FLYNN FURNEY
ENVIRONMENTAL CONSULTANTS

Ecological Impact Assessment

Proposed Accelerated Social Housing Scheme

Ravel Dunleer

Document Details

Client:	**Louth County council**
Project Title:	**Ecological Impact Assessment**
Document Title:	**Proposed Accelerated Social Housing Development at Dunleer**
Prepared by:	**Flynn Furney Environmental Consultants**

Rev	Status	Date	Author(s)	Approved by
01	DRAFT	16/01/2024	LW	
02	DRAFT 2	22/01/2024	LW and ID	ID
03	FINAL	04/04/2024	LW and ID	ID

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1 Introduction

The proposed house scheme is part of the Accelerated Delivery programme for residential social housing construction within County Louth. This overall scheme involves the fast tracking of a number of social housing developments with the county to help alleviate the shortage of social housing stock within the county.

The site was visited by Ecologists from Flynn Furney Environmental Consultants Ltd in August 2023 and January 2024. This survey was carried out to investigate whether any Annex I habitats (EU Habitats Directive), Annex II species (EU Habitats Directive), Annex I Bird Species (EU Birds Directive), 'stepping stones/Ecological Corridors' (as covered under Annex 10 of the EU Habitats Directive) or locally important habitats or species are likely to be impacted upon by the proposed development.

This assessment aimed to;

- Establish baseline ecological data for the proposed development site;
- Determine the ecological value of the identified ecological features;
- Assess the impact of the proposed development on ecological features of value (biodiversity);
- Apply mitigation measures to avoid, reduce, remedy or compensate impacts; and
- Identify any residual impacts after mitigation and compensation.

1.1 Outline Description of the Proposed Site of Works

The site is in Dunleer to the north of Scoil Bhride National School.

Currently the development is proposed to include: The construction of 70no. houses including 9no. 2-bed bungalows, 24no. two storey 2-bed houses, 18no. two storey 3-bed houses, 5no. two storey 4-bed houses, and 2no. 3-bed bungalows, and 12no. sheltered accommodation 2-bed bungalows.

The development will also include the construction of new connections to the existing estate road; provision of new cycleway, footpath, and public lighting along the boundary with the R170; new estate

roads and homezones within the site; 123no. car parking spaces including both on-street and in-curtilage parking; cycle parking; hard and soft landscaping including public open spaces, playground, and private gardens; boundary treatments; ESB substation; lighting; laying of underground sewers, mains and pipes; underground pump station and attenuation tank; and all associated works.

The developable site area is 2.72 hectares. The proposed development will include 20% public open space.

General works associated with the proposed development include:

- The removal of soil and overburden material
- Connection to services including water, wastewater, stormwater, electricity and broadband, where applicable
- The construction of 70 social housing units
- The installation of SuDS infrastructure including attenuation tanks, oil/petrol interceptors, bio-retention systems/ rain gardens and tree pits
- Landscaping and;
- All associated site works.

Attenuation tanks will only be used as a last resort where other measures are not feasible. They will be provided on site and will have the capacity for site storage for 1/100 storm and 20% climate change with hydrobrake connection to mains. Petrol/ oil interceptors will be included in the overall drainage design. Bio-retention systems/ rain gardens and tree pits will be included in the landscape design but are not included in SuDS calculation due to impermeable ground conditions and poor infiltration however they will still contribute to overall SuDS.

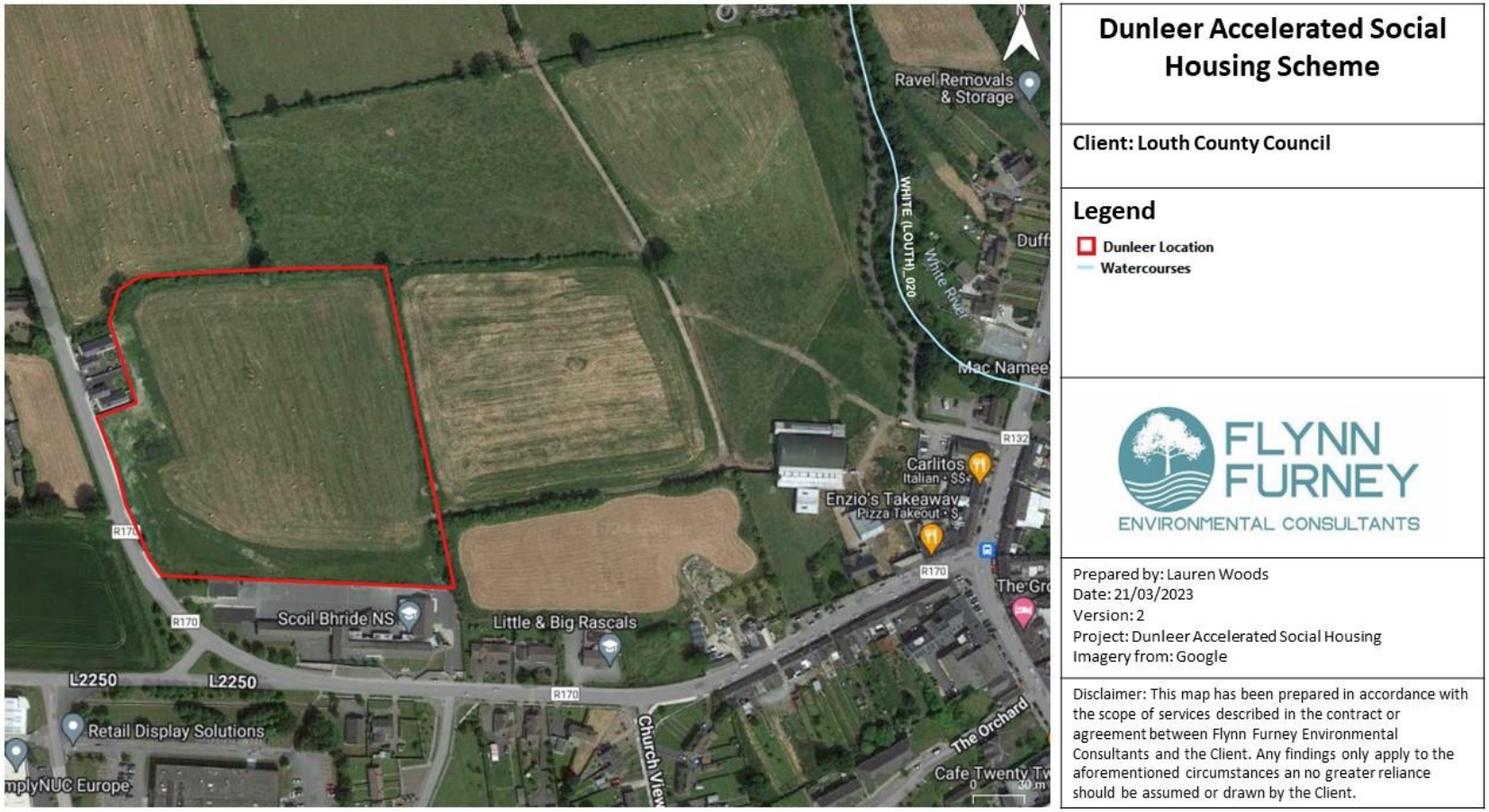


Figure 1.1 Location and site context

Figure 1.2 Proposed site layout provided by EML Architects

1.2 Objectives of this EcIA

The objectives of this EcIA are as follows:

- To map and describe existing habitats
- To identify sensitive areas or ecological features within and surrounding the site
- To identify potential ecological conflicts or impacts and;
- To identify ways to avoid the above and mitigate against impacts, where necessary.

2 Legislation and Planning Policy

2.1 European Council Directives

2.1.1 Council Directive on the conservation of Natural Habitats of Wild Fauna and Flora

2.1.1.1 92/43/EEC- The Habitats Directive

The main aim of the Directive is to promote the maintenance of biodiversity through the conservation of natural habitats and wild species listed in the Annexes of the Directive. Member States are required to take measures to maintain or restore, at favourable conservation status, biodiversity whilst taking account of economic, social, cultural requirements and regional and local characteristics.

It gives effect to site and species protection measures through the establishment of the Natura 2000 network and designation of European Sites including Special Areas of Conservation (SAC) and Special Protected Areas (SPA). It also establishes a list of species (other than birds) whose habitats must be protected to secure their survival. These priority species and habitats are subject to a higher level of protection.

The Directive also requires appropriate assessment of any plan or project not directly connected with or necessary to the management of a European Site, but likely to have significant effects upon a European site, either individually or in combination with other plans or projects.

2.1.2 Council Directive on the Conservation of Wild Birds

2.1.2.1 2009/147/EC- The Birds Directive

The Directive provides a framework for the conservation and management of, and human interactions with, wild birds in Europe. It makes provisions for the maintenance of the wild bird populations across their natural range; conserves the habitats for rare or vulnerable species listed in Annex I and of migratory species through the classification of SPAs and provides protection for all wild birds.

2.2 Irish Legislation

2.2.1 The European Communities

2.2.1.1 (Birds and Natural Habitats) (Amendment) Regulations 2015 S.I. No. 355 of 2015

The European Communities (Birds and Natural Habitats) (Amendment) Regulations provide that the following shall be construed together as one:

- Wildlife Act 1976
- Wildlife (Amendment) Acts of 2000, 2010 and 2012
- European Communities (Birds and Natural Habitats) (Restrictions of the Use of Poison Bait) Regulations 2010
- European Communities (Birds and Natural Habitats) Regulations 2011
- European Communities (Birds and Natural Habitats) (Amendment) Regulations of 2013, 2015
- Wildlife Amendment Bill 2016 (proposed legislation)

2.2.2 European communities (Birds and Natural Habitats)

2.2.2.1 Regulations 2011 to 2015

The Regulations give effect to requirements relating to the designation of protected sites under the Birds Directive and Habitats Directive. The Regulations provide for the protection and management of European Sites and place obligations on all public authorities to have regard to the requirements of the Habitats Directive beyond the realms of planning related consents issued under the Planning and Development Act 2000, as amended (the PDA). The Regulations also provide for the protection of species of European

importance.

2.2.2.2 Wildlife Acts 1976 to 2012

The Acts provide for *inter alia* the protection of wildlife. The Acts prohibit the intentional killing, taking or injuring of certain wild birds or wild animals; or the intentional destruction, uprooting or picking of certain wild plants.

2.2.2.3 Wildlife Amendment Bill 2016

The purpose of the Bill is to provide for the implementation of a reconfiguration of the Raised Bog Natural Heritage Area Network arising from (i) the proposals from the Review of Raised Bog Natural Heritage Area Network published in January 2014; (ii) an assessment of the effects on the environment of the proposals arising from the Review and, if required, any other screening for an assessment or as the case may be, assessment, including public consultation undertaken and (iii) observations or submissions received during the course of public consultation.

Taken as a whole, nature conservation legislation is of key importance in undertaking EcIA for proposed development as it shapes planning policy.

2.3 Planning Policy

2.3.1 National Planning Policy

2.3.1.1 Project Ireland 2040 – National Planning Framework

The National Planning Framework (NPF) is a high-level strategy that will shape growth and development in Ireland up to 2040. The NPF draws upon lessons learned from the National Spatial Strategy 2002-2022 and provides a framework for the sustainable development of Ireland's existing settlements. As a framework document, it sets in train a process by which more detailed planning documents must follow, including the relevant RSES and County Development Plan. The Strategy contains a range of National Policy Objectives (NPO's) providing a wider context for targeting future growth across the country, and which support the delivery of residential development at a suitable location and scale to achieve an overall target of 550,000 additional households nationwide by 2040.

The National Planning Framework 2040 sets out the importance of development within existing urban areas and sets out strategic objectives which Planning Authorities are to have regard to. Furthermore, we highlight a number of objectives contained within the NPF which specifically refer to the subject site such as:

Objective 3a 'To deliver at least 40% of all homes Nationally within the built-up footprint of existing urban settlements.'

Objective 3b 'Deliver at least 30% of all new homes that are targeted in settlements other than the five Cities and their suburbs, within their existing built-up footprints".

Objective 4 states to 'ensure the creation of attractive, liveable, well designed, high quality urban places that are home to diverse and integrated communities that enjoy a high quality of life and wellbeing.'

Objective 5 'To develop cities and towns of sufficient scale and quality to compete internationally and be drivers of national and regional growth, investment and prosperity.'

Objective 6 'Regenerate and rejuvenate cities, towns and villages of all types and scales as environmental assets, that can accommodate changing roles and functions, increased residential population and employment activity and enhanced levels of amenity and design quality, in order to sustainably influence and support their surrounding area.'

Objective 7 'Reversing the stagnation or decline of many smaller urban centres, by identifying and establishing new roles and functions and enhancement of local infrastructure and amenities'; and

'Encouraging population growth in strong employment and service centres of all sizes, supported by employment growth.'

In more self-contained settlements of all sizes, supporting a continuation of balanced population and employment growth.'

Objective 11 'In meeting urban development requirements, there will be a presumption in favour of

development that can encourage more people and generate more jobs and activity within existing cities, towns and villages, subject to development meeting appropriate planning standards and achieving targeted growth.'

Objective 13 states 'In urban areas, planning and related standards, including in particular building height and car parking will be based on performance criteria that seek to achieve well- designed high quality outcomes in order to achieve targeted growth.'

Objective 35 states 'Increase residential density in settlements through a range of measures including reductions in vacancy, re-use of existing buildings, infill development schemes, area or site-based regeneration and increased building heights.'

2.4 Regional Policy

Regarding natural heritage, green infrastructure and biodiversity (Chapter 8), the County Development Plan commits the County to the promotion of sustainable management of the landscape and coast, defining specific objectives such as:

NBG 2 *To promote and implement the objectives of the Local Biodiversity Action Plan for County Louth 2021 - 2026 and any subsequent Louth Biodiversity Action Plan published during the life of this Plan.*

NBG 3 *To protect and conserve Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) designated under the EU Habitats and Birds Directives.*

NBG 4 *To ensure that all proposed developments comply with the requirements set out in the DECLG 'Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities 2010'*

NBG 5 To ensure that no plan, programme, or project 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 or projects.

NBG 6 To ensure screening for Appropriate Assessment (AA) on all plans and/or projects and/or Stage 2 Appropriate Assessment (Natura Impact Report/ Natura Impact Assessment) where appropriate, is undertaken to make a determination. European Sites located outside of the County but within 15km of the proposed development site shall be included in such screenings as should those to which there are pathways, for example, hydrological links for potential effects.

NBG 7 To co-operate with the Regional Planning Assembly and adjoining local authorities, public agencies and community interests to protect regionally significant heritage assets, environmental quality, and to identify threats to existing environmental quality in a transboundary context throughout the region including Northern Ireland.

NBG 8 To consult with the National Parks and Wildlife Service, taking account of their views and any licensing requirements, when undertaking, approving or authorising development, which is likely to affect plant, bird or other animal species protected by law.

NBG 9 To ensure that proposals for development, where appropriate, protect and conserve biodiversity sites outside designated sites and require an appropriate level of ecological assessment by suitably qualified professionals to accompany development proposals likely to impact on such sites.

NBG 10 To ensure that development proposals, where relevant, improve the ecological coherence of the Natura 2000 Network of European Sites and encourage the retention and management of landscape features as per Article 10 of the Habitats Directive.

NBG 11 Where feasible, ensure that no ecological networks, or parts thereof, which provide significant connectivity between areas of local biodiversity, are lost without remediation as a result of implementation of this Plan.

NBG 12 Prevent and control the spread of invasive plant and animal species within the County. **NBG 13** Development sites must be investigated for the presence of invasive species, which if present must be treated and/or eradicated in accordance with best practice. Where appropriate, Invasive Species Management Plans will be prepared for such sites

NBG 14 To protect from inappropriate development and maintain the character, integrity and conservation value of those features or areas of ecological interest listed as pNHA or that may be designated as NHA, during the lifetime of this Plan.

NBG 15 To ensure that any development within or adjacent to a NHA or pNHA is designed and sited to minimise its impact on the ecological value of the site and to resist development that would result in a significant deterioration of habitats or a disturbance of species.

NBG 20 To protect and enhance wetland sites that have been rated A (International), B (National), C+ (County), C and D importance in the Louth Wetland Surveys and any subsequent versions thereof.

NBG 21 To support the implementation of recommendations included in the Louth Wetland Survey and any subsequent versions thereof.

Chapter 11 sets out policies for the environment, natural resources and the coast. With the objective to: "Harness the County's natural and coastal resources in a manner that is compatible with the sensitivity of rural areas, the existing quality of life, and the protection and enhancement of the County's natural environment"

Furthermore, we highlight a number of objectives contained within Chapter 11 which specifically refer to the subject site such as:

ENV 1 To implement European, National and Regional policy in relation to the protection of the environment, climate action and the pursuance of sustainable development principles in respect of the Council's policies and procedures.

ENV 4 To support the goals and objectives of the EU Green Deal, the Climate Action Plan 2019 and the Climate Action Charter in ensuring sustainable development across the County.

ENV 8 To ensure that all external lighting whether free standing or attached to a building shall be designed and constructed so as not to cause excessive light spillage, glare, or dazzle motorists, and thereby limiting light pollution into the surrounding environment and protecting the amenities of nearby prop

ENV 15 To implement the recommendations contained in the River Basin District Management Plans for Ireland 2018-2021 or any subsequent plan. Proposed plans, programmes and projects shall not have an unacceptable impact on the water environment, including surface waters, groundwater quality and quantity, river corridors and associated woodlands. Also, to have cognisance of, where relevant, the EU's Common Implementation Strategy Guidance Document No. 20 and 36 which provide guidance on exemptions to the environmental objectives of the Water Framework Directive.

ENV 17 To implement the recommendations contained in any Groundwater Protection Scheme prepared under EU Ground Water Directives and to protect ground water resources in County Louth, nutrient sensitive areas and the designated shellfish growing areas within Carlingford Lough and Dundalk Bay.

ENV 19 To implement the requirements of the Groundwater Protection Scheme to protect known and potential ground water reserves.

ENV 39 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.

ENV 38 To retain and protect significant stands of existing trees/ hedgerows/woodlands, and seek increased planting of native trees, where appropriate, in new developments.

2.4.1 Louth Biodiversity Action Plan for County Louth 2021-2026

The vision of this biodiversity plan is for County Louth to have healthy people and wildlife, thriving in a healthy, natural environment. The county intends to move from a goal of "No nett loss of biodiversity" to "Nett gain", that is active management and restoration of our life support systems. It sets out a number of draft objectives to protect biodiversity within the county:

Objective 1: Mainstream biodiversity into decision-making across all sectors

Objective 2: Strengthen the knowledge base for conservation, management, and sustainable use of biodiversity

Objective 3: Increase awareness and appreciation of biodiversity and ecosystem services

Objective 4: Conserve and restore biodiversity and ecosystem services in the wider countryside

Objective 5: Conserve and restore biodiversity and ecosystem services in the marine environment

Objective 6: Expand and improve management of protected areas and species

This Louth Local Biodiversity Action Plan will be reviewed and updated, as necessary, within six months of the publication of the fourth National Plan, to ensure that it continues to align with national priorities for biodiversity.

3 Methodologies

3.1 Desk Study

Prior to the main fieldwork contributing to this assessment, a desktop survey of available information sources was carried out. These included:

- The National Biodiversity Data Centre Online Database
- The National Biodiversity Network Online Atlas
- The OSI Geohive Database
- The NPWS Protected Species Database and Online Mapping
- The Environmental Protection Agency Database and;
- The EPA Water Quality in Ireland Report

Designated sites were identified using the current boundary shapefiles (SAC 2022, SPA 2021, NHA 2019/06, pNHA 2011), downloaded from the NPWS website. Other online mapping reviewed included Geohive maps, All Ireland Wetland Survey maps, aerial photography and EPA shapefile datasets[1]. Habitat mapping reviewed included the Irish Semi-Natural Grassland Surveys (ISGS), the National Survey of Native

Woodland (NSNW) and the Ancient and long-established Woodland (NPWS shapefiles). Desk research also included a review of records available through the National Biodiversity Data Centre mapping system.

3.2 Zone of Influence

Following the guidance set out by the (NRA, 2009b), the proposed development has been evaluated based on an identified zone of influence (ZoI) with regard to the potential impact pathways to ecological features (habitats, flora and fauna). The ZoI for terrestrial habitats is limited to the footprint of the proposed development. Hydrological linkages between the proposed development and aquatic habitats/species can occur over significant distances; however, the significance of the impact will be site specific depending on the receiving water environment and nature of the potential impact. Adopting a precautionary approach, the distance over which surface water discharges could have a significant impact on receiving watercourses is considered to extend downstream of the proposed development site to the Irish Sea. The ZoI for significant impacts on breeding birds is considered to extend no more than 100m from the proposed development to take account of disturbance during construction. The ZoI for mammals such as bats, badgers and otters may extend over larger distances due to the fact that they can commute and forage many kilometres from their breeding sites.

3.3 Field Surveys

Field work for this survey was carried out in August 2023 and January 2024. The primary aims of the field surveys were to:

- Identify habitat types within the study area
- Assess for the presence of protected species of flora and fauna
- Identify ecological and environmental constraints to the construction of this residential development
- Identify ecological sensitivities around and within the study area.
- Identify any protected fauna species that may be present

These surveys considered a broad survey area to ensure all other important features that could be impacted by the development due to connectivity to the proposed development site were considered.

These included significant treelines and hedgerows, mammal paths, streams and other watercourses feeding and surrounding the application site. Gross habitat mapping was carried out and is presented in Appendix A. Surveys were carried out for mammals, birds, invertebrates, mature and veteran trees, habitats, bat roosting habitats and botanical features where considered necessary. The surveys and impact assessment have been carried out in accordance with the following guidelines:

- Habitat survey and mapping was carried out as per the guidelines given by Smith et al (2011).
- Habitats were classified according to Fossitt's Guide to Habitats in Ireland (Fossitt, 2000).
- Surveys for invertebrates were carried out National Road Scheme's Ecological Surveying Techniques for protected Flora and Fauna (NRA, 2008).
- Mammal survey methodology followed NRA (2008) and NRA (2005).
- Bat survey methodology followed Collins (2016) and classification of bat roost potential followed Billington & Norman (1997).

These surveys were all carried out by experienced competent ecologists of Flynn Furney Environmental Consultants. No ecological constraints exist for this project.

3.3.1 Flora

Habitats on site were classified using A Guide to Habitats in Ireland (Fossitt, 2000) and mapped in accordance with the 'Best Practice Guidance for Habitat Survey and Mapping' (Smith, O'Donoghue, O'Hora, & Delaney, 2011). The classification is a standard scheme for identifying, describing and classifying wildlife habitats in Ireland. The classification is hierarchical and operates at three levels, using codes to differentiate habitats based on the plant species present. Species recorded in this report are given both their Latin and common names, following the nomenclature as given in the 'New flora of the British Isles' (Stace, 2010). Invasive species listed on Schedule 3 of the Birds and Natural Habitats Regulations 2011 (as amended) were also recorded during site visits and findings are discussed in this report.

3.3.2 Terrestrial Fauna

The site survey conducted included an assessment of the presence, or likely presence, of a range of rare

or protected fauna species. Habitats were assessed for field signs and/or usage by fauna, such as well-used pathways, droppings, places of shelter and features or areas likely to be of particular value as foraging resources.

3.3.3 Bat Surveys

The proposed works are largely planned for grassy verge habitat. Bat surveys included a visual inspection during daylight hours of trees and hedgerows within the area and an assessment for roosting bats. Bat habitat suitability was assessed as per Collins' Bat surveys for professional ecologists: Good practice guidelines (3rd edn.) which sets out the need for bat surveys and the methodology to assess habitats for bat suitability. It is considered that a bat roost survey was not required owing to the nature and condition of the hedges that would be impacted by the project. With the assumption made that the hedgerow on site provides a commuting and foraging habitat irrespective of activity levels. The hedgerows and trees have low suitability bat habitat as it does not provide enough space, shelter, protection to be used by a large number of bats on a regular basis. However, the habitat is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water and can be determined 'Moderately suitable' in terms of connectivity.

Table 3.1 Impacts on bats (Bat Conservation Trust, 2016)

Impacts on bats that can arise from the proposed activities		
Bats	**Roosting habitats**	**Commuting and foraging habitats**
Physical disturbance Noise disturbance through, for example, increased human presence or the use of noise-generating equipment. Lighting disturbance. Injury/ mortality (e.g. in roost during destruction or collision with traffic.	Modification of access points to roost either physically or through, for example, lighting or removal of vegetation Modification of roost either physically, for example by roof removal, or through, for example, changed temperature, humidity, ventilation or lighting regime Loss of roost	Modification of commuting or foraging habitats either physically or through disturbance, e.g. light spill/ noise Severance of commuting routes (fragmentation) Loss of foraging habitats

3.3.4 Avifauna

The site was assessed for the suitability of bird breeding habitats. Birds were observed and recorded during field surveys. Surveys targeted BOCCI species but also recorded common species.

3.3.5 Aquatic Environment

The ecological survey included the assessment of the site for drains which may drain into river or lake waterbodies, which in turn would impact water quality and aquatic fauna.

3.4 Statement of Authority of the Ecology Team

Flynn Furney Environmental Consultants have more than 20 years of experience in ecological surveying and management. The company has detailed knowledge on the principles and implementation of both Irish and European environmental legislation. FFEC has worked closely with statutory bodies including the National Parks and Wildlife Service and Waterways Ireland on habitat management and protection projects. Other expertise includes Ecological Impact Assessment, Habitat and Floral Surveys, Bird Surveying, Bat Surveying, Fish and Waterways surveys.

The surveying and reporting were carried out by **Ian Douglas and Lauren Woods.**

3.5 Ecological Impact Assessment Methodology

This ecological impact assessment has been prepared in accordance with relevant legislation and best practice guidance including:

- The Chartered Institute of Ecology and Environmental Management Guidelines for Ecological Impact Assessment in the UK and Ireland: terrestrial, freshwater and Coastal 2nd Edition. CIEEM (2018).
- The EPA's Draft Advice Notes on Preparing Environmental Impact Statements (EPA, 2015a).
- The EPA's Draft Revised guidelines on Information to be Contained in Environmental Impact Statements (EPA, 2015b).
- Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009).

Ecological features (habitats and species) were evaluated for their conservation importance according to the National Roads Authority's scheme (NRA 2009). For habitats or species, the significance of effects was assessed with reference to their conservation status, abundance and distribution. Description of significant effects follows guidance outlined in the EPA Draft Revised Guidelines on the Information to be Contained in EIS (EPA, 2015b). The term 'significant effect' as used in this report follows guidance (CIEEM, 2018) and is an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. In the case of designated sites, a negative significant effect would be one that undermines the conservation objectives and targets for that site. The significance of impacts on habitats was determined with reference to the value of the feature being affected and the magnitude of the impact. Impacts are considered ecologically significant at a stated geographic scale or are considered not significant.

3.5.1 Introduction and Context

The impacts which may be expected from the development of the proposed recreational area are assessed below. These possible impacts have been assessed under the CIEEM (2018) and the National Roads Authority guidelines (NRA, 2006). Criteria for assessment of duration of impacts used (EPA 2002). These provide guidance on assessing the impact significance upon features of sites proposed for works. Impact significance must be given in the context of their respective ecological value of the site and features under study.

3.5.2 Assessing Ecological Value

The 'ecological value' of an area or feature is therefore defined with reference to geographical context. That is, whether it is of value locally, regionally, nationally or internationally. This is assessed by ecologists on reviewing survey outcomes. Key criteria are the presence of designated sites, the site or feature containing protected species or areas of high biodiversity. The criteria for ecological value are given in Table 3.2.

Table 3.2 Ecological Value Criteria

Ecological Value	Criteria
International	• European Sites' including Special Areas of Conservation (SAC) & Special Protection Areas (SPA). • Sites that satisfy the criteria for designation as a 'European Site' (see Annex III of the Habitats Directive, as amended). • Features essential to maintaining the coherence of the Natura 2000 Network. Sites containing 'best examples' of the habitat types listed in Annex I of the Habitats Directive. • Resident or regularly occurring populations (assessed to be important at the • national level) of the following: • Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; and/or • Species of animal and plants listed in Annex II and/or IV of the Habitats Directive. Ramsar Sites • World Heritage Sites (Convention for the Protection of World Cultural & Natural Heritage, 1972). • Sites hosting significant species populations under the Bonn Convention • Sites hosting significant populations under the Berne Convention
National	• Areas of Special Scientific Interest t (ASSI) or Natural Heritage Area (NHA). National Nature Reserves (NNR). • Marine Nature Reserves (MNR). • Area of Outstanding Natural Beauty (AONB). • Refuge for species protected under the Wildlife (Northern Ireland) Order 1985 (as amended). • Undesignated sites fulfilling the criteria for designation as an ASSI; NNR; MNR; and/or refuge for species protected under the Wildlife (Northern

	Ireland) Order 1985 (as amended). • Resident or regularly occurring populations (important at the national level) of the following: • Species protected under Wildlife (Northern Ireland) Order 1985 or Wildlife Act 1976, as amended); and/or • Species listed on the relevant Red Data list. • Sites containing 'viable areas' of the habitat types listed in Annex I of the Habitats Directive.
	• Sites of Local Nature Conservation Importance (SLNCI). Areas subject to a Tree Preservation Order. • Resident or regularly occurring populations (assessed to be important at the Regional level) of the following: • Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; • Species of animal and plants listed in Annex II and/or IV of the Habitats Directive; Species protected under the Wildlife (Northern Ireland) Order 1985 (as amended); and/or • Species listed on the relevant Red Data list. • Sites containing areas of the habitat types listed in Annex I of the Habitats Directive that do not satisfy the criteria for valuation as of International or National importance. • Regionally important populations of species or viable areas of semi-natural • habitats or natural heritage features identified in the National or Local Biodiversity Action Plan (BAP), if this have been prepared. • Sites containing semi-natural habitat types with high biodiversity in a regional context and a high degree of naturalness, or populations of species that are uncommon within the region. • Sites containing habitats and species that are rare or are undergoing a

	decline in quality or extent at a national level.
Local	• Locally important populations of priority species or habitats or features of natural heritage importance identified in the Local BAP, if this has been prepared; Resident or regularly occurring populations (assessed to be important at the Local level) of the following: • Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; • Species of animal and plants listed in Annex II and/or IV of the Habitats Directive; Species protected under the Wildlife (Northern Ireland) Order 1985 (as amended); and/or • Species listed on the relevant Red Data list containing semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness, or populations of species that are uncommon in the locality; Sites or features containing common or lower value habitats, including naturalised species that are nevertheless essential in maintaining links and ecological corridors between features of higher ecological value; • Sites containing small areas of semi-natural habitat that are of some local importance for wildlife; • Sites or features containing non-native species that are of some importance in maintaining habitat links.

Ecological Impact Assessment must also consider the significance of effects that may be expected arising from a proposed development. CIEEM guidelines (2018) define a significant effect as:

"an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features'... or for biodiversity in general. Conservation objectives 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".

It also states that:

"an effect that is sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the environmental consequences of permitting a project. A significant effect is a positive or negative ecological effect that should be given weight in judging whether to authorise a project: it can influence whether permission is given or refused and, if given, whether the effect is important enough to warrant conditions, restrictions or further requirements such as monitoring".

3.5.3 Assessing the Significance of Effects

The criteria for assessment of the significance of effects is given in the following table. It should be noted that significant effects may also include beneficial effects.

Table 3.3 Criteria for Assessing the Significance of Effects

Impact Significance		Criteria
Significant Negative Effect	**Major Adverse**	• Loss of, permanent damage to or adverse impact on any part of a site of international or national importance; • Loss of a substantial part or key feature of a site of regional importance; • Loss of favourable conservation status (FCS) of a legally protected species; • Loss of or moderate damage to a population of nationally rare or • scarce species.
	Moderate Adverse	• Temporary disturbance to a site of international or national importance, but no permanent damage; • Loss of or permanent damage to any part of a site of regional importance; • Loss of a key feature of local importance; • A substantial reduction in the numbers of legally protected species such that there is no loss of FCS but the population is significantly more vulnerable; • Reduction in the amount of habitat available for a nationally rare

		• or scarce species, or species that are notable at a regional or county level.
No Significant Effect	**Minor Adverse**	• Temporary disturbance to a site of regional value, but no permanent damage; • Loss of, or permanent damage to, a feature with some ecological value in a local context but that has no nature conservation designation; • A minor impact on legally protected species but no significant habitat loss or reduction in FCS; • A minor impact on populations of nationally rare or scarce • species or species that are notable at a regional or county level.
	Negligible	• No impacts on sites of international, national or county importance; • Temporary disturbance or damage to a small part of a feature of local importance; • Loss of or damage to land of negligible nature conservation value; • No reduction in the population of legally protected, nationally rare, nationally scarce or notable (regional level) species on the site or its immediate vicinity. • Beneficial and adverse impacts balance such that resulting • the impact has no overall effect upon the feature.
	Minor Beneficial	• A small but clear and measurable gain in general wildlife interest, • e.g. small-scale new habitats of wildlife value created where • none existed before or where the new habitats exceeds in area that habitats lost.
Significant Positive Effect	**Moderate Beneficial**	• Larger new scale habitats (e.g. net gains over 1 ha in area) • created leading to significant measurable gains in relation to the objectives of biodiversity action plans.

	Major Beneficial	• Major gains in new habitats (net gains of at least 10 ha) of high significance for biodiversity being those habitats, or habitats supporting viable species populations, of national or international importance cited in Annexes I and II of the habitats • Directive or Annex I of the Birds Directive.

3.5.4 Impact Duration and Likelihood

The duration of impact must also be considered when assessing overall ecological impacts. Criteria for assessment of duration of impacts used (EPA 2002), the following terms when quantifying duration:

Table 3.4 Impact Duration and Timescales

Impact Duration	Timescale
Temporary	Up to 1 year
Short-term	1-7 years
Medium-term	7-15 years
Long-term	15-60 years
Permanent	Over 60 years

The likelihood of impacts should also be defined. Assessment of likelihood of impact followed CIEEM guidelines. These assessed likelihood as follows:

Table 3.5 Likelihood and Probability of Impacts

Likelihood	Probability
Almost Certain	Probability estimated at greater than 95%
Probable or Likely	Probability estimated between 50% and 95%
Unlikely	Probability estimated between 5% and 50%
Extremely Unlikely	Probability estimated at less than 5%
Almost Certain	Probability estimated at greater than 95%

3.6 Key Ecological Receptors

In accordance with National Roads Authority guidelines (2009), impact assessment is only undertaken of

'key ecological receptors' (KERS). KERS are within the zone of influence of the project and are "both of sufficient value to be material in decision making and likely to be affected significantly". To qualify as KERS, features must be of local ecological importance (higher value) or higher.

Features falling below this threshold are not assessed. Impacts are described as being either significant or not significant. Broadly, significant effects encompass impacts on the structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species (including extent, abundance and distribution) (CIEEM, 2018).

4 Results

4.1 Designated Areas

The proximity of the proposed development area to European sites, and Qualifying Interests (QIs)/ Special Conservation Interests (SCIs) of European sites, is of importance when identifying potentially likely significant effects. Mobile species have 'range' outside of the European site in which they are QI/SCI. The range of mobile QI/SCI species varies considerably, from several meters (e.g. in the case of whorl snails Vertigo spp.) to hundreds of kilometres (in the case of migratory wetland birds). Whilst static species and habitats are generally considered to have ZoIs within close proximity of the proposed development, they can be significantly affected at considerable distances from an effect source; for example, where an aquatic QI habitat or plant is located many kilometres downstream from a pollution source. Hydrological linkages between the proposed development and European sites (and their QIs/SCIs) can occur over significant distances; however, any effect will be site specific depending on the receiving water environment and the nature of the potential impact. A reasonable worst-case ZoI for water pollution from the proposed development is considered to be the ground and surface water, wherein the proposed works are to be located. The likely effects of the proposed development on European sites has been appraised using a source-pathway-receptor model, where:

- A 'source' is defined as the individual element of the proposed development that has the potential

to impact on an European site, its qualifying features and its conservation objectives;

- A 'pathway' is defined as the means or route by which a source can affect the ecological receptor;
- A 'receptor' is defined as the Special Conservation Interests of Special Protection Areas (SPA) or Qualifying Interests (QI) of Special Areas of Conservation (SAC) for which Conservation Objectives have been set for the European sites being screened.
- A source-pathway-receptor model is a standard tool used in environmental assessment. In order for an effect to be likely, all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism results in no likelihood for the effect to occur. The source pathway-receptor model was used to identify a list of European sites, and their QIs/SCIs, with potential links to European sites. These are termed as 'relevant' European sites/QIs/SCIs throughout this report

4.1.1 European Sites

SACs are sites of international importance due to the presence of Annex I habitats and/or Annex II species listed under the EU Habitats Directive (92/43/EEC). SPAs are designated for the protection of bird species listed on Annex I of the Bird Directive (2009/147/EC), regularly occurring populations of migratory species and areas of international importance for migratory birds. The European sites correspond to those that were subject to Screening for Appropriate Assessment (presented under separate cover). The assessment considered the European sites within the ZoI of the proposed development and/or with hydrological connectivity to the proposed development sites, and concluded that there is no likelihood of effects as a result of the proposed development, either alone or in combination with other plans and projects, if the correct mitigation measures are enacted. All sites designated for the conservation of nature within 15km of the proposed works are detailed in table 4.1.

Table 4.1 Internationally designated sites within 15km of the proposed development

Site Name	Qualifying Interests (* denotes a priority habitat)	Distance
Dundalk Bay SAC [000455]	• Estuaries [1130] • Mudflats and sandflats not covered by seawater at low tide [1140] • Perennial vegetation of stony banks [1220] • Salicornia and other annuals colonising mud and sand [1310] • Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330] • Mediterranean salt meadows (Juncetalia maritimi) [1410]	6.7km
Dundalk Bay SPA [004026]	• Great Crested Grebe (Podiceps cristatus)[A005] • Greylag Goose (Anser anser) [A043] • Light-bellied Brent Goose (Branta berniclahrota) [A046] • Shelduck (Tadorna tadorna) [A048] • Teal (Anas crecca) [A052] • Mallard (Anas platyrhynchos) [A053] • Pintail (Anas acuta) [A054] • Common Scoter (Melanitta nigra) [A065] • Red-breasted Merganser (Mergus serrator)[A069] • Oystercatcher (Haematopus ostralegus) [A130] • Ringed Plover (Charadrius hiaticula) [A137] • Golden Plover (Pluvialis apricaria) [A140] • Grey Plover (Pluvialis squatarola) [A141] • Lapwing (Vanellus vanellus) [A142] • Knot (Calidris canutus) [A143] • Dunlin (Calidris alpina) [A149] • Black-tailed Godwit (Limosa limosa) [A156] • Bar-tailed Godwit (Limosa lapponica) [A157] • Curlew (Numenius arquata) [A160] • Redshank (Tringa totanus) [A162] • Black-headed Gull (Chroicocephalus ridibundus) [A179] • Common Gull (Larus canus) [A182] • Herring Gull (Larus argentatus) [A184] • Wetland and Waterbirds [A999]	6.7km

Stabannan-Braganstown SPA [004091]	• Greylag Goose (Anser anser) [A043]	5.7km
Boyne Estuary SPA [004080]	• Shelduck (Tadorna tadorna) [A048] • Oystercatcher (Haematopus ostralegus) [A130] • Golden Plover (Pluvialis apricaria) [A140] • Grey Plover (Pluvialis squatarola) [A141] • Lapwing (Vanellus vanellus) [A142] • Knot (Calidris canutus) [A143] • Sanderling (Calidris alba) [A144] • Black-tailed Godwit (Limosa limosa) [A156] • Redshank (Tringa totanus) [A162] • Turnstone (Arenaria interpres) [A169] • Little Tern (Sterna albifrons) [A195] • Wetland and Waterbirds [A999]	13.1km
Boyne Coast and Estuary SAC [001927]	• Estuaries [1130] • Mudflats and sandflats not covered by seawater at low tide [1140] • Annual vegetation of drift lines [1210] • Salicornia and other annuals colonising mud and sand [1310] • Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330] • Embryonic shifting dunes [2110] • Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120] • Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]	14.2km
River Boyne And River Blackwater SAC [002299]	• Alkaline fens [7230] • Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] • Lampetra fluviatilis (River Lamprey) [1099]	10.7km

	• Salmo salar (Salmon) [1106] • Lutra (Otter) [1355]	
River Boyne and River Blackwater SPA [004232]	• Kingfisher (Alcedo atthis) [A229]	11.7km

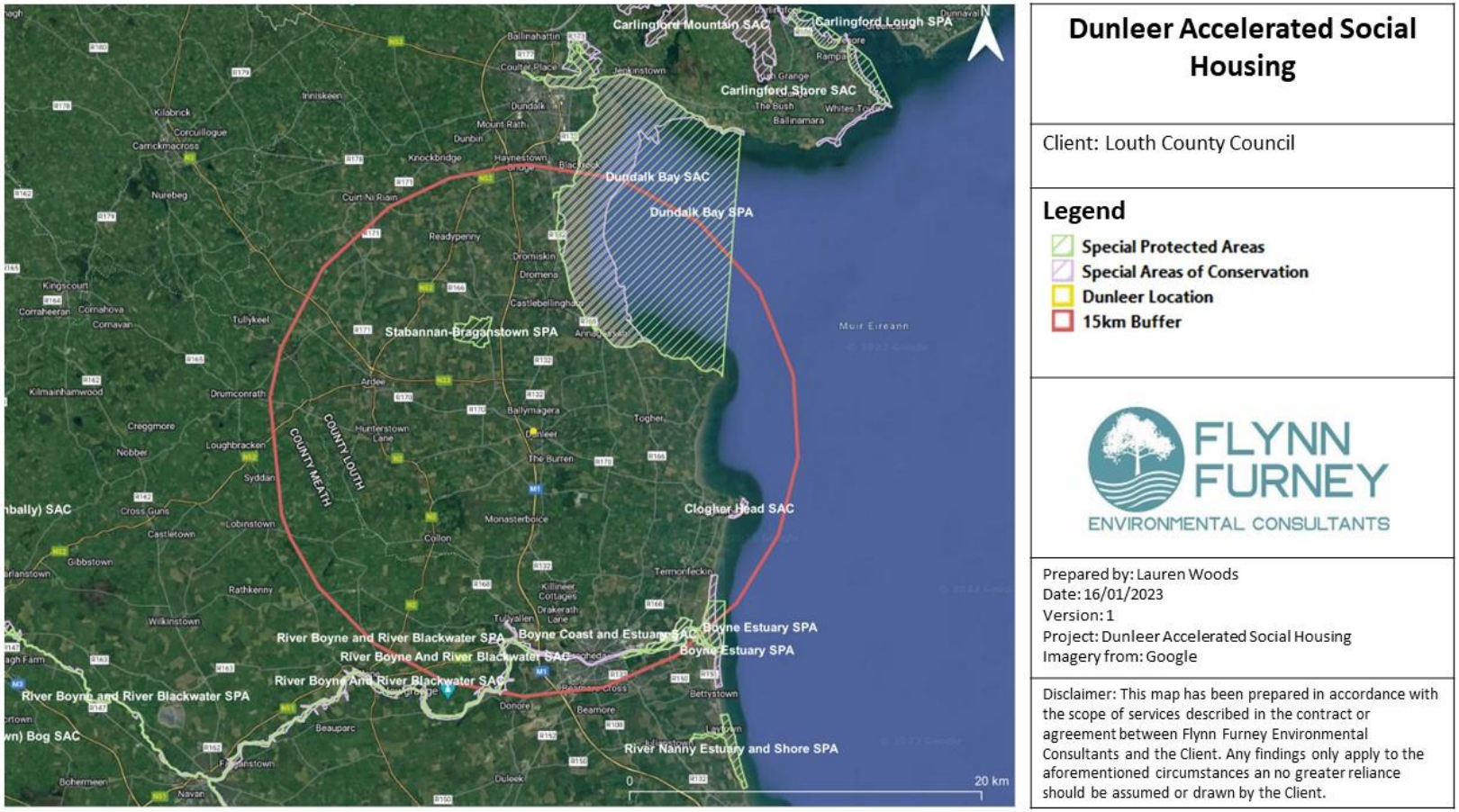


Figure 4.1 SACs and SPAs within 15km of the proposed development

The project has already been screened for AA by the current authors, Flynn Furney Environmental Consultants (2023). The AA Screening report concluded:

'In our professional opinion and view of the best scientific knowledge and view of the conservation objectives of the European sites reviewed in the screening exercise, the proposed development individually/in combination with other plans and projects (either directly or indirectly) is not likely to have any significant effects on European designated site. **Therefore, progression to Stage 2 Appropriate Assessment is not required.'**

4.1.2 Nationally Designated Sites

Natural Heritage Areas (NHAs) are sites deemed to be of national ecological importance and are afforded protection under the Wildlife (Amendment) Act 2000. Many NHA boundaries overlap with European sites. The proposed NHAs (pNHAs) have not been statutorily proposed or designated under the Wildlife Act (as amended). However, they are afforded some protection under planning legislation and objectives are included in the current County Development Plan specifically aimed at protecting pNHAs or providing complimentary protective measures that enhance the network of pNHAs.

The Louth County Council Development Plan 2021-2027 sets out policies and objectives to develop and improve the social, economic, environmental and cultural assets of the County. Regarding natural heritage, green infrastructure and biodiversity, it commits the County to the promotion of a sustainable management of the landscape and coast, defining specific objectives for the protection of pNHAs.

NBG 14 To protect from inappropriate development and maintain the character, integrity and conservation value of those features or areas of ecological interest listed as pNHA or that may be designated as NHA, during the lifetime of this Plan.

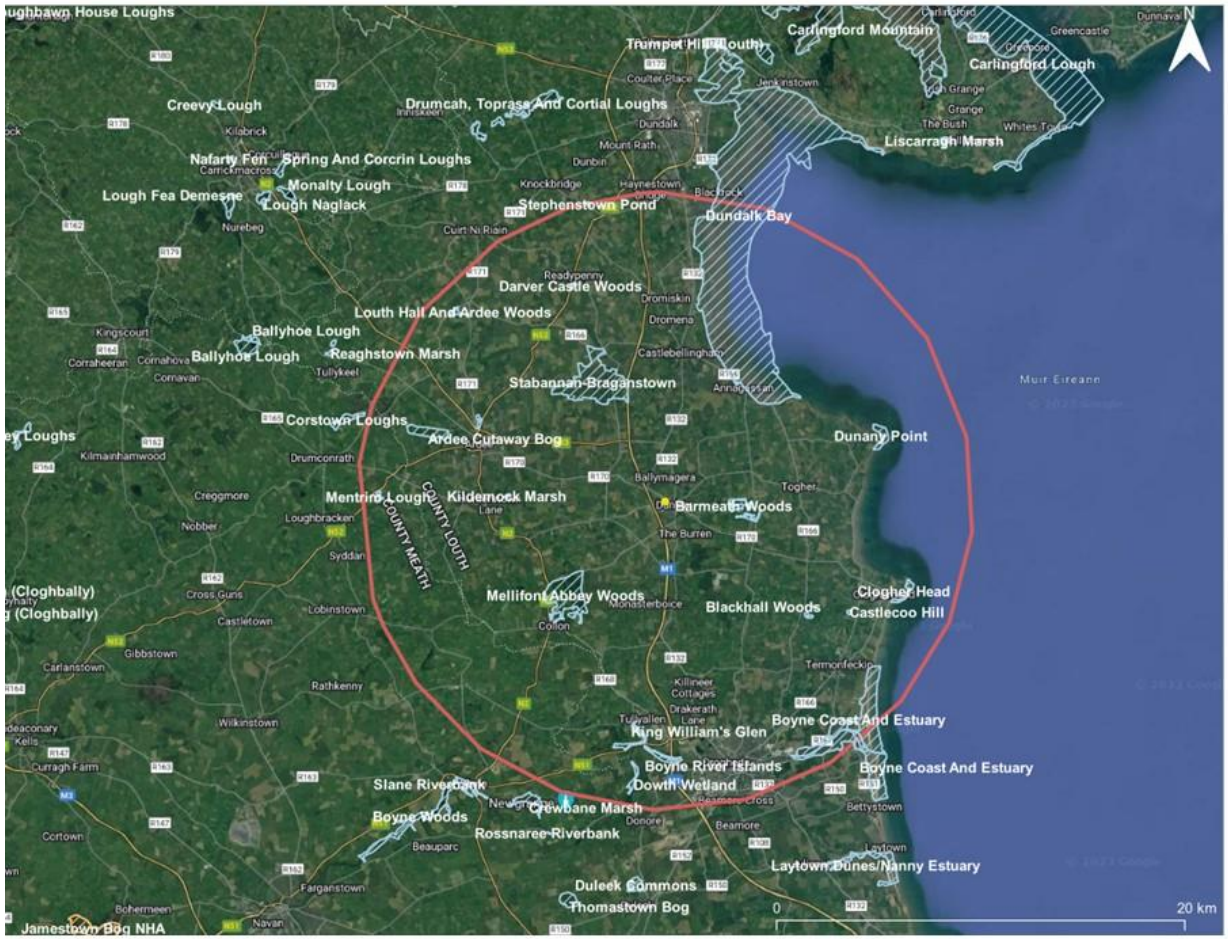
NBG 15 To ensure that any development within or adjacent to a NHA or pNHA is designed and sited to minimise its impact on the ecological value of the site and to resist development that would result in a significant deterioration of habitats or a disturbance of species.

There are no NHAS within 15km of the proposed development. However, there are 16 pNHAs within 15km

of the proposed development, the closest being Barmeath Woods. These sites are at a great remove and have no identifiable connectivity with the proposed works. Given the nature and scale of the works, there is no known vector, pathway or conduit for impacts between the proposed works and NHAs/ pNHAs. Therefore, the proposed works are considered *extremely unlikely* (NRA, 2009) to have any significant direct or indirect impacts on the remaining the sites and they are not considered further.

Table 4.2 NHA/ pNHA sites within 15km of the proposed development

Site Name and Code	Designation	Approximate Distance to Site
Barmeath Woods [001801]	pNHA	3.1km
Blackhall Woods [001293]	pNHA	8.9km
Castlecoo Hill [001458]	pNHA	10.4km
Clogherhead [001459]	pNHA	12.3km
Boyne Coast and Estuary [00957]	pNHA	13.6km
King William's Glen [001804]	pNHA	11.1km
Boyne River Islands [001862]	pNHA	12.3km
Mellifont Abbey Woods [001464]	pNHA	5.9km
Mentrim Lough [001587]	pNHA	13.8km
Ardee Cutaway Bog [001454]	pNHA	11.2km
Louth Hall and Ardee Woods [001616]	pNHA	9.8km
Stabannan-Braganstown [000456]	pNHA	5.6km
Dundalk Bay [000455]	pNHA	7.3km
Dunany Point [001856]	pNHA	10.5km
Stephenstown Pond [001803]	pNHA	15.7km
Darver Castle Woods [001461]	pNHA	11.3km



Dunleer Accelerated Social Housing

Client: Louth County Council

Legend

- Natural Heritage Areas
- Proposed Natural Heritage Areas
- Dunleer Location
- 15km Buffer

FLYNN FURNEY ENVIRONMENTAL CONSULTANTS

Prepared by: Lauren Woods
Date: 16/01/2023
Version: 1
Project: Dunleer Accelerated Social Housing
Imagery from: Google

Disclaimer: This map has been prepared in accordance with the scope of services described in the contract or agreement between Flynn Furney Environmental Consultants and the Client. Any findings only apply to the aforementioned circumstances an no greater reliance should be assumed or drawn by the Client.

Figure 4.2 pNHAs within 15km of the proposed development

4.1.3 All Ireland Wetlands Survey

Wetland is a collective term for ecosystems (habitats and their associated species) whose formation has been dominated by water, and whose processes and characteristics are largely controlled by water. A wetland is a place that has been wet enough for a long enough time to develop specially adapted vegetation and other organisms (Maltby 1986). They occur where the water table is at or near the surface of the land, or where the land is covered by a layer of shallow water, either throughout the entire year or seasonally.

The All-Ireland Wetland Survey In conjunction with Foss Environmental Consulting, Wetland Surveys have developed an online map of all known wetlands in the Republic of Ireland. This map was investigated to identify any wetlands which may be affected by the proposed development.

The Louth County Council Development Plan 2021-2027 sets out policies and objectives to protect wetlands recognising that while many protected areas include wetlands, most wetland areas occur outside protected sites. It specifically defines objectives for the protection of these wetlands.

NBG 20 To protect and enhance wetland sites that have been rated A (International), B (National), C+ (County), C and D importance in the Louth Wetland Surveys and any subsequent versions thereof.

No wetlands were identified as having the possibility to be affected by the development.

4.2 Biodiversity Records

Records of rare and protected species of fauna were obtained from the National Biodiversity Data Centre (NBDC) online database, the National Biodiversity Network (NBN) Atlas and the Flora Protection Order (FPO) Map Viewer. **In summary, there are no records of any protected species recorded within 2km of the proposed development site.**

5 Field Surveys

5.1 Overview of Habitats and Habitats Classification

An overview of the main habitats recorded is detailed below.

Habitats within the study area were mapped according to Level 3 of the Heritage Council classification (Fossitt, 2000) following the Heritage Council's Best Practice Guidance (Smith et al., 2011) and the Joint Nature Conservation Committee's (JNCC) Handbook for Phase 1 Habitat Survey – a technique for environmental audit (JNCC, 2010). The Heritage Council's *A Guide to Habitats in Ireland* (Fossitt, 2000) is the standard habitat classification system used in Ireland. Habitats were also assessed for correspondence to the Habitats Directive Annex I habitat types (European Commission, 2013).

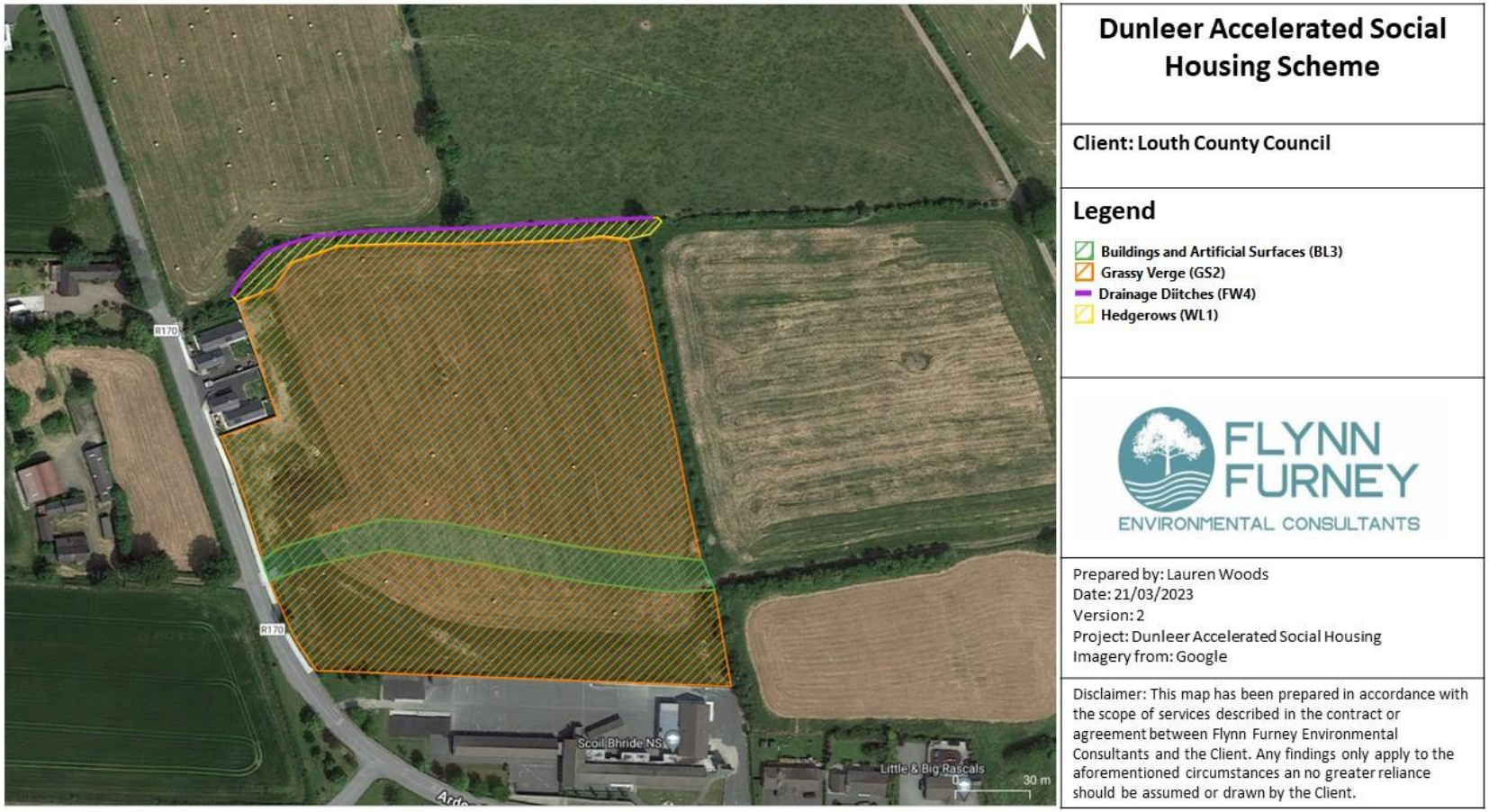


Figure 5.1 Dunleer habitat map

The site is currently composed of **Grassy verge (GS2)** habitat throughout. This was dominated by coarse grasses including Cock's-foot (*Dactylis glomerata*), Bents (*Agrostis spp*.), False Oat-grass (*Arrhenatherum elatius*) and Yorkshire fog (*Holcus lanatus*). The herb layer likely contains mainly tall growing or climbing herbs including common Hogweed (*Heracleum sphondylium*), Bush Vetch (*Vicia sepium*), Thistles (*Cirsium arvense, C. vulgare*) and an abundance of Docks (*Rumex spp*.). Areas of **Hedgerows (WL1**) around were found along the site's northern boundary and were composed of mostly Ash *(Fraxinus excelsior),* Bramble (*Rubus fruticosus agg*) and Hawthorn (*Crataegus monogyna*). A **Drainage Ditch (FW4)** exists to the north of the site.

No Annex I habitat types were recorded within or surrounding the proposed development area. Habitat types encountered were typical of abandoned grassland around the country.

5.2 Fauna

5.2.1 Mammals

The survey area was surveyed by direct search (during daylight hours) for signs of mammalian activity which included prints, tracks, hairs, droppings, odour, digging and evidence of feeding. Places of refuge, rest and other activities such as Badger (*Meles meles*) setts were sought. Survey techniques are outlined in the National Road Authority's Ecological Surveying Techniques for Protected Flora and Fauna (TII/NRA, 2008). Any tangible signs were recorded. Mammals which were recorded on the NBDC Mammals of Ireland 2016-2025 Database within 1km of the site included West European Hedgehog *Erinaceus europaeus* however there were no recordings within the site. No mammal refugia (e.g. setts of Badger *Meles meles* or Otter holts) were found within the survey area. No impacts to any protected mammal species is therefore deemed possible.

5.2.2 Birds

A dedicated bird survey was not carried out at this site. Birds recorded during field surveys were typical urban species. Birds recorded on the NBDC Birds of Ireland Database within 1km of the site included Common Buzzard (*Buteo buteo)*, Grey wagtail (*Motacilla cinerea*), White-throated dipper (*Cinclus cinclus*),

grey heron (*Ardea cinerea)* and Yellowhammer (*Emberiza citronella*) however none were recorded within the perimeters of the Dunleer site. One of these species (Yellowhammer) is on the Red List of the Birds of Conservation Concern in Ireland.

Field surveys confirmed that this site does not offer feeding for any species protected in the SPAs listed above. The hedgerows along the sites provide suitable breeding habitat for a range of passerine species. All birds recorded during site surveys were typical amber and green listed species seen in agricultural and urban settings.

5.2.3 Bats

All bat species are protected by law in Ireland under the Bonn Convention (1992), the Bern Convention (1982) the EU 'Habitats' Directive (92/43/EC; transposed into Irish law by S.I. No. 94 of 1997) and the Wildlife Acts 1976 and 2000. Lesser Horseshoe Bats are listed as Annex II species of the Habitats Directive (afforded special protection). All other Irish bat species are listed in Annex IV (general protection) of this Directive. Nathusius's pipistrelle (*Pipistrellus nathusii),* Soprano pipistrelle (*Pipistrellus pygmaeus)*, and Common pipistrelle (*Pipistrellus pipistrellus)* were recorded north west within 2km of the site.

The proposed works are largely planned for former agricultural lands with a hedgerow bordering the north side of the site. Bat surveys included a visual inspection during daylight hours of trees within the area and an assessment for roosting bat potential. The hedgerow on site has low suitability for bat habitat as it does not provide enough space, shelter, or protection for bat roosting. Trees did not contain obvious holes, cracks or cavities and there were no large dead trees covered with mature ivy.

An assessment of the sites suitable for bat roosting and foraging was carried out based on Colins (2016). The site was noted as having negligible roosting habitat and low commuting and foraging habitat.

5.2.4 Amphibians and Reptiles

No suitable breeding sites for Frog (*Rana temporaria*) or Smooth Newt (*Lissotriton vulgaris*) are found within the survey area. No Common (or Viviparous) Lizard (*Zootoca vivipara*) were recorded within the site.

5.2.5 Protected Invertebrates

The Marsh Fritillary butterfly (*Euphydryis aurinia)* is Ireland's only Habitats Directive Annex II insect species. In Ireland, the species relies solely on Devil's-Bit Scabious as its larval food plant.

No stands of Devil's-Bit Scabious were recorded within or surrounding the proposed development site. No larval webs can therefore occur on site.

5.2.6 Invasive Species

A search of records for invasive non-native species on the National Biodiversity Data Centre[1] was carried out as part of this project. Table 5.1 shows the Third Schedule and Non-Third Schedule Invasive species recorded on the NBDC database within 2km of any of the works.

Table 5.1 Invasive species recorded on the NBDC within 2km of the works area

Species Name	Record count	Date of record	Data source	Found during field surveys	Management required
Brown Rat (Rattus norvegicus)	1	23/12/1968	Northern Ireland Mammal Database	No	None
Common Garden Snail (Cornu aspersum)	1	31/12/1909	All Ireland Non-Marine Molluscan Database	No	None
Keeled Slug (Tandonia sowerbyi)	1	31/12/1905	All Ireland Non-Marine Molluscan Database	No	None

Wrinkled Snail (Candidula intersecta)	1	31/12/1905	All Ireland Non-Marine Molluscan Database	No	None
European Rabbit (Oryctolagus cuniculus)	1	23/12/1968	Northern Ireland Mammal Database	No	None

No Third Schedule invasive species were found within or surrounding the survey site. Non-third schedule species were recorded within private gardens adjacent to the site. These included Snowberry (*Symphoricarpos albus*), Fuchsia (*Fuchsia magellanica*) and Sycamore (*Acer pseudoplatanus*). These species are not subject to any legislative restrictions and are not within the landholding for this development.

6 Impact Assessment

6.1 Impact Assessment of the Proposed Development

The potential impacts on the habitats and species within and surrounding the proposed development site is provided here.

6.1.1 Impact Assessment: Habitats

The potential impacts on the habitats identified within and surrounding the proposed development site is provided in the table below.

Table 6.1 Impact Assessment: Habitats

Impact Assessment: Habitats				
Ecological Feature	**Evaluation**	**Nature of Impact**	**Significance**	**Duration & Likelihood**
Habitats within the Proposed Development Site				
Hedgerows	High local value	Some sections of hedgerow may be removed during construction	Minor adverse	Permanent/ Likely
Grassy verge	Low local value	Loss and alteration to all this habitat area of low ecological value	Negligible	Permanent/ Almost certain
Drainage Ditch	Low local value	Storm water will be discharged into the drainage ditch during the operational phase of the proposed development	Negligible	Permanent/ Likely

6.1.2 Impact Assessment: Fauna

The potential impacts on the fauna within and surrounding the proposed development site is provided in the table below.

Table 6.2 Impact Assessment: Fauna

Impact Assessment: Fauna			
Species/Group	**Nature of Impact**	**Significance**	**Duration & Likelihood**
Protected Mammals	Potential loss of feeding/ foraging area for terrestrial mammals	Negligible	Permanent/ Likely
Birds	Disturbance to nesting habitat during works. Increased anthropogenic disturbance locally	Minor adverse	Permanent/ Likely
Bats	Possible impacts to foraging and commuting habitat	Minor adverse	Permanent/ Likely

	Impacts of lighting in a previously unlit area		
Amphibians	No impacts predicted	N/A	N/A
Protected Invertebrates	No impacts predicted	N/A	N/A

6.1.3 Cumulative and In-combination Impacts

Louth County Council's online planning portal (https://louthco.maps.arcgis.com/) was searched for planning applications within this area. Planning permission has been granted in the area for numerous other developments, mostly residential developments. The largest of which is for the land located within Ravel Dunleer (Ref: 17309). This was a housing development consisting of (i) removal of remaining walls of stone building on site; (ii) provision of 80 no. residential units comprising: (a) 6 no. 4 bed units, (b) 37 no. 3 bed units, (c) 37 no. 2 bed units; (iii) renewable energy design measures for each housing unit; (iv) internal distributor road providing access to the site from the Ardee Road to the west with permanent fencing to the south and temporary fencing to the north pending future development; (v) pedestrian access to the site from the Ardee Road to the south; (vi)ESB substation; (vii) varied site boundary treatment comprising walls and fencing; (viii) temporary signage; (ix) estate signage; and (x) all associated site works. Other planning permissions in the area consisted of small scale residential developments.

The Louth County Development Plan in complying with the requirements of the Habitats Directive requires that all Projects and Plans that could affect the Natura 2000 sites in the same zone of impact of the Project site would be initially screened for Appropriate Assessment and if requiring Stage 2 AA, that appropriate employable mitigation measures would be put in place to avoid, reduce or ameliorate negative impacts. Similarly, objectives to protect biodiversity are set out in Louth's County Development Plan and Louth's Biodiversity Action Plan. In this way any in- combination impacts with Plans or Projects for the development area and surrounding townlands in which the development site is located, would be avoided. Any new applications for the Project area will be assessed on a case-by-case basis by Louth County Council which will determine the requirement for AA Screening as per the requirements of Article 6(3) of the Habitats Directive, and determine any impact a plan or project may have on any other area of

biodiversity. Having regard to the determination that the proposed project will not have any direct impacts on any Natura 2000 sites, it can be concluded that there will be no significant cumulative impacts in terms of the proposed project or from another other plans or projects in the development area. This is similar for other areas of biodiversity which may be impacted.

7 Discussion of Impact Assessment

7.1 Impacts on Habitats

Impacts upon habitat types within the proposed development footprint are considered of *Minor Adverse* or lesser significance, given the conservation value, scale and likelihood of the impacts predicted from the construction and operation of the proposed development. *Negligible* ecological impacts of a permanent duration are predicted for grassy verge habitat which makes up the majority of the proposed site. This habitat type will be converted into built land and amenity grassland as a result of the proposed development. Impacts of *Minor Adverse* significance are also predicted to hedgerow bordering the proposed development site. *Negligible* impacts are predicted to the drainage ditch to the north of the site. Oil/petrol interceptors will prevent pollution from entering the drainage ditch during the operational phase of the project. There is limited potential for siltation to occur in the drainage ditch during the construction phase of the project as they ditch is separate from the works area by a hedge and back which are due to be retained.

The overall impact significance of the proposed development upon these habitats (taken as a whole) can therefore be considered to be *Minor Adverse* or lower. Measures to mitigate any impacts as defined here are given in the following section.

7.2 Impacts on Fauna

Impacts upon fauna within the proposed development footprint are considered *Minor Adverse* or of lesser significance, given the habitat types being affected and the scale and likelihood of the impacts predicted from the construction and operation of the proposed development. No impacts are predicted on

mammalian species bar the loss of foraging/commuting habitat. This is based upon the absence of any definite signs of mammal activity onsite.

Possible impacts of *Minor Adverse* significance are predicted on bird species. This is due to the loss of some feeding and foraging areas that will occur from the development of some arable land and hedgerows. In addition to disturbance impacts due to greater human presence within the site.

The proposed development may be predicted as having some permanent impacts upon bat populations due to the loss of grassland possible disturbance to commuting corridors and increased artificial lighting. This may cause minor impacts on feeding opportunities for local bat populations.. Given that no bat roosts will be impacted by the proposed development and the availability of similar better-quality habitat locally the impacts to local bat populations due to the construction of the proposed development is considered *Minor adverse.*

Lighting can severely impact bat roosting behaviour, foraging behaviour and commuting behaviour with knock-on effects on accessing feeding areas. Many species of bats forage along dark corridors like rivers and hedgerows and are known to stay clear of well-lit areas. Lighting in the new development could impact upon bats' home ranges. Bat vision is an important sense during dusk and dawn as bats begin to move to and from the roosting sites. Excessive luminance particularly around roosting sites can lead to bats becoming disorientated and can also lead to abandonment of roosts. On review, it is our professional opinion that given the proposed development is on the edge of an existing lit area impacts to bats due to lighting of the operational phase of the proposed development is considered *minor adverse* as it would result in 'a minor impact on legally protected species but no significant habitat loss or reduction in favourable conservation status'.

8 Impact Mitigation

Mitigation measures to address the potential impacts of the proposed development on habitats and fauna within and surrounding the proposed development (as required) are provided below.

8.1 Mitigation Measures: Habitats

Table 8.1 Mitigation Measures for Habitats

Ecological Feature	Nature of Impact	Recommended Mitigation Measures
Habitats within and around the Proposed Development Site		
Hedgerows	Small area removed	• Area to be cleared to be kept to an absolute minimum • Existing hedgerows on site should be retained where possible • All hedgerows and trees to be retained will be fenced off at the outset of works and for the duration of construction to avoid damage to the trunk, branches or root systems of the trees. • Temporary fencing will be erected at a sufficient distance from trees and hedges to enclose the Root Protection Areas (RPAs) of the larger trees that are not within the works areas (National Roads Authority, 2005- 2011). In general, the RPA covers an area equivalent to a circle with a radius 12 times the stem diameter (measured at 1.5m above ground level for single-stemmed trees); • Soil will not be placed within the Root Protection Area for retained trees or within 5m of hedgerows; • Any hedge planted as part of the landscape plans should be **native** species only. • Any hedge cutting proposed as part of the preclearance works will only breast the existing hedgerow and will not reduce the height or overall thickness of the hedgerow. • Any subsequent hedge cutting beyond removing new growth will only occur at 3 year intervals after the initial cut.

8.2 Mitigation Measures: Fauna

Species/ Group	Nature of Impact	Recommended Mitigation Measures
Birds	Loss of feeding/ foraging area	• All clearance of tall vegetation (woody or herbaceous) to facilitate construction works will be undertaken outside of the breeding bird season (1st March to 31st August, inclusive), • Where this seasonal constraint cannot be adhered to, the area of proposed clearance will be checked for nesting birds by a suitably qualified project ecologist. If birds are encountered, clearance works will be suspended in the relevant areas until nesting has finished; • Landscape planting is to include seed/fruit bearing plants and flowering plants attractive to invertebrates. • Landscape planting to be guided by recommendations given in the All-Ireland Pollinator Plan.
Bats	Loss of feeding/ foraging area	• No permanent lighting should be placed on, near or directed towards any of the site's hedgerows during construction or occupancy of the housing on site. • Landscape planting is to include seed/fruit bearing plants and flowering plants attractive to invertebrates. There is an opportunity to expand habitat corridors on site through the planting of native shrubs and trees. • Night-flowering plants (e.g. honeysuckle *Lonicera periclymenum*) and strong smelling plants should be included within the planting plan on completion to attract night pollinators for bats.

	Potential disturbance disruption from lighting	• Lighting at the site is to be kept to the minimum required. • LED luminaires should be used due to the fact that they are highly directional, have lower intensity, have good colour rendition and their dimming capability. • A warm white spectrum (<2700 Kelvins should be used to reduce the blue light component of the LED spectrum). • Luminaires will feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats. • Column heights should be carefully considered to minimise light spill. The shortest column height allowed should be used where possible. Bollard lighting should be considered for pedestrian and walking areas if deemed necessary. Construction lights should be cowled and/or directional to reduce light pollution affecting surrounding features.
Drainage Ditch	Potential disturbance from siltation during the construction phase	• Silt fencing should be erected at the hedgerow to prevent siltation during the construction phase of the project.

8.3 Residual Impacts after Mitigation

Residual impacts after mitigation are:

- Permanent loss of grassy verge habitats. These habitats are of low, local significance.
- Permanent loss of some feeding and foraging areas for birds and bats. However, these habitat areas are widely represented in the immediate area surrounding the area proposed for development.

Following the implementation of the mitigation measures set out in Sections 8.1 and 8.2, the significance

of any residual impacts may be described as *negligible*.

9 Conclusion

Ecological surveys were carried out within and surrounding the proposed development site in August 2023 and January 2024. Surveys included those for mammals, invertebrates, birds, bats, habitats and invasive species. An extensive desktop survey was carried out which used available data from suitable sources which included online databases (e.g. National Parks and Wildlife Service and National Biodiversity Data Centre).

Habitat types recorded were typical of abandoned agricultural lands and are common in Co. Louth. No habitats listed in Annex I of the Habitats Directive were noted. No habitats of higher than *High Local* ecological value were found with the proposed development site or in the surrounding area

No ecologically sensitive habitats were noted within the proposed development site. The development will not result in the loss of internationally, nationally, or regionally important habitat areas.

No protected mammal species were found to occur within or surrounding the proposed development area. It is unlikely that any protected mammal species will be impacted as a result of the construction and operation of this residential development.

A survey of bat habitat within and surrounding the study area found no potential bat roost habitat areas. A number of measures have been described to mitigate against any impacts on commuting and foraging bat populations during the construction and operation of this residential development.

No Annex II (Birds Directive) bird species or red-listed species were recorded during field surveys of the site and surrounds. Mitigation measures have been drawn up to address any potential impacts to local bird populations. These include the limiting of works areas, and the protection of woody vegetation during the bird nesting season and the creation/ enhancement of ecological corridors (hedgerows) on site.

Finally, it will be a condition of the contract between the proponent and the Main Contractor that the

Project Construction Management Plan (CMP) prepared for the project (and provided as part of the application under separate cover) will be implemented by the contractor and overseen by the project proponent. The Preliminary Construction Management Plan (PCMP) specifies how materials with the potential to adversely affect surface water quality, for example, fuel and oil, will be stored and handled in a manner that minimises the risk of accidental spills or leaks. The PCMP also specifies measures that will ensure that spill containment and clean-up equipment is provided and maintained during the construction phase of the development.

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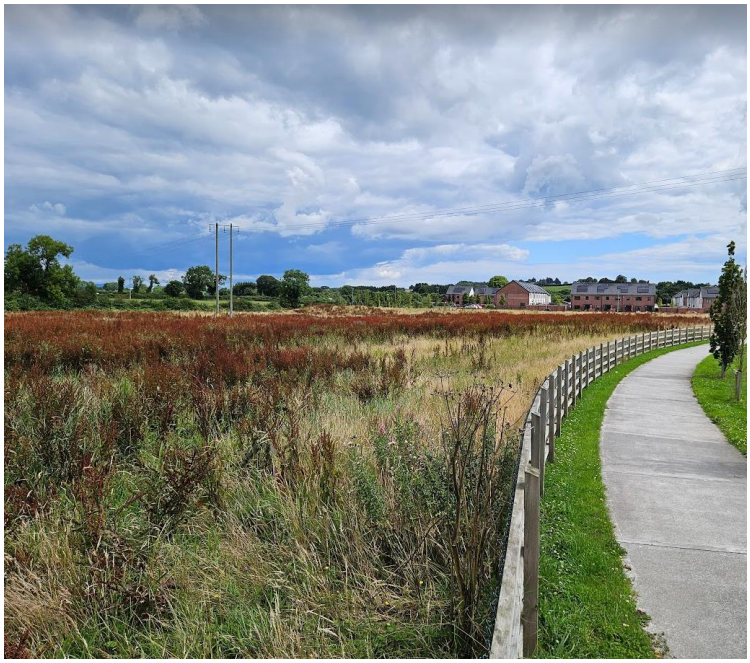
Appendix A: Photos

Figure no.	Description	Image
1	Road between the northern and southern block of land	
2	Northern block	

3	Southern block	
4	Hedgerow along the site's northern boundary separating the site from the drainage ditch behind the hedge.