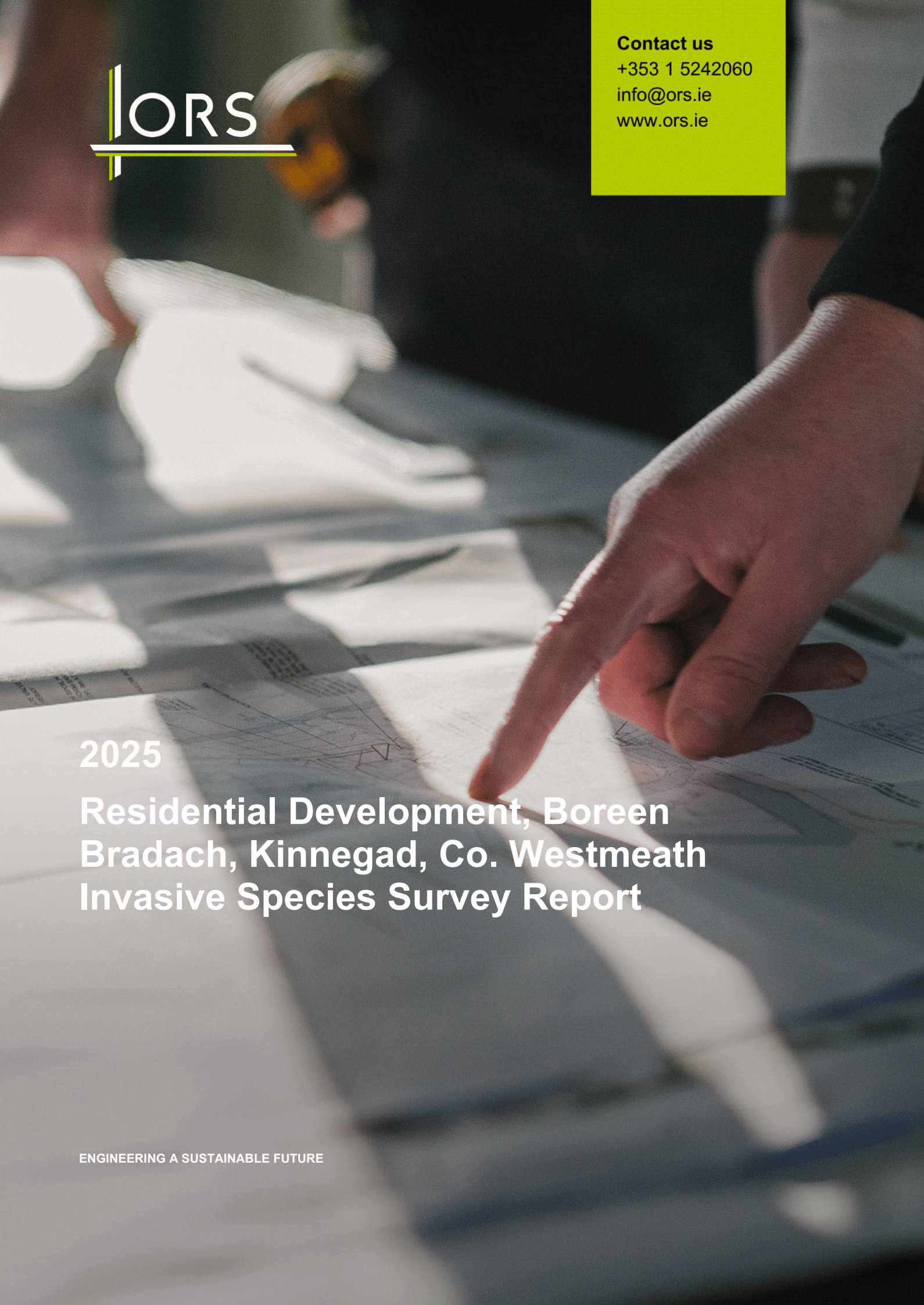
Figure 2.1: Roost Suitability Across Site (Map Data © Google)

3 Conclusions and Recommendations

Taking the overall context of the surrounding environment into consideration, the subject site is centrally located within Kinnegad town, meaning ambient noise and light levels may reduce the likelihood of bats roosting in the area.

None of the trees inspected achieved a suitability grade higher than ‘negligible’. As such, no further survey is recommended. Where trees are to be removed to facilitate the development, in the abundance of caution, it is recommended that felled trees are left to lie for several hours before further chopping or mulching to allow any tree-dwelling bats to emerge and disperse from the area.

Appendix C: Invasive Species Survey



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2025

Residential Development, Boreen Bradach, Kinnegad, Co. Westmeath Invasive Species Survey Report

ENGINEERING A SUSTAINABLE FUTURE

ORS

Residential Development, Boreen Bradach, Kinnegad, Co. Westmeath
Invasive Species Survey Report

Document Control Sheet

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ORS

LRD Opinion response

The below summarises opinions raised by Westmeath County Council (WMCC) after the LRD Stage 2 meeting and our response to these items

Opinion / Recommendation	ORS Response
7.EIA and AA	
An EIAR Screening Report and Appropriate Assessment Screening Report with Natura Impact Statement, if required, to accompany any future planning application.	Both documents have been prepared and are submitted with this planning application as: • EIA Screening Report.pdf (Ref: 241139-ORS-XX-XX-RP-EN-13d-001), and • AA Screening Assessment.pdf (Ref: 241139-ORS-XX-XX-RP-EN-13d-008.pdf).
8.Other Matters	
Applicant to submit details in respect of the following:	
(i) All survey reports as noted in the Ecological impact Assessment such as the Bat Survey, Invasive Species, etc.	The Ecological Impact Assessment (EcIA.pdf - Ref: 241139-ORS-XX-XX-RP-EN-13d-007) addresses the detailed surveys conducted on the site as presented in Section 4 - Results. Invasive Species Survey can be found in the Section 4.3.1, page 23 of the EcIA, and the Preliminary Bat Roost Potential survey had it results included in Appendix B of the EcIA report.
(ii) A Construction and Environmental Management Plan (CEMP) to include a full tabled list of mitigation measures. Mitigation measures identified in the Ecological Impact Assessment, Invasive Species Report and any other reports submitted with any future application should be included in the CEMP.	The Construction and Environmental Management Plan (CEMP.pdf) has been prepared by ORS, 2025 (Ref: 241139-ORS-XX-XX-RP-EN-13d-002) for the construction phase of the development. Section 4 - Environmental Management Plan summarises the mitigation measures and incorporates the proposed measures contained in the following reports: • Arboricultural Impact Assessment, by John Morris Arboricultural Consultancy Ltd, 2025 (Ref: 24-398-04) • Invasive Species Survey Report, by ORS - 2025 (Ref: 241139-ORS-XX-XX-RP-EN-13d-005) • Noise Impact Assessment, by Amplitude Acoustics, 2025 (Ref: D240912RP1) • Ecological Impact Assessment, by ORS - 2025 (EcIA.pdf - Ref: 241139-ORS-XX-XX-RP-EN-13d-007) • Archaeological Assessment Report, by IAC, 2025 (Ref: IAC Project J4402.pdf) Appendix B of the CEMP presents the Schedule of Mitigation Measures
(iii) A Noise Impact Assessment Report which assess the existing noise impact (mainly traffic) on the proposed residential development. Reference	Amplitude Acoustics were commissioned to undertake a Noise Impact Assessment for the proposed development, resulting in a report NIA.pdf (Ref: D240912RP1) which accompanies this planning application. The report takes into account the Westmeath Noise Action Plan 2024-2028 and the WHO Guidelines for noise impacts at construction stage.

should be made to the Westmeath County Council Noise Action Plan 2024-2028 and the World Health Organisation Guidelines.	
(iv) A Construction and Demolition Resource Waste Management Plan for the proposed development.	A RWMP was carried out by ORS, 2025 (Ref: 241139-ORS-XX-XX-RP-EN-13d-003) and accompanies this planning application
(v) An Operational Waste Management Plan for the proposed development .	An OWMP has been prepared by ORS - 2025 - for the operational phase of the proposed development - OWMP.pdf (ref: 241139-ORS-XX-XX-RP-EN-13d-004) and accompanies this planning application. It also includes details and drawings of a 3-bin waste/compost/recycling facility for the Creche site.
(vi) A Site-Specific Flood Risk Assessment.	ORS 2025 has produced a Site-Specific Flood Risk Assessment - SSFRA.pdf (Ref: 241139-ORS-XX-XX-RP-EN-13d-009) for the development and is presented within the documentation which accompanies this planning application. It concludes that the Site is classified as Flood Zone C, and, therefore no justification test is required and it is not expected that its construction will increase the area flood risk. The proposed development is not exposed to any flood risk.
(vii) An updated Ecological report which considers all boundaries, trees and hedgerows located on site.	An updated Ecological Impact Assessment (EcIA.pdf - Ref: 241139-ORS-XX-XX-RP-EN-13d-007) is submitted with the planning application documentation and takes into account all boundaries, trees and hedgerows on the site.

1 Introduction

ORS were commissioned by *Corcom Development Partners* to carry out an Invasive Species Survey on the proposed development site at Boreen Bradach, Kinnegad, Co. Westmeath. The information gathered herein is based upon a thorough site investigation carried out on the 14th August 2024.

1.1 Objective of Invasive Species Report

This Invasive Species Survey Report provides an assessment of the site conditions with regards to the presence of invasive species and outlines measures for the management of any INNS encountered on site. Below is an outline of the objectives of this report:

- Provide a baseline assessment of site conditions and identify any Invasive Non-Native Species (INNS) listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011 (as amended).
- Map the locations and descriptions of any areas on site where INNS occur.
- Provide management and mitigation measures for the prevention of spread of INNS to and from the proposed site.

1.2 Legislative Context

1.2.1 EU

Regulation (EU) 1143/2014 on invasive alien species (the IAS Regulation)

On September 29th, 2014, the European Council adopted a Regulation on the prevention and management of the introduction and spread of invasive alien species (1143/20140). The Regulation, that is a binding legal tool for all Member States, entered into force January 1st, 2015. The Regulation lays down rules to prevent, minimise and mitigate the adverse impacts of the introduction and spread, both intentional and unintentional, of invasive alien species on biodiversity and the related ecosystem services, as well as other adverse impact on human health or the economy.

1.2.2 Ireland

Invasive Alien Species (IAS) Regulation

The IAS Regulation which entered into force on 1st January 2015 has the greatest potential to drive the management of invasive alien plant and animal species within the European Union (EU). Central to the regime is the establishment, and regular updating, of a list of INNS considered to be of Union concern ('the Union list'). The placing of a species on the Union list activates a number of obligations on Member States (MS) vis-à-vis those species.

Wildlife Acts, 1976–2018

The Wildlife Act, 1976, as amended, provides that '*Any person who [...] plants or otherwise causes to grow in a wild state in any place in the State any ['exotic'] species of flora, or the flowers, roots, seeds or spores of ['exotic'13] flora, [...] otherwise than under and in accordance with a licence […] shall be guilty of an offence*'.

European Communities (Birds and Natural Habitats) Regulations, 2011–2015

Regulation 49 of the European Communities (Birds and Natural Habitats) Regulations, 2011, concerns the '*Prohibition on introduction and dispersal of certain species*.' Regulation 49(2) provides '*Save in accordance with a licence [...], any person who plants, disperses, allows or causes to disperse, spreads or otherwise causes to grow*' scheduled plant species shall be guilty of an offence.

Regulation 50 provides '*Save in accordance with a licence granted under paragraph (7), a person shall be guilty of an offence if he or she imports or transports –*

(a) an animal or plant listed in Part 1 or Part 2 of the Third Schedule
(b) anything from which an animal or plant referred to in Part 2 of the Third Schedule can be reproduced or propagated, or
(c) a vector material listed in Part 3 of the Third Schedule,

into or in or to any place in the State specified in relation to such an animal or plant or vector material in relation to that animal or plant or vector material in the third column of the Third Schedule.'

In addition to plant species, soils and other material which may contain INNS are classified in Part 3 of the Third Schedule as vector materials and are subject to the same strict legal controls.

Failure to comply with the legal requirements set down can result in either civil or criminal prosecution.

1.3 Guidance Documentation

To assist in the preparation of this report, reference to the following documents was given:

- 'The Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads', NRA (2010).
- 'Invasive Species Action Plan', Invasive Species Ireland.
- 'Best Practice Management Guidelines', Invasive Species Ireland, (Maguire *et al,* 2008).
- 'Practical Management of Invasive Non-Native Weeds in Britain and Ireland', PCA (2018).
- 'Managing Invasive Non-Native Plants in or near Freshwater', Environment Agency (2013).
- 'Field Guide to Invasive Species in Ireland' 2nd Edition, Invasive Species Ireland

1.4 Background

1.4.1 Invasive Non-Native Species (INNS)

An Invasive Non-Native Species (INNS) can be defined as one whose intentional or unintentional introduction and/or spread outside their natural past or present distribution threatens biological diversity. A wider definition includes the characteristic of causing economic or environmental detriment or harm to human health.

INNS typically display one of the following characteristics or features:

- Prolific reproduction through seed dispersal and/or re-growth from plant fragments.
- Rapid growth in typically unfavourable habitats.
- Resistance to standard weed control methods.

Typically, if INNS are not managed, they may:

- Out-compete native vegetation, affecting plant community structure and habitat for wildlife.
- Cause damage to infrastructure including property, road carriageways, footpaths, walls and foundations.
- Result in soil erosion and collapse of riverbanks through exposure of the soil during winter floods when the INNS dies back.
- Have an adverse effect on landscape quality through a loss of naturalness, aesthetics, and regional identity.
- Impact on road safety by blocking sightlines at junctions and road signage in general.

A full list of non-native species subject to restrictions under Regulations 49 and 50 is included in **Appendix A** of this report.

1.4.2 Japanese Knotweed (*Fallopia japonica*)

Japanese knotweed is an invasive herbaceous perennial plant which is native to Japan and northern China. It was introduced to Ireland as an ornamental plant in the 19th Century. Since then, it has established wild populations in a variety of habitat types across the country, including rural and urban waste ground, riparian zones along streams and rivers, and roadsides causing significant problems due to its prolific and dense growth rate.

Japanese knotweed is a tall, robust herbaceous perennial plant that grows in dense clusters, reaching heights of up to 3 metres, with characteristic red, bamboo-like stems. Its leaves are 10-15cm long, shield-shape with a flat base with smooth undersides lacking hairs (Booy *et al.*, 2015).

Dispersal typically occurs through rhizome fragments being transported in soil by humans or, to a lesser extent, through passive mechanical means such as in floodwaters. Dispersal is also achieved through vegetative reproduction from stem fragments.

In Ireland, there are four regulated knotweed species:

- Japanese Knotweed (*Fallopia japonica*)
- Giant Knotweed (*Fallopia sachalinensis*)
- Bohemian Knotweed (*Fallopia bohemica*)
- Himalayan Knotweed (*Persicaria wallichii*)

It is recommended to seek advise from a qualified invasive species management organisation as dispersal is highly effective.

1.4.3 Giant Hogweed (*Heracleum mantegazzianum*)

This plant is native to southwest Asia and was introduced to Ireland as an ornamental garden plant in the 19th century. It closely resembles hogweed and cow parsley but can typically be identified due to its distinctive size. It is a tall perennial herb, with a lifespan of 3-5 years, characterized by its pale yellow root. It has a single, ridged, sturdy hollow stem that can reach up to 10 cm thick at the base and grow as tall as 5 meters. The stem is green with purple

patches. The leaves are pinnately arranged, consisting of opposite pairs of leaflets with a terminal leaflet, and can grow up to 2.5 meters across. The flowers are white, occasionally pinkish, and form in umbels up to 80 cm wide (Tiley *et al.*, 1996). Each plant can produce up to 50,000 seeds, which are flat, 0.9-1.5 cm long, and feature oil ducts visible as dark stripes—two on one side and four on the other.

When fully mature, its 'giant' size makes it easily recognizable. It may be mistaken for the native hogweed (*Mantegazzianum sphondylium*), but the latter has a much thinner stem (1-2 cm thick), less sharply divided leaves, and rarely exceeds 2 meters in height. Even if Giant Hogweed is disturbed or trampled, preventing it from reaching its full height, it will still retain its large stem, leaves, and umbels.

Giant hogweed produces a sap that is harmful to humans causing blistering and hyper-pigmentation of the skin which can last up to months. Caution is advised when working adjacent these plants to avoid human injury. There is an EU-wide ban on the sale, growing, and keeping of this plant. Protective clothing (face masks, goggles, rubber boots, gloves) must be worn by personnel involved in the control of this species (DARD, undated).

Control of this species can be carried out manually, mechanically, chemically, or environmentally.

Manual

Scythes can be used to cut flowering plants during the mid-flowering stage which can eradicate seed production and minimise propagation. Likewise, plants can be dug up using a spade to cut diagonally through the roots at least 15cm below soil level. This should be carried out in early spring and again in mid-summer (Nielsen *et al.*,2005).

Mechanical

Ploughing the ground at a depth of over 24cm is effective at controlling infestations on open, accessible land. It is recommended to first use manual or chemical control to maximise effectiveness (DARD, undated; Nielsen *et al.*,2005).

Chemical

Chemical control of Giant Hogweed can be carried out using glyphosate and triclopyr. Applications should be made in early spring with a second application before the end of May. Treatment will require 4-5 years of application to ensure eradication (DARD, undated; Nielsen *et al.*,2005).

Environmental

Cattle, sheep, goats, and pigs readily eat Giant Hogweed and can used to gradually weaken infestations over time. It is recommended to monitor animal wellbeing over time, particularly for signs of photosensitisation. It will take 5-rhubarb10 years to eradicate infestations using this method (DARD, undated; Nielsen *et al.*,2005).

1.4.4 Giant Rhubarb (*Gunnera tinctoria*)

Giant rhubarb is a large herbaceous perennial with leaves resembling rhubarb, growing up to 2 meters wide. The leaves have a rough texture and jagged, toothed lobes, with two rounded

lobes at the base separated by a deep division (Stace, 1997). The stout leaf stalks can reach up to 1.5 meters long and are covered with green bristles. Its cone-shaped flowering spike, up to 1 meter long, consists of densely packed, short branches (less than 5 cm) bearing small, stalk-less reddish-green flowers. Flowering occurs from June to August, followed by small orange-red berries forming. The rhizomes are 6–25 cm in diameter, mostly horizontal and above ground, extending up to 3.5 meters. The plant dies back in winter. It can be challenging to distinguish from the non-invasive *Gunnera manicata*, as key features are only apparent when fully developed and flowering. It may also be mistaken for wild-growing cultivated rhubarb.

There is an EU-wide ban on the sale, growing, and keeping of this plant. The plant can regrow from rhizome fragments and can disperse a large number of seeds, meaning eradication can be difficult (Armstrong *et al.*, 2009). Possible control measures are listed below:

Manual

Spades can be used to dig up smaller plants and sparse infestations (Armstrong *et al.*, 2009) and monitoring for regrowth should be carried out within a year (Williams *et al.*, 2005).

Mechanical

Excavators can be used to clear large infestations, ensuring that the entire rhizome is removed (Armstrong *et al.*, 2009; Williams *et al.*, 2005). Disposal can involve deep burial, drying and burning, or leaving to decay in black plastic. (Mayo County Council).

Chemical

Glyphosate can be used to control infestations. Spraying should be carried out between August and September at the end of the growing season, with repeat applications necessary (Armstrong *et al.*, 2009; Williams *et al.*, 2005).

1.4.5 Indian Balsam (*Impatiens glandulifera*)

Himalayan Balsam was originally used as an ornamental garden plant which has spread into the wild and can rapidly colonise riverbanks and areas of damp ground. It can grow up to 3m in height and displays purple/pink to pale pink flowers from June-August. Seeds can be dispersed far from the original plant, meaning spread via rivers and streams poses a high risk.

There is an EU-wide ban on the sale, growing, and keeping of this plant. Control measures must be implemented on a recurring basis over several years. If tackling infestations along watercourses, work should start upstream and proceed in a downstream direction to avoid reinfestation downstream. Control measures include:

Manual

This species can be pulled by hand as it features shallow roots. This should be carried out before seeding where possible (end of July) (Helmisaari, 2010), although if seeds are already present, the heads can be bagged and cut off before the rest of the plant is removed (Kelly *et al.*, 2008).

Mechanical

Mowing and strimming can be utilised at the appearance of first flowers before seeding occurs. If cut before the start of flowering, shoots will be encouraged to regenerate. Plant material can be disposed of by composting, with the exception of seeds which should be disposed of by deep burial (EPPO, 2005; Helmisaari, 2010).

Chemical

Glyphosate can be used to control infestations, with certain formulations suitable for use near water (EPPO, 2005).

Environmental

Grazing by livestock can be used for infestations that are easily accessible. Grazing may need to take place on an annual basis (EPPO, 2005; Helmisaari, 2010).

1.5 Project Description

The development will comprise a Large-Scale Residential Development (LRD) on a site at Boreen Bradach, Kinnegad, Co. Westmeath. The proposed development is for 129 no. residential dwellings, made up of 2 beds, 3 beds and 4 beds and the provision of a crèche facility.

The proposal includes for a new vehicular access and a new pedestrian access to the east of the site.

The development also includes all car and bicycle parking, bin stores, residential private open space, public open space, substation, boundary treatments, landscaping and all associated site development works.

1.6 Methodology

The following methodology was carried out for the assessment of INNS present on site:

1. A visual survey of the subject site was carried out during a thorough walkover based on transects established across the site. Site boundaries were examined for signs of invasive species potentially entering the site from external sources.
2. GPS coordinates of any areas where invasive species were encountered were recorded and maps were generated to indicate where remedial works are required and where exclusion zones should be established.
3. Depending on the species observed, appropriate mitigation and management measures were outlined where necessary.

2 Site Details

2.1 Site Location

The proposed site consists of greenfield land *ca*. 4.279ha (gross) in size located within Kinnegad town. The site is bounded to the north/northeast by Bun Daire housing estate. The site is bounded to the east by the Riverside Lawns estate and to the west by playing fields associated with St. Etchen's National School located immediately southwest of the site. The site is bounded to the south by properties associated with St. Etchen's Court estate and ruins of a Roman Catholic church on the lands of the Church of the Assumption located along the southeast boundary of the proposed site.

The site location can be seen in **Figure 2.1** below.

Figure 2.1: Site location and environs (Source: Google Maps)

2.2 Existing Site Conditions

Existing site conditions at time of surveying (14th August 2024) consisted of dry meadow dominating the interior portions of the site. The site is subdivided into three parts by mature treeline and shrubbery and dense blackthorn hedging was observed along the northeast boundary of the site.

3 Survey Results

A thorough visual survey was carried out on the subject site to assess the presence of INNS. This process involved a walkover of the site based on transects across the site and a thorough analysis of boundary vegetation.

There was no evidence recorded at the time of survey of INNS occurring on site. Despite an absence of invasive species recorded on site, best practice measures to avoid the spread of invasive species during development still apply. Invasive species management and mitigation measures to prevent the translocation of invasive species to and from site are outlined in **Section 4** of this report.

4 Invasive Species Management & Mitigation

4.1 General Measures

General measures for the management of non-native species are outlined in the guidance document 'Field Guide to Invasive Species in Ireland' published by Invasive Species Ireland. The general steps for invasive species management and mitigation follow a process of Inspect-Remove-Clean-Dispose-Report as outlined below:

4. ***Inspect:*** *all equipment that has been in a waterbody (boats, trailers, engines, outboards, dredgers, weed cutting or harvesting boats, cruisers or even clothing) or terrestrial site for attached vegetation, contaminated soil or obvious animal life before moving to another waterway, catchment or site.*
5. ***Remove:*** *any adhering plant, soil or animal material from your equipment before relocating to another watercourse, section of waterway or site. Ensure that all water is drained from your boat and equipment before transportation to another site and all soil is removed from machinery, as this may contain seed or plant fragments.*
6. ***Clean:*** *power hose all equipment. Use hot water (>60 degrees centigrade) where possible.*
7. ***Dispose:*** *of all plant material and animal material appropriately. This material should be contained in sealed bags or containers prior to removal. Do not throw them back into the water or leave them lying at the water's edge.*
8. ***Report:*** *Report any sightings of an invasive species on the www.invasivespeciesireland.com website in the 'Alienwatch' section.*

With regards to the subject site, no invasive species were observed following site survey. Despite this, best practice measures for the prevention of translocation of invasive species are recommended as follows:

- All machinery and equipment used during the construction works will be inspected and will be completely dry prior to entering site to prevent the risk of invasive species translocation. A 'Check, Clean, Dry' protocol will be undertaken with all equipment, machinery and vehicles entering and leaving the proposed development site.
- It is recommended that construction traffic follows predetermined haul routes to ensure that threat of invasive species translocation is minimised. Pre-set haul routes should be adhered to as often as possible.
- Prior to commencement of works, staff should be made aware of the risk and impacts of introducing INNS on to site.

5 Conclusions

An invasive species survey was carried out for the proposed development site on the 14th of August 2024. There was no evidence recorded on site of invasive species occurring at the time of surveying. Development on site may proceed as planned with mitigation measures implemented as outlined in **Section 4.1** above.

The results published herein are accurate as of the time of survey. Should instances of INNS presence on site be encountered during development works, advice from a suitably qualified Invasive Species Removal specialist should be sought.

6 References

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3. Giant hogweed (*Heracleum mantegazzianum*). Countryside Management Publications. Department of Agriculture and Rural Affairs.

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6. Williams PA, Ogle CC, Timmins SM, Cock GDLa , Clarkson J, 2005. Chilean rhubarb (*Gunnera tinctoria*): biology, ecology and conservation impacts in New Zealand. DOC Research and Development Series. Wellington, New Zealand: Department of Conservation.

7. Mayo County Council (undated). Invasive Alien Plant Information Leaflet – Giant Rhubarb (*Gunnera tinctoria)*. An action of the County Mayo Heritage Plan 2006–2011.

8. Helmisaari, H. (2010): NOBANIS – Invasive Alien Species Fact Sheet – *Impatiens glandulifera*.

9. Kelly, J., Maguire, C.M. and Cosgrove, P.J. (2008). Best practice management guidelines Himalayan balsam *Impatiens glandulifera*.

10. European and Mediterranean Plant Protection Organisation (EPPO) (2005) Draft EPPO data sheet on invasive plants – *Impatiens glandulifera*.

Appendix A – Non-native species subject to restrictions under Regulations 49 and 50

THIRD SCHEDULE

Non-native species subject to restrictions under *Regulations 49 and 50*

Part 1: PLANTS

First column	Second column	Third column
Common name	Scientific name	Geographical application
American skunk-cabbage	*Lysichiton americanus*	Throughout the State
A red alga	*Grateloupia doryphora*	Throughout the State
Brazilian giant-rhubarb	*Gunnera manicata*	Throughout the State
Broad-leaved rush	*Juncus planifolius*	Throughout the State
Cape pondweed	*Aponogeton distachyos*	Throughout the State
Cord-grasses	*Spartina* (all species and hybrids)	Throughout the State
Curly waterweed	*Lagarosiphon major*	Throughout the State
Dwarf eel-grass	*Zostera japonica*	Throughout the State
Fanwort	*Cabomba caroliniana*	Throughout the State
Floating pennywort	*Hydrocotyle ranunculoides*	Throughout the State
Fringed water-lily	*Nymphoides peltata*	Throughout the State
Giant hogweed	*Heracleum mantegazzianum*	Throughout the State
Giant knotweed	*Fallopia sachalinensis*	Throughout the State
Giant-rhubarb	*Gunnera tinctoria*	Throughout the State
Giant salvinia	*Salvinia molesta*	Throughout the State
Himalayan balsam	*Impatiens glandulifera*	Throughout the State
Himalayan knotweed	*Persicaria wallichii*	Throughout the State
Hottentot-fig	*Carpobrotus edulis*	Throughout the State
Japanese knotweed	*Fallopia japonica*	Throughout the State
Large-flowered waterweed	*Egeria densa*	Throughout the State
Mile-a-minute weed	*Persicaria perfoliata*	Throughout the State
New Zealand pigmyweed	*Crassula helmsii*	Throughout the State
Parrot's feather	*Myriophyllum aquaticum*	Throughout the State
Rhododendron	*Rhododendron ponticum*	Throughout the State
Salmonberry	*Rubus spectabilis*	Throughout the State
Sea-buckthorn	*Hippophae rhamnoides*	Throughout the State
Spanish bluebell	*Hyacinthoides hispanica*	Throughout the State
Three-cornered leek	*Allium triquetrum*	Throughout the State
Wakame	*Undaria pinnatifida*	Throughout the State
Water chestnut	*Trapa natans*	Throughout the State
Water fern	*Azolla filiculoides*	Throughout the State
Water lettuce	*Pistia stratiotes*	Throughout the State
Water-primrose	*Ludwigia* (all species)	Throughout the State
Waterweeds	*Elodea* (all species)	Throughout the State
Wireweed	*Sargassum muticum*	Throughout the State

Part 2: ANIMALS

A: animals to which Regulations 49 and 50 apply throughout the State or in particular places or categories of places.

First column	Second column	Third Column
Common name	Scientific name	Geographical application
A colonial sea squirt	*Didemnum spp.*	Throughout the State
A colonial sea squirt	*Perophora japonica*	Throughout the State
All freshwater crayfish species except the white-clawed crayfish	*All freshwater crayfish species except Austropotamobius pallipes*	Throughout the State
American bullfrog	*Rana catesbeiana*	Throughout the State
American mink	*Neovison vison*	Throughout the State
American oyster drill	*Urosalpinx cinerea*	Throughout the State
Asian oyster drill	*Ceratostoma inornatum*	Throughout the State
Asian rapa whelk	*Rapana venosa*	Throughout the State
Asian river clam	*Corbicula fluminea*	Throughout the State
Bay barnacle	*Balanus improvisus*	Throughout the State
Black rat	*Rattus rattus*	Offshore islands only
Brown hare	*Lepus europaeus*	Throughout the State
Brown rat	*Rattus norvegicus*	Offshore islands only
Canada goose	*Branta canadensis*	Throughout the State
Carp	*Cyprinus carpio*	Throughout the State
Chinese mitten crab	*Eriocheir sinensis*	Throughout the State
Chinese water deer	*Hydropotes inermis*	Throughout the State
Chub	*Leuciscus cephalus*	Throughout the State
Common toad	*Bufo bufo*	Throughout the State
Coypu	*Myocastor coypus*	Throughout the State
Dace	*Leuciscus leuciscus*	Throughout the State
Freshwater shrimp	*Dikerogammarus villosus*	Throughout the State
Fox	*Vulpes vulpes*	Offshore islands only
Grey squirrel	*Sciurus carolinensis*	Throughout the State
Greylag goose	*Anser anser*	Throughout the State
Harlequin Ladybird	*Harmonia axyridis*	Throughout the State
Hedgehog	*Erinaceus europaeus*	Offshore islands only
Irish stoat	*Mustela erminea hibernicus*	Offshore islands only
Japanese skeleton shrimp	*Caprella mutica*	Throughout the State
Muntjac deer	*Muntiacus reevesi*	Throughout the State
Muskrat	*Ondatra zibethicus*	Throughout the State
Quagga Mussel	*Dreissena rostriformis*	Throughout the State
Roach	*Rutilus rutilus*	Throughout the State
Roe deer	*Capreolus capreolus*	Throughout the State
Ruddy duck	*Oxyura jamaicensis*	Throughout the State

First column	Second column	Third Column
Siberian chipmunk	*Tamias sibiricus*	Throughout the State
Slipper limpet	*Crepidula fornicata*	Throughout the State
Stalked sea squirt	*Styela clava*	Throughout the State
Tawny owl	*Strix aluco*	Throughout the State
Wild boar	*Sus scrofa*	Throughout the State
Zebra mussel	*Dreissena polymorpha*	Throughout the State

B: animals to which specified provisions of Regulations 49 and 50 apply.

First column	Second column	Third Column
Common name	Scientific name	Geographical application
Fallow deer	*Dama dama*	Throughout the State
Sika deer	*Cervus nippon*	Throughout the State

Part 3: VECTOR MATERIALS

First column	Second column	Third Column
Vector material	Species referred to	Geographical application
Blue mussel (*Mytilus edulis)* seed for aquaculture taken from places (including places outside the State) where there are established populations of the slipper limpet *(Crepidula fornicata)* or from places within 50 km. of such places	Mussel *(Mytilus edulis)* Slipper limpet *(Crepidula fornicata)*	Throughout the State
Soil or spoil taken from places infested with Japanese knotweed *(Fallopia japonica)*, giant knotweed *(Fallopia sachalinensis)* or their hybrid Bohemian knotweed (*Fallopia* x *bohemica*)	Japanese knotweed *(Fallopia japonica)* Giant knotweed *(Fallopia sachalinensis)* Bohemian knotweed (*Fallopia x bohemica*)	Throughout the State

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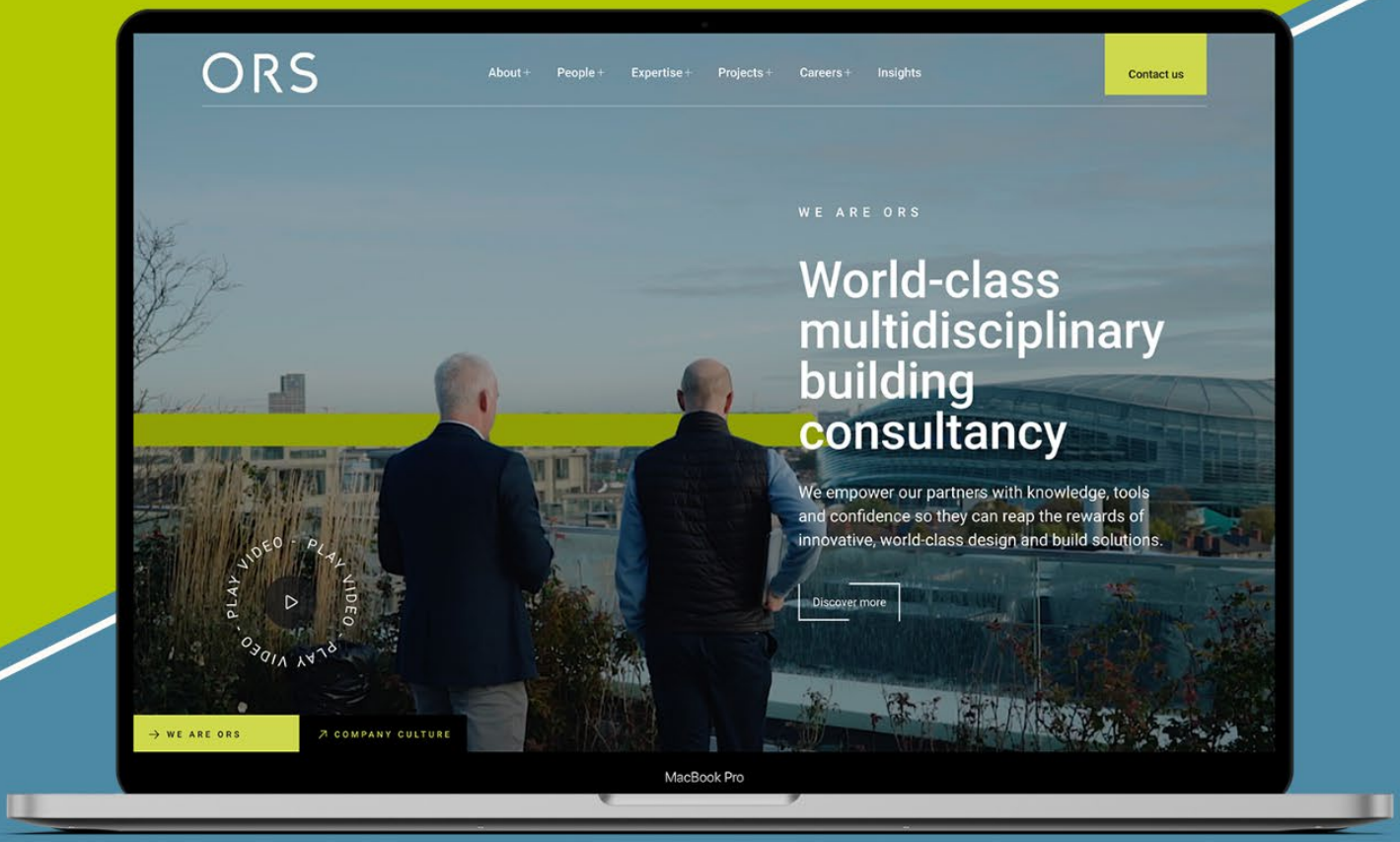

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