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**EIAR**

**Volume 2 – EIA Report**

**Proposed Residential Development**

**Lands at Cornamaddy,  
Athlone,  
Co. Westmeath**

**On behalf of  
Marina Quarter Limited**

October 2023



Planning & Development

Consultants

63 York Road,

Dun Laoghaire

Co. Dublin

[www.brockmcclure.ie](http://www.brockmcclure.ie)

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## 1 INTRODUCTION

### 1.1 Introduction

This Environmental Impact Assessment Report (EIAR) is submitted in conjunction with, and in addition to, a planning application prepared by Brock McClure Planning and Development Consultants, 63 York Road, Dun Laoghaire, Co. Dublin for a development at this site of total c. 7.31ha on lands located at Cornmaddy, Athlone, Co. Westmeath.

We wish to highlight from the outset, that our client is committed to working with the Planning Authority to deliver on a residential proposal that is appropriate to the site and the surrounding context at Cornmaddy. The residential scheme is designed in line with the pattern of the surrounding residential development and the current market demand for the wider Athlone area. The site masterplan is shown on figure 1.1 below:



Figure 1.1: Site Masterplan Layout

The development will comprise of a residential development and public open space comprising the following:

Construction of 177 no. residential units on a gross site area of 7.31 ha ranging in height from 2-3 storeys comprising detached, semi-detached, and terraced houses, maisonettes and 3 storey duplex apartments. 65 no. 2 bed houses, 71 no. 3 bed houses and 9 no. 4 bed houses will be provided. 24 no. 1 bed maisonette apartment units and 8 no. 3 storey duplex apartment units will be provided.

All associated private open space in the form of gardens/terraces. All pedestrian and vehicular access roads and footpaths including a section of the planned east/west distributor road connecting to a section of the distributor road permitted under WMCC Reg. Refs 14/7103/ ABP Ref. PL25.244826 and 22/253 and proposed under concurrent application WMCC Reg. Ref. 22/577 to the south east of the site. The proposed development includes amendments to permissions granted within the applicants landholding at Cornmaddy as follows: Minor modifications to the internal access road layout and open space permitted under WMCC Ref. 22/253 and minor modifications to a section of the distributor road proposed under concurrent application WMCC Ref. 22/577. Minor modifications to the road permitted for access to the creche facility granted under WMCC Reg. Ref. 22/340 to provide turning heads and access to parking associated with the proposed duplex units. Minor modifications to the rear private gardens of units no's. 061, 062 and 063 permitted under WMCC Ref. 22/253 to provide

additional private open space. All associated site development works, services provision, drainage works, zoned open space/linear park (c.1.09ha), residential public open space areas (c.0.82ha in total), landscaping, communal open space serving the duplex apartments (c.0.02ha), landscaping, boundary treatment works, public lighting, associated esb substation cabinets, bin stores and car and bicycle parking provision. This development will form part of a larger phase of permitted and proposed development. This planning application is accompanied by an Environmental Impact Assessment Report and Natura Impact Statement. The application is available for public viewing at the following website: [www.cornamaddy.lrd.ie](http://www.cornamaddy.lrd.ie)

It is noted that the assessment area for this Environmental Impact Assessment Report considers the entire area within the applicant's landholding.

## **1.2 Scoping of the EIAR**

The purpose of scoping is to identify the information to be contained within the EIAR and the methodology to be used in gathering and assessing the information.

Given the nature and scale of the proposed development as a standalone application and in combination with other separate applications on the lands in the immediate vicinity of the subject site, it has been decided by the EIAR specialist team to prepare a complete Environmental Impact Assessment Document. For the sake of consistency and completeness, all chapters have been scoped into this Environmental Impact Assessment Report.

The application and Environmental Impact Assessment report has been informed by a series of pre planning meetings held with Westmeath County Council through the LRD process, and previous pre planning meetings that have taken place with regards existing lodged applications on the lands and the overall development strategy for the lands at Cornamaddy. It has been further informed by advice received from the specialist team engaged to prepare the EIAR.

## **1.3 Consultation**

Prior to the lodgement of this application, the full complete Environmental Impact Assessment Report has been uploaded to the Department of Housing, Planning and Local Governments EIA Portal. The EIA portal is easily accessible by members of the public and provides a link and map of all planning applications that have been lodged with an accompanying EIAR.

## **1.4 Requirement for Environmental Impact Assessment**

The requirement for an EIA for certain types and scales of development is listed in Annex I and Annex II of the of the EU Directive 2014/52/EU amended directive 2011/92/EU and is transposed into Section 5 (Part 1 and 2) of the *Planning and Development Regulations 2001* as amended.

The EU Directive on EIA lists projects for which an EIA is mandatory (Annex I) and projects for which an EIA may be required (Annex II) EU member states can select to apply thresholds for Annex II projects or examine projects on a case-by-case basis to assess when an EIA is required. In Ireland a combination of both has been applied. Annex I and II of the EU Directive on EIA have been transposed to schedule 5 of the *Planning and Development Regulations 2001* as amended.

It is submitted that due to the environmental sensitivity of the subject lands, it was requested by Westmeath County Council that an Environmental Impact Assessment Report was submitted for this phase of development for 177 no. units, providing an updated EIAR to that submitted with application Reg Ref. 22/577 to the south of the lands. This Environmental Impact Assessment Report has been prepared to assess the

applicants overall landholding at Cornamaddy, and all phases of development on the Cornamaddy lands, as well as surrounding schemes that could potentially give rise to cumulative impacts in combination with the proposed development.

This EIAR describes the findings of the EIA process to the Planning Authority to help determine a decision on the proposed development. It also informs the relevant statutory consultees, interested parties and the public about the likely effects that the proposed development will have on the environment.

## 1.5 Content of the Environmental Impact Assessment Report

This EIA report has been prepared in accordance with the most relevant guidance including but not limited to:

- EIA Directive (2011/92/EU) as amended by EIA Directive (2014/52/EU)
- Planning and Development Act 2000 (as amended)
- Planning and Development Regulations 2001 (as amended)
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning and Local Government, 2018).
- Guidance on preparation of the Environmental Impact Assessment Report (European Union, 2017)
- Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA, 2022).

Pursuant to EIA Directive, (Article (5) 1 of Directive 2014/52/EU), this EIAR specifically contains:

- A description of the project comprising information on the site, design, size and other relevant features of the project;
- A description of the likely significant effects of the project on the environment;
- A description of the features of the project and/or measures envisaged in order to avoid, prevent or reduce and if possible, offset likely significant adverse effects on the environment;
- A description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment.
- A description of the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be effected or the use of natural resources;
- A non-technical summary of the information referred to in points (a) to (d); and
- Any additional information specified in Annex IV relevant to the specific characteristics of a particular project or type of project.

Impacts arising from the existence of the proposed development, the use of natural resources, the emission of pollutants, the creation of nuisances and the elimination of waste are described as direct, indirect, secondary, cumulative, short, and long term, permanent and temporary, positive and negative, as appropriate.

## 1.6 Competency

An Environmental Impact Assessment Report must be prepared by competent experts. The applicant, Marina Quarter Limited, approached Brock McClure Planning and Development Consultants to direct and co-ordinate the preparation of the EIAR. A team of qualified experts has prepared each individual chapter of the report, as listed in table 1.1 below.

## 1.7 Format and Structure of the EIAR

This EIAR has been prepared in the ‘Grouped Format’ structure, which examines each aspects of the environment as a separate chapter referring to the existing environment, the proposed development, likely impacts and mitigation measures.

The EIAR is presented in 3 no. volumes as follows:

- Volume 1 – Non-Technical Summary
- Volume 2 – Environmental Impact Assessment Report
- Volume 3 – Appendices to Environmental Impact Assessment Report

Preparation of the EIAR has been co-ordinated by Brock McClure, Planning and Development Consultants with inputs from specialist consultants. Table 1.1 below provides a summary and overview of how this EIAR is structured together with an acknowledgment of specialist consultant’s input in the preparation of same.

Pursuant to Schedule 6, Part 1 and Part 2 of the 2001 Regulations, the following environmental elements have been grouped and assessed within this EIAR:

CHAPTER	ASPECT	CONSULTANT	LEAD CONSULTANT
0	Non-Technical Summary	Contribution from all EIAR project team members	Not Applicable
1	Introduction	Brock McClure	Majella Quinn
2	Description of the Proposed Development	Brock McClure	Majella Quinn
3	Planning and Development Context	Brock McClure	Majella Quinn
4	Alternatives	Brock McClure	Majella Quinn
5	Population and Human Health	Brock McClure	Majella Quinn
6	Land, Soils, Geology and Hydrogeology	Enviroguide	Roz O’Hora
7	Hydrology	JBA Consulting	David Casey
8	Biodiversity	Enviroguide	Roz O’Hora
9	Air Quality and Climate	Enviroguide	Roz O’Hora
10	Noise and Vibration	Enfonic	Patricia Redondo
11	Landscape and Visual Impact	Cunnane Stratton Reynolds	Alastair Ferrer
12	Archaeological, Architectural and Cultural Heritage	John Cronin & Associates	Tony Cummins

13	<b>Traffic and Transportation</b>	<b>Paul McGrail</b>	<b>Paul McGrail</b>
14	<b>Waste Management</b>	<b>Enviroguide</b>	<b>Roz O'Hora</b>
15	<b>Material Assets</b>	<b>Brock McClure</b>	<b>Majella Quinn</b>
16	<b>Cumulative Impacts</b>	<b>Brock McClure</b>	<b>Majella Quinn</b>
17	<b>Interactions Interrelationship between the aspects</b>	<b>Brock McClure</b>	<b>Majella Quinn</b>

Table 1.1: Structure of Volume 1

## 1.8 EIAR Project Team



Doran Cray Architecture are an Architectural Firm based in Maynooth, Co. Kildare. Doran Cray have worked on numerous high quality residential and mixed-use schemes in Westmeath and around Ireland and provide a high-quality standard of architectural design.



Paul McGrail Consulting Engineers are a group of civil and structural engineers based in Maynooth, Co. Kildare. Paul McGrail Consulting Engineers have directed a multitude of significant development projects in several territories, ranging from commercial and retail to residential and mixed-use developments.

Paul McGrail Consulting Engineers have been involved in a variety of residential projects for large scale residential schemes such as the proposed development and have worked on all previous phases of the overall development proposal on the Cornamaddy lands.



Brock McClure Consultants is a town planning consultancy established in 2012 and partnered by Laura Brock and Suzanne McClure. Laura Brock and Suzanne McClure have 20 years of experience in all aspects of planning consultancy in both the public and private sector and a proven track record in the industry with a wide range of projects spanning across both statutory and strategic planning fields.

A high-calibre team of urban planners has extensive experience in a broad range of project types including residential, mixed use, industrial and commercial developments. Brock McClure Planning Consultants provides specific advice on development proposals, exempted development provisions and aspects of planning law but has also experience in all other aspects of planning (retail assessment, site characterisation assessment, monitoring, planning appraisals, environmental assessment and among many more).



Cunnane Stratton Reynolds is a Landscape Design and Planning consultancy, which was established in Ireland in 1995 and is registered with the Irish Landscape Institute



and the Irish Planning Institute. It has offices in Dublin, Cork, and Galway. The practice is also represented in the UK by Cunnane Town Planning.

CSR also has a long history of undertaking and managing projects to which public participation is central, from large scale strategic studies to smaller scale urban and village renewal, environmental improvement and park projects in inner city and socially disadvantaged areas.



John Cronin is a qualified archaeologist, planner and building conservation specialist.

Since establishing John Cronin & Associates in 2000, John has built a dynamic and innovative company specializing in urban and building conservation, cultural heritage, and archaeology throughout Ireland. Drawing on his professional training and experience in both the public and private sectors, with a growing team of professional heritage management practitioners, he has developed a wide ranging and bespoke service operating from offices located in Counties Cork and Donegal.

With 30 years of professional experience, he has acted as an expert witness in the area of archaeological mitigation, cultural heritage and archaeological heritage for a multitude of private and public sector clients.



Enviroguide Consulting has an established reputation for delivering high quality consultancy services including environmental compliance, environmental

liability, risk management and waste management consultancy. We provide expert guidance and advice with a proven track record of successfully delivering innovative and practical solutions.

Enviroguide assists their clients to understand the environmental implications of their operations and to add value to their business with solutions that incorporate financial and environmental risk mitigation.

Their extensive project experience ranges from conceptual development and project execution through to ongoing operational support. Enviroguide consistently offer clients a reliable, hands-on, expert service with a proven track record of successfully delivering on projects.

Enviroguides team of experienced consultants and project managers includes environmental scientists, engineers, surveyors, chartered waste managers, hydrogeologists, contaminated land experts, acousticians and ecologists.

Many of Enviroguides senior consultants are leading experts and are chartered members of relevant professional organisations.



Enfonic Limited are expert producers of Environmental, Architectural, Occupational and Product Noise Assessment and have worked on a number of successful commercial and residential development schemes across Ireland and the UK. Enfonic have been employed by the applicant to prepare accurate assessments of construction and operational noise levels that may arise throughout the development process.





JBA Consulting is a leading water, environmental, urban design, engineering and risk management consultancy, committed to exceptional client service. JBA delivers international expertise in their specialised sectors through a network of local offices across Ireland, the UK and Europe. JBA Consulting was established in Ireland in 2007 on the foot of writing the Developing Planning Guidelines for Flood Risk Management for DoEHLG and OPW.

They are a leading flood management, environmental, water and engineering consultancy. JBA Consulting operates nationwide from their Limerick and Dublin offices, as well as in Northern Ireland, the rest of the UK and internationally. We have a growing presence in Eastern Europe, served from their office in Bucharest, Romania.

JBA Consulting is part of the larger JBA Group. JBA (UK) first began trading in 1995.

## 1.9 Description of Effects

Each EIA chapter assesses the direct, indirect, cumulative, and residual impact of the proposed development for both the construction and operational stage.

The identified quality, significance, and duration of the effects for each aspect is based on terminology set out in the EPA's Guidance on the Information to be contained in Environmental Impact Assessment Reports 2022 table 3.4, presented on table 1.2 below:

<b>Quality of Effects</b>	<b>Positive</b> – A change which improves the quality of the environment
	<b>Neutral</b> - No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error
	<b>Negative</b> – A change which reduces the quality of the environment
<b>Describing the Significance of Effects</b>	Imperceptible – An effect capable of measurement but without significant consequences.
	Not Significant – An effect which causes notable changes in the character of the environment but without significant consequences
	<b>Slight Effects</b> – An effect which causes notable changes in the character of the environment but without significant consequences
	<b>Moderate Effects</b> – An effect that alters the character of the environment without affecting its sensitivities
	<b>Significant Effects</b> – An effect which, by character, magnitude, duration, or

	intensity, significantly alters most of a sensitive aspect of the environment
	<b>Profound Effects</b> – An effect which obliterates sensitive characteristics
<b>Describing the Extent and Context of Effects</b>	<b>Extent</b> – Describe the size of the area, the number of sites and the proportion of a population affected by an effect
	<b>Context</b> – Describe whether the extent, duration or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?)
<b>Describing the Probability of Effects</b>	<b>Likely Effects</b> – The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented
	<b>Unlikely Effects</b> – The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented
<b>Describing the Duration and Frequency of Effects</b>	<b>Momentary Effects</b> – Effects lasting from seconds to minutes
	<b>Brief Effects</b> – Effects lasting less than a day
	<b>Temporary Effects</b> – Effects lasting less than a year
	<b>Short Term Effects</b> – Effects lasting one to seven years
	<b>Medium Term Effects</b> – Effects lasting from 7 to 15 years
	<b>Long Term Effects</b> – Effects lasting from 15 to 60 years
	<b>Reversible Effects</b> – Effects that can be undone, for example through remediation or restoration
	<b>Frequency of Effects</b> – Describe how often the effect will occur (once, rarely, occasionally, frequently, constantly, - or hourly, daily, weekly, monthly, annually).
	<b>Indirect Effects (a.k.a Secondary or Off-Site Effects)</b> – Effects on the

<b>Describing the Types of Effects</b>	environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway
	<b>Cumulative Effects</b> – The addition of many minor or insignificant effects on other projects, to create larger, more significant effects
	<b>‘Do Nothing Effects’</b> – The environment as it would be in the future should the subject project not be carried out
	<b>‘Worst Case’ Effects</b> – The effects arising from a project in the case where mitigation measures substantially fail
	<b>Indeterminable Effects</b> – When the full consequences of a change in the environment cannot be described
	<b>Irreversible Effects</b> – When the character, distinctiveness, diversity, or reproductive capacity of an environment is permanently lost
	<b>Residual Effects</b> – The degree of environmental change that will occur after the proposed mitigation measures have taken effect
	<b>Synergistic Effects</b> – Where the resultant effect is greater significance than the sum of its constituents (e.g combination of SOx and NOx to produce smog).

Table 1.2 – Description of Effects

#### 1.10 Site Selection and Consideration of Alternatives

The subject site was chosen for development based on its current zoning objectives and plan led strategic context. The overall Cornamaddy lands on which the subject site and overall assessment area are located are appropriately zoned for residential development within the Athlone Town Development Plan 2014-2020.

The subject site is also within the area included within the Cornamaddy Area Action Plan 2005. Although this document was published in 2005, it still offers relevant context for the site as little development has taken place on the lands since the publication of this plan.

Given the site zoning for residential development, scale and proximity to Athlone Town, the subject site was chosen by the applicant to carry out this multi-phase residential development. No other sites were considered by the applicant due to the appropriateness of the subject lands for development of this typology.

The design and layout of the proposed scheme has undergone several iterations to ensure that the proposal is fully site responsive, and all environmental factors, including archaeology, architecture, and cultural heritage, have been considered.

Several initial development site layouts and configurations were considered and assessed with regard to environmental effects prior to the finalisation of the site layout plan and design of the proposed development by the design team. Chapter 4 of this report examines earlier iterations of the overall development on the Cornamaddy lands and provides analysis of the design evolution as it relates to each individual EIAR topic.

A 'do-nothing' scenario was considered an inappropriate and unsustainable approach that would result in the inefficient use of a strategically located and serviced land bank of zoned residential and open space lands. A 'do nothing' scenario would also frustrate the delivery of the strategic planning objectives for the area and the region.

#### **1.11 Forecasting Methods and Difficulties in Compiling the Specified Information**

Forecasting methods and evidence used to identify and assess the significant effects of the environment for each environmental aspect are set out in each chapter.

There were no significant difficulties encountered in compiling the specified information in this EIAR. Any issues that were encountered during the assessment of individual factors are noted within the relevant chapters.

## 2 DESCRIPTION OF DEVELOPMENT

### 2.1 Introduction

This chapter provides a description of the subject site, receiving environment and a description of the proposed development.

A systematic approach in accordance with the Guidelines on the Information to be contained in EIARs (2022), Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (2018) and other EIA Guidance documents were used to ensure that all relevant aspects of the development are accurately and fully described. The objective is to provide a description of the proposed development in sufficient detail, which when taken together with the description of the receiving environment provided, will allow an independent reader without acquired technical environmental knowledge, to understand the significant impacts likely to arise from the proposed development.

The description of the proposed development is described in this chapter in terms of these environmental topics that will form the basis of the impact assessment process and the characteristics of the proposed development which could potentially affect human beings, soil, water, climate, air, flora, fauna, landscape, archaeology, and cultural heritage. Chapter 14 specifically addresses interactions between all environmental factors in this regard.

The EIA directive also requires that the description of the site, design, size or scale of the development considers all relevant phases of the existence of the project from its construction through its existence and operation (and where applicable its restoration or decommissioning).

This EIAR document fully reflects the key environmental factors of the proposed development which were recognised from the scoping carried out by the design team. The level of detail required will vary considerably according to the sensitivity of the existing environment and the potential of the project for significant effects.

## 2.2 Subject Site Characteristics

The subject site is identified in Figure 2.1 below.



Figure 2.1 – Application Site Area

The land subject to this planning application is located at Cornamaddy, Athlone, Co. Westmeath, approximately 2km to the northeast of Athlone Town Centre. The site is generally bounded by surrounding greenfield lands to the south-west by an existing cemetery and a Pitch and Putt Club bordering the site to the north-west. The site is also bounded by a number of extant permissions (currently under construction) within the same development to the east and south.

The parent permission for the development to the south is currently under construction, i.e. WMCC reg. ref. 14/7103. It is noted that Phase 3 (reg ref. 22/577) has made amendments to WMCC reg. ref. 14/7103 and is currently subject to Further Information. A permitted layout for 75 units to the east of the subject site was also granted in 2022 i.e. Phase 1 (reg ref. 22/253). A number of units in the Phase 1 permitted layout back onto the subject site. Phase 2 (reg ref. 22/340) was granted this year (07/03/2023) and is subject to 11 no. conditions.

There is also an existing residential housing development ‘Drumaconn’ to the southeast of the subject site, bordering the Phase 3 subject site.

The site is defined by the proposed distributor roads outlined in the Cornamaddy Action Area Plan to the south and east. The Action Area Plan also denotes an area of zoned Open Space along the northern boundary of the site. It is noted that the access and egress road for this development is partially in existence, currently providing access and egress to the constructed ‘Drumaconn’ residential development off the Ballymahon Road - N55. As previously stated in “Phase 3”

of the overall development of the Cornamaddy lands by the Applicant, which is currently at Further Information Stage under WMCC reg. ref. 22/577 to the south east of the site, this road shall be extended as part of the permission granted under WMCC reg. ref. 14/7103, and further extended into the development site as part of the application lodged to WMCC currently awaiting a decision under WMCC reg. ref. 22/253 (Phase 1). Phase 3 will offer a further extension to the Distributor Road through the Cornamaddy lands, extending the road westwards from the section of road included in the planning application lodged to WMCC reg. ref. 22/253.

It is envisioned that the section of the distributor road provided as part of Phase 3 Reg. ref. 22/577 will contribute towards the deliverance of the entirety of the distributor road, envisioned to traverse the central portion of the Cornamaddy lands as they are developed. The subject proposal will join this section of the envisaged distributor road through the central portion of the Cornamaddy lands, which shall also facilitate development and provision of public transport linkages.

The subject site is on the north eastern periphery of Athlone Town, with the town main street located approximately 2km to the south west of the development site, which is ideally located for residential development, outside the town centre but close to facilities and services. There are schools, supermarkets, a library and restaurants all within walking distance of the proposal site.

Aside from availing of the many amenities that Athlone to the south west of the subject site has to offer, the development site is proximate to several retail and retail warehousing services including SuperValu and Spar on the Ballymahon Road and Blyry Industrial Estate, which is highly accessible and a short walk from the subject site.

## **2.2 Description of the Characteristics of the Proposed Development**

Marina Quarter limited intend to apply for development at this site of total c. 7.31 ha on lands located at Cornamaddy, Athlone, Co. Westmeath. The site is generally bounded by surrounding greenfield lands to the immediate north, east, south and west, to the south-west by an existing cemetery and a Pitch and Putt Club bordering the site to the north-west. The proposed duplexes are located to the south east of the Applicant's overall handholding adjoining the permitted creche near the N55 Roundabout. The site is also bounded by a number of extant permissions (currently granted, at further information stage or under construction) within the same development to the east and south, i.e. Phase 1 (reg ref. 22/253), Phase 2 (reg ref. 22/340), Phase 3 (reg ref. 22/577 – amendments to WMCC reg. ref. 14/7103) and Phase 5 (reg ref. 23/60047).





**Figure 2.2: Proposed Site Layout**

The development will comprise of a residential development and public open space comprising the following:

Construction of 177 no. residential units on a gross site area of 7.31 ha ranging in height from 2-3 storeys comprising detached, semi-detached, and terraced houses, maisonettes and 3 storey duplex apartments. 65 no. 2 bed houses, 71 no. 3 bed houses and 9 no. 4 bed houses will be provided. 24 no. 1 bed maisonette apartment units and 8 no. 3 storey duplex apartment units will be provided.

All associated private open space in the form of gardens/terraces. All pedestrian and vehicular access roads and footpaths including a section of the planned east/west distributor road connecting to a section of the distributor road permitted under WMCC Reg. Refs 14/7103/ ABP Ref. PL25.244826 and 22/253 and proposed under concurrent application WMCC Reg. Ref. 22/577 to the south east of the site. The proposed development includes amendments to permissions granted within the applicants landholding at Cornamaddy as follows: Minor modifications to the internal access road layout and open space permitted under WMCC Ref. 22/253 and minor modifications to a section of the distributor road proposed under concurrent application WMCC Ref. 22/577. Minor modifications to the road permitted for access to the creche facility granted under WMCC Reg. Ref. 22/340 to provide turning heads and access to parking associated with the proposed duplex units. Minor modifications to the rear private gardens of units no's. 061, 062 and 063 permitted under WMCC Ref. 22/253 to provide additional private open space. All associated site development works, services provision, drainage works, zoned open space/linear park (c.1.09ha), residential public open space areas (c.0.82ha in total), landscaping, communal open space serving the duplex apartments (c.0.02ha), landscaping, boundary treatment works, public lighting, associated esb substation cabinets, bin stores and car and bicycle parking provision. This development will form part of a larger phase of permitted and proposed development. This planning application is accompanied by an Environmental Impact Assessment Report and Natura Impact Statement. The application is available for public viewing at the following website: [www.cornamaddyIrd.ie](http://www.cornamaddyIrd.ie)

The overall applicant's landholding at Cornamaddy is shown on figure 2.3 below as 'EIA Assessment Area' with the boundaries of previously lodged granted and live permissions shown within the assessment area boundary:



Figure 2.3: EIA Assessment Area

### 2.2.1 Detailed Description

The proposed development offers a range of unit types across the site with the residential scheme comprising 177 no. residential units. The unit mix proposed will cater for a wide demographic, with housing options ranging from 1 bed maisonette apartments, 3 bed duplexes, 2-3 bed terraced houses and 3-4 bed semi-detached and detached houses. The proposed unit mix is detailed below:

#### Houses:

- House Type B – 4 bed Detached (148 sq.m) – 3 no. units
- House Type B1 – 4 Bed Semi Detached (148 sq.m) – 4 no. units
- House Type B2 – 4 Bed Detached (148 sq.m) – 2 no. units
- House Type C – 3 Bed Semi Detached – (99 sq.m) – 2 no. units
- House Type D – 3 Bed Semi Detached (91 sq.m) – 7 no. units
- House Type D2 – 3 Bed Semi Detached (91 sq.m) – 6 no. units
- House Type D3 – 3 Bed Semi Detached (91 sq.m) 3 no. units
- House Type E – 2 Bed Terraced (74 sq.m) – 48 no. units

House Type E1 – 2 Bed Semi Detached (74 sq.m) – 8 no. units  
House Type E2 – 2 Bed Semi Detached (74 sq.m) – 5 no. units  
House Type E3 – 2 Bed Terraced (74 sq.m) – 4 no. units  
House Type F – 3 Bed Semi Detached (101 sq.m) – 5 no. units  
House Type F1 – 3 Bed Semi Detached (101 sq.m) – 9 no. units  
House Type F2 – 3 Bed Semi Detached (101 sq.m) – 33 no. units  
House Type F3 – 3 Bed Terraced (101 sq.m) – 4 no. units  
House Type F4 – 3 Bed Semi Detached (101 sq.m) – 2 no. units

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#### Apartments

Maisonette –

Maisonette Type P1 1 Bed – (56 sq.m) – 12 no. units

Maisonette Type P2 1 Bed (62 sq.m) – 12 no. units

#### Duplexes –

Duplex Type G1 3 Bed (115 sq.m) – 4 no. units

Duplex Type G2 3 Bed (115 sq.m) – 2 no. units

Duplex Type G3 3 Bed (115 sq.m) – 2 no. units

A detailed breakdown of the units provided is outlined on the Proposed Accommodation Schedule prepared by Doran Cray Architects submitted as part of this planning application pack.

The proposed development provides 177 no. units. Of the 177 no. units to be provided the following unit mix is noted: 24 no. 1 bed units (14%), 65 no. 2 bed units (37%), 79 no. 3 bed units (44%) and 9 no. 4 beds (5%).

The proposed mix of units is suitably balanced and provides a mix in line with surrounding local demand, and demand associated with developments of this scale. The unit number and mix is commensurate to the permitted childcare facility and residential units planned for the Cornamaddy area by the applicant under permitted and concurrent applications known as phases 1, 2, 3 and 5.

#### Building Form

There are 21 no. differing unit types proposed with each considered in terms of form, material composition, texture, colour and adjacent treatments to create distinct character areas within the overall neighbourhood.

A familiar architectural language ties all types together to create a consistent aesthetic throughout the proposal. These types consist of a mix of maisonette, duplex, terrace, end of terrace and semi-detached houses. End terrace and semi-detached units bookend the residential access roads and have been designed to create active corners and enhanced passive surveillance. The layout and orientation of these dual and triple aspect units creates bright and attractive homes.





Figure 2.4: 2 storey dwelling units



Figure 2.5: 3 storey duplex units

#### Residential Density

The proposal offers 177 no. new units on a total site area of 7.31 ha. The proposed link roads serving the lands and zoned open spaces have been discounted from the net developable site area, totalling 2.04ha. This leaves a net developable site area of 5.27 ha. The proposed development for 177 no. units provides a density of 34 units per hectare, which includes 0.82 ha of public open space (16%) on residential zoned lands.

#### Dual Aspect

All 177 no. new units provided will enjoy the benefit of being dual aspect. The provision of dual aspect units allows for a high level of amenity and passive surveillance to be provided across the development site.

#### Part V Provision

19 no. units of the 177 -no. total will be provided as Part V units. This has been discussed and agreed with the Westmeath County Council Housing Department prior to lodgement of this application.

The breakdown of Part V unit typology is as follows:

- House Type E (2 bed terraced) – 8 no. units
- House type B (4 bed semi detached) – 1 no. unit
- House Type F – (3 Bed Semi Detached) – 2 no. units
- Maisonette Type P1 (1 bed) – 4 no. units
- Maisonette Type P2 – (1 bed) – 4 no. units

A detailed description of the part V units provided is included in the Architectural Drawing Pack and housing quality assessment document prepared by Doran Cray Architects submitted as part of this LRD Application Pack.

We confirm that the Applicant has engaged with the WMCC Housing Department regarding the provision of Part V units. The proposed offering was deemed acceptable by WMCC.

We refer to the Part V correspondence provided by Westmeath County Council. All unit costings will be submitted as part of the LRD Application documentation.

#### Car and Bicycle Parking

All units are provided with dedicated car parking spaces designed with regard to the national and local standards. Most parking has been provided within the private curtilage of the property. Where this has not been possible, parking has been provided adjacent to the property.

Overall, an adequate level of parking has been provided across the site with 154 no. in curtilage residential parking spaces, 26 no. on street residential parking spaces and 59 no. on street visitor parking spaces provided. As the permitted creche unit under ref. 22/340 has been included within the development redline at the request of Westmeath County Council, it is also noted that 19 no. car parking spaces are provided as part of this facility, granted under WMCC Ref. 22/340.

It is considered that bicycle storage for houses will be in the rear gardens of any semi-detached houses. All mid terraced houses have been provided with a secure bicycle lock up located to the front of the property.

#### Access

It is submitted that the site will be accessed via the distributor road. The subject proposal will integrate with the concurrent applications known as Phase 3 and 5, which borders the site to the south of the subject site.

This road is planned to be extended under Phase 3 as part of the permission granted under WMCC reg. ref. 14/7103, and further extended into the

development site as part of the application lodged to WMCC under WMCC reg. ref. 22/253 (Phase 1). It is noted that this extension to the Distributor Road through the Cornamaddy lands shall extend the road further westwards from the section of road included in the planning application lodged to WMCC under reg. ref. 22/253 (Phase 1).

#### Open Space

A total of 1.09ha of the overall site area of 7.31ha is zoned for the provision of Open Space. This area of open space and link roads serving the surrounding wider area have been excluded from the developable net site area, totalling 5.27ha.

A total of 0.82 ha of Public Open Space has been provided with the developable residential zoned portion of the site, totalling 16% of the total net site area.

Public open space areas totalling 0.82 ha within the net site area of 5.27 ha are provided throughout the residential zoned areas of the overall site. These open space areas will be provided as small linear park and playground areas and will be distributed throughout the development site, a short walk from each dwelling. These will be used for informal recreation and will be presented as open and inviting areas with defined edges and low-level planting and will include a community garden and play area, maintained to a high standard, giving these areas a less formal intimate feeling than the large area of public open space provided in the northern portion of the site.

We refer to the Landscape Design Statement prepared by Cunnane Stratton Reynolds submitted as part of this LRD application pack for a detailed overview of the landscaping proposal for the site, including planting details and a maintenance plan. The Landscape Masterplan for the site is depicted in figure 2.6 below for the benefit of the Planning Authority.



Figure 2.6: Landscape Masterplan



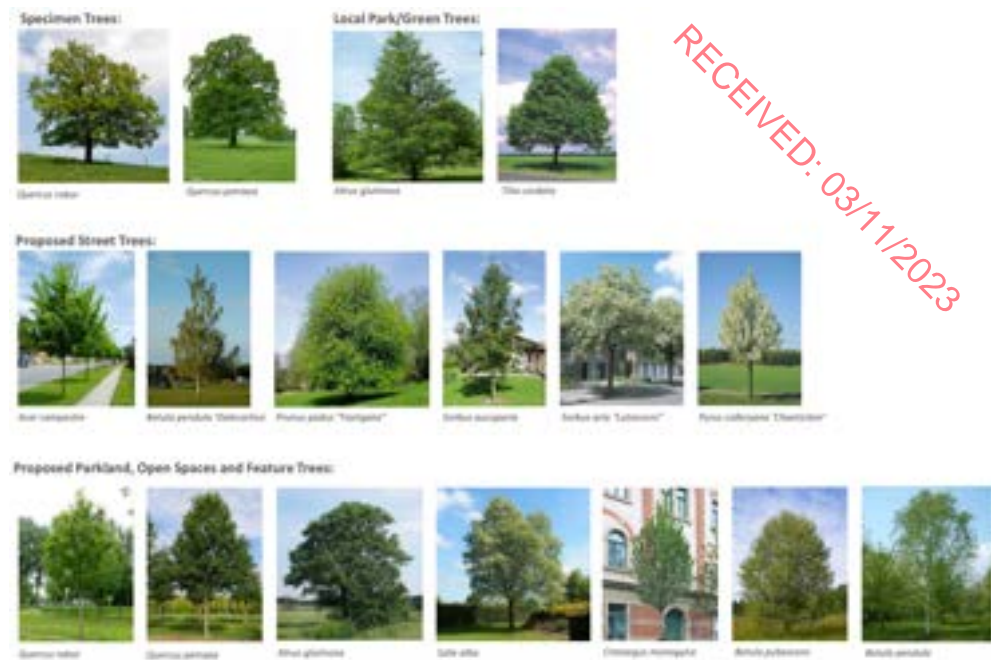


Figure 2.7: Typical Proposed Tree Species

### Tree Cover

A Tree Survey and Constraints Plan and Arborists Report has been prepared and is submitted as Part of the LRD application pack by Charles McCorkell Arborist. It is noted that the proposed development has been carefully designed to minimise any impact on existing trees and hedgerows within the site red line boundary. The Arborists report notes that the small number of trees and hedgerows required to be removed as part of the proposal will have a negligible impact on the surrounding landscape character due to their limited public amenity value and low quality.

The subject proposal incorporates new planting, providing significant new high-quality tree and hedge planting and incorporating existing trees and hedgerows into the proposal. It is considered that the proposed planting will have a long-term positive impact on the subject lands, increasing the local canopy cover and enhancing the visual appearance of the new development and surrounding open space lands.

The Arborists Report recommends that site supervision should be carried out during construction by an arboricultural consultant to ensure that any retained trees can be properly and adequately protected and maintained during the development. We refer to the arborists report for a detailed overview of the tree protection methods recommended for the subject site.

The report concludes that provided the recommendations and methods of work as outlined in the Arborists report are followed, the proposed development can be successfully carried out without having a negative impact on the character or appearance of the surrounding landscape.

### Public Lighting

All lighting throughout the proposal shall be energy efficient with provision made for low energy lamps such as Compact Fluorescent Lamps (CFLs) which use 80% less electricity and last up to 10 times longer than ordinary light bulbs in the dwellings.



It is considered that the public lighting plan has been appropriately designed so that there is no impact on existing and future flora and fauna communities.

Details of the proposed public lighting layouts and specifications can be found in the public lighting report and site lighting layout submitted as part of this LRD Application pack, prepared by Morley Walsh.

#### Energy/ Sustainability

Through the specification of an energy efficient façade and HVAC systems, the energy consumption of the building will be reduced compared to a set baseline. This ensures the environmental and economic impact of the operation of the building is reduced. The key philosophy of this plan is to reduce energy consumption by firstly limiting the energy needed by improving the buildings insulation. The second step is to utilise energy in the most efficient way through the selection and installation of energy efficient plant and equipment. The final step is to introduce energy from renewable sources to reduce the burden on Fossil Fuels.

Overall, energy efficiency, conservation and renewable technologies will be employed in part or in combination with each other for this development. These techniques will be employed to achieve compliance with the building regulations Part L and NZEB standards for all dwellings.

Please refer to the Energy Statement prepared by Morley Walsh submitted as part of this pre-application LRD application pack for further details regarding the proposed energy strategy for the scheme.

#### Adaptability

Units have been designed with future adaptability in mind. Homeowners have the option for future internal reconfiguring or future expansion to the rear. These alterations and adaptations can be carried out without affecting the character of the houses or the neighbourhood subject to proper planning.

#### Universal Design

All house types where possible follow and exceed where possible the Technical Guidance Document M – Access and Use (2010) in compliance with building regulations.

The principles of Universal Design have been adopted to meet the changing needs of people over time. Access and use is possible regardless of age, size or ability. The four key principles state that units should: integrate with the neighbourhood, be easy to approach, enter and move about in, easy to understand, use and manage and be flexible, safe, cost effective and adaptable over time.

#### Archaeology

An Archaeological Impact Assessment has been carried out the development by John Cronin & Associates.

The report concludes that there are no recorded archaeological sites located within the proposed development site or its close environs. There are two known archaeological site within the study area extending for 1km from the development boundary and this comprises a mound barrow (WM029-041) and an inland promontory fort (WM029-047). The mound barrow (WM029-041) is located approximately 700m north-northwest of the proposed development,

whilst the inland promontory fort (WM029-047) is located approximately 915m northwest of the development area.

In addition, no potential unrecorded archaeological sites or features were identified within the boundary of the proposed development during the compilation of the assessment.

It is, therefore, concluded that the proposed development will result in no predicted impacts on the known archaeological resource. The potential for negative construction phase impacts on any unrecorded sub-surface archaeological features which may exist within the proposed development site cannot be discounted and will require mitigation.

There are no Protected Structures, Architectural Conservation Areas, or structures listed by the National Inventory of Architectural Heritage located within the proposed development site or within the surrounding 1km study area. In addition, no undesignated features or structures of architectural heritage interest were identified within the proposed development site during the assessment. It is concluded that the proposed development will result in no predicted impacts on the architectural heritage resource and that no mitigation measures for this resource are required.

#### Roads

The proposed development is located at Cornamaddy and the access to this phase will be from the road permitted under ref. no 22/253 in conjunction with a section of the permitted road under ref. no. 14/7103, which connects to the existing roundabout at N55 x Drumaconn Road.

It is noted that appropriate dished kerbs and tactile paving as per the “Guidance on the use of tactile paving surfaces” will be provided throughout the site. Any pedestrian crossing area which does not feature tactile paving will feature dropped kerbs.

Traffic calming is also proposed within the development and follows the recommendations in the “Design Manual for Urban Roads and Streets”. The cul de sacs and local roads within the development have been designed for a road width of 5.5m with corner radius of 3.0m, 4.0m and 5.0m. The reduced corner radius ensure that crossing points are located closer to corners on pedestrian desire lines and requires to reduce speed to make the manoeuvre. In keeping with the DMURS manual the longest section of a straight road without traffic calming or horizontal deflection is no more than 70m.

Details of the proposed roads can be found on the Road Sections and Details drawings and DMURS Statement of Consistency submitted as part of this LRD Application pack, prepared by Paul McGrail Consulting Engineers.

#### DMURS

A Statement of Consistency with the Design Manual for Urban Roads and Streets and the National Cycle Manual has been prepared by Paul McGrail Consulting Engineers and is submitted with this application documentation. The submitted DMURS Statement of Consistency concludes that the development is in compliance with the four core principles of the DMURS document, listed below:

- **Design Principle 1** - To support the creation of integrated street networks which promote higher levels of permeability and legibility for all users, and in particular more sustainable forms of transport.

- **Design Principle 2** - The promotion of multi-functional, place-based streets that balance the needs of all users within a self-regulating environment.
- **Design Principle 3** - The quality of the street is measured by the quality of the pedestrian environment.
- **Design Principle 4** - Greater communication and co-operation between design professionals through the promotion of a plan-led, multidisciplinary approach to design.

We refer the Planning Authority to the DMURS Statement of Consistency submitted as part of this application pack for a full detailed analysis of the proposed developments compliance with DMURS design elements.

#### SuDS

A number of SuDS features are proposed as part of the development to provide an effective system to mitigate the adverse effects of urban stormwater runoff on the environment by reducing run off rate, volumes and frequency, reducing pollutant concentrations in stormwater. The proposed SuDS measures proposed are detailed in the Engineering Report submitted as part of the application pack, summarised as follows:

- Modular Permeable Paving
- Swales
- Bioretention Systems
- Filter Drain
- Stormtech Underground
- Petrol Interceptor
- Hydrobrake Flow Control

#### Flood Risk

It is considered that the site is not subject to any risk of pluvial or coastal flooding at present given its location in the midlands area of Ireland and status as greenfield lands. Pluvial flood risk has been addressed by designing the development to accommodate surface water runoff from a 100 year period storm plus climate change. The site is outside the 1000-year coastal flood zone.

Flood risk has been assessed by Paul McGrail Consulting Engineers and a summary is contained in the engineering services report. It is concluded that the development is considered to be adequately protected in the context of potential future flood events in the area.

The site has been assessed to ensure that no flooding will occur in the event of a 1:30 year return period, and accounting for 20% of Climate Change. The site has been protected against potential river flooding via the attenuation that is provided within the SUDS features, i.e. modular permeable paving and on-line attenuation structures/ features.

#### Traffic

A Traffic Impact Assessment has been prepared and is submitted as part of the subject application pack. The report assesses the potential traffic implications of the development in relation to the existing traffic in the area and quantifies the extent of additional trips generated by the proposal, and the impact of trips

generated on the operational performance of the surrounding local road and network junctions.

The submitted report concludes that the existing N55/ R916/ L8048 roundabout to the east of the development site will continue to operate within its capacity, with small queues and delays, with this operational capacity predicted to remain consistent up to 2039, 15 years after the opening of the development.

The report also concludes that there is adequate carparking provided across the development site to facilitate any demand that will arise from residents of the new residential development.

#### Road Safety

A road safety audit has been prepared for the application by RoadPlan Consulting and is submitted as part of this application pack. All recommended measures to improve road safety as called up within this report were taken on board and implemented by the project Engineer, Paul McGrail Consulting Engineers within the final roads design for the scheme. We refer the Planning Authority to this document for additional details.

#### Appropriate Assessment Screening/ Natura Impact Statement

An Appropriate Impact Assessment Screening Report has been prepared by Enviroguide as part of the subject application.

The AA Screening concludes that upon the examination, analysis and evaluation of the relevant information and applying the precautionary principle, it is concluded by the authors of this report that the possibility may be excluded that the Proposed Development will have a significant effect on any of the European sites listed below:

River Shannon Callows SAC (000216).

Middle Shannon Callows SPA (004096).

However, upon examination of the relevant information including in particular the nature of the Proposed Development and the likelihood of significant effects on European sites, the possibility may not be excluded that the Proposed Development will have a likely significant effects on the European sites listed below:

Lough Ree SAC (000440).

Lough Ree SPA (004064).

Accordingly, a NIS has been prepared for the Proposed Development. The prepared Natura Impact Assessment concluded that:

The above sites were identified by a screening exercise that assessed likely significant effects of a range of impacts that have the potential to arise from the Proposed Development. The AA investigated the potential direct and indirect effects of the Proposed Development works, both during construction and operation, on the integrity and QIs of the above European sites, alone and in combination with other plans and projects, taking into account the site's structure, function and conservation objectives.

Where potentially significant effects were identified, a range of mitigation and avoidance measures have been suggested to avoid them. This NIS has concluded that, once the avoidance and mitigation measures are implemented as proposed, the Proposed Development will not have an adverse effect on the integrity of the

above European site(s), individually or in combination with other plans and projects. Where applicable, a suite of monitoring surveys have been proposed to confirm the efficacy of said measures in relation to ensuring no adverse impacts on the habitats of the relevant European sites have occurred.

As a result of the complete, precise and definitive findings in of this NIS, it has been concluded, beyond reasonable scientific doubt, that the Proposed Development will have no significant adverse effects on the QIs, SCIs and on the integrity and extent of Lough Ree SAC (000440) and Lough Ree SPA (004064). Accordingly, the Proposed Development will not adversely affect the integrity of any relevant European site.

## 2.3 Development Inputs

### Water Supply

The proposed watermain network will connect to the under-construction water network which will be connected to the existing 150mm watermain pipe network located at Drumaconn Road. The proposed network has been designed to comply with Irish Water specification. Individual houses will have their own connections to the distribution main via service connections and boundary boxes. Individual service boundary boxes will be of the type to suit Irish Water and to facilitate possible future domestic meter installation.

A Pre-Connection Enquiry was made to Irish Water (Ref. CDS20006740). Irish Water concluded that based on the details provided with the pre connection enquiry and their own desk top analysis of the current available capacity in the Irish Water Network as assessed by Irish Water, it was advised that the proposed connection to the Irish Water Network can be facilitated.

### Power Supply

ESB Networks have been contacted and existing ESB network map for the site and surrounding area was obtained by the project design team. A system of on-site substations will be installed to provide power to the development.

## 2.4 Development Outputs

### Surface Water

Surface water runoff from the development will be attenuated to greenfield runoff (Qbar), in accordance with the recommendations of the GDSDS. Surface water run-off from each surface water catchment, will be attenuated using a Hydrobrake on the surface water outlet.

The proposed drainage design network has been modelled and tested against different critical storms using the standard catchment rainfall profiles from the Flood Studies Report (FSR) within Causeway Software. A critical storm period is considered as a level of rainfall intensity and the greater the year of the return period, the higher the intensity of the storm.

For each return period tested, storm durations from 15 minutes to 36 hours were stimulated to assess the length that a storm would release rainfall into the drainage network.

#### Foul Water

The foul water from the development will discharge via soil vent pipes within the buildings by gravity flow before connecting into the existing separate foul sewer network within the development. The foul sewerage for each house will have a separate connection to the proposed 225mm and 150mm diameter foul sewer along the road.

A 150mm diameter sewer at a min gradient of 1:60 has been designed to cater up to 9 dwellings, and a 150mm diameter sewer at a min gradient 1:150 slope to cater 10 to 20 dwellings with no chance of any more house connecting. Pipes that cater more than 20 dwellings has been designed as 225mm diameter sewer at a min gradient of approximately 1:200.

#### Waste Management

**Construction Waste Management** - A detailed Construction Waste Management Plan has been prepared by Paul McGrail Consulting Engineers and is submitted as part of the application documentation. The Plan outlines the responsibilities of relevant persons on the site regarding waste management, with a nominated Construction Waste Manager to be appointed by the Project manager to oversee all aspects of waste management throughout the project, including waste characterisation, implementation of the Construction Waste Management Plan and effective communication of the plan objectives with all site operatives.

**Construction Environmental Management** - A Construction Environmental Management Plan has been prepared by Paul McGrail Consulting Engineers and is submitted with this application documentation to outline the objectives of managed procedures required to ensure that construction related activities on the site are executed in a safe and controlled manner to prevent any adverse impacts on the surrounding existing environment.

The submitted plan considers all aspects of the project in its environmental assessment, including construction programme and phasing, enabling works, infrastructure works, a description of works, site logistics, indicative construction methods and safety, health and environmental provision.

All appropriate mitigation and preventative measures that will be taken to mitigate any impact on the surrounding environment are outlined in the CEMP submitted.

**Operational Waste Management** - An Operational Waste Management Plan has been prepared by Paul McGrail Consulting Engineers and is submitted with this application documentation to outline procedures that will be undertaken to ensure correct management and disposal of generated waste to maximise the level of waste recycling/ reuse and minimise the levels of waste being disposed of via landfill.

The submitted plan outlines relevant National, Regional and Local Waste Policies. The proposed development has been designed to comply with all relevant National, Regional and Local waste policies.



The OWMP also provides a detailed outline of the proposed waste management facilities that will be delivered as part of the subject proposal. All residential units provided will feature a 3 bin waste system to encourage segregation of waste as source, and an associated secure bin storage unit.

Waste types which are generated infrequently such as waste electrical and electronic equipment, chemicals, lighting, furniture and textiles should be disposed of accordingly as generated.

## 2.5 Design/ Development Rationale

The subject lands are appropriately zoned and have been earmarked for residential development for c. 20 years. The lands were included within the Cornamaddy Action Area Plan 2005, which provided a detailed strategy showing how the lands could be appropriately developed as a new residential neighbourhood to the north of Athlone Town Centre. Despite the publication of this detailed Action Area Plan in 2005, no development on the subject lands has come to fruition to date.

The site has remained appropriately zoned for residential development within the Athlone Town Development Plan 2014-2020, which offers the most recent relevant planning context for the lands.

The applicant now endeavours to fulfil this long-standing objective to develop the Cornamaddy Lands as a new residential neighbourhood.

The now proposed development of 177 no. new units presents phase 4 of an overall Masterplan for the Cornamaddy lands prepared by the applicant, which comprehensively consolidates development on the lands as envisaged in the relevant statutory planning documents.

To date the applicant has lodged 4 no. applications on their overall landholding at Cornamaddy, which represent phase 1, phase 2, phase 3 and phase 5 of the overall development on the lands as follows:

**Phase 1: WMCC Ref. 22/253** – Permission granted for the construction of 75 no. residential units comprising: 51 no. 2 storey semi-detached and terraced houses (consisting 4 no. 2 bed houses and 47 no. 3 bed houses, ranging in size from c.78 sq.m – 120 sq.m each), and 24 no. 3 storey apartment/duplex units (consisting 12 no. 2 bed apartments and 12 no. 3 bed duplexes, ranging in size from 84sq.m to 121 sq.m each).

**Phase 2: WMCC Ref. 22/340** – Permission granted for the construction of a two Storey childcare facility, including classrooms, reception, kitchen, associated staff areas and office, toilets, storage, plant rooms, circulation areas and photovoltaic panels at roof level (c.668sqm total gross floor area). This application is currently live, at Further Information Stage.

**Phase 3: WMCC Ref. 22/577** – Application lodged to Westmeath County Council for development of the southern portion of the applicants lands by amending the permission granted by Westmeath County Council under Ref. 147103. The application for 70 no. units and retained element of the permission granted under WMCC Reg. 147103 will provide 157 no. units total on the southern portion of the Cornamaddy lands. The application also proposes a section of the envisaged distributor road through the central portion of the Cornamaddy lands. This application is currently live and is at Further Information Stage. Further Information and Clarification of Further Information have been submitted to



Westmeath County Council and the application is due for decision before October 31<sup>st</sup> 2023.

**Phase 5: WMCC Ref. 2360047** – Permission granted for modifications to permitted application WMCC Ref. 14/7103/ ABP Ref. PL25. 244826 and concurrent application WMCC Reg Ref. 22/ 577 for the removal of the permitted creche facility c. 260 sq.m, minor alterations to landscaping and road layouts and provision of 6 no. additional units.

It is noted that the subject phase 4 application will represent the final application lodged to Westmeath County Council on the Cornamaddy lands, consolidating the development of the lands as per the prepared Masterplan. The applicant has engaged with the Local Authority throughout the LRD pre planning process and now presents a scheme which addresses all comments from Westmeath County Council and proposes the most sustainable form of development on the subject site.

No alternative locations were considered by the applicant for the development given Westmeath County Councils longstanding objectives to develop the subject site as a residential offering and the sites appropriate zoning for residential development. However, a number of alternative designs and layouts were considered throughout the project design stages, which have been addressed as appropriate in Chapter 4: Alternatives of this Environmental Impact Assessment Report.

## 2.7 Characteristics of the Construction and Operation Phases

### Site Preparation Works and Establishment of construction Services

Preparation of the site requires limited works with minimal site clearance, establishing entranceways and haul roads for vehicles, surveying and setting out, setting up the construction site with fencing, site compounds etc. It is noted that much of the haul roads and entranceways to the site have been established to cater for the existing surrounding developments which are currently under construction.

The site will provide office, portable sanitary facilities, equipment storage, parking etc for contractors for the duration of the works. The construction compound will be fenced off for health and safety reasons so that access is restricted to authorized personnel only. All areas under construction will be fenced for security and safety purposes and temporary lighting supplied as necessary.

Pursuant to Section 2(a)(i) of S.I No 600 of 2001, a description of the physical characteristics of the proposed development and land use requirements during the construction and operation phases is provided below.

### Construction Phase

It is envisioned that the construction stage of the proposed development will occur in 5 no. phases. The characteristics of each construction work phase is outlined below:

- **Phase 1 A Site Set Up**

This task will take up to c.3 months to complete with approximately up to 20 staff employed and will involve consultation with the Project Arborist, Archaeologist and Ecologist, site clearance (given the lack of existing scrub/vegetation this will not be significant) set up site offices and contractors compound and secure the construction site and erection of signage for site security purposes.

- **Phase 1 B – Setting out of sites and provision of services**

Given the significant work involved in the provision of drainage services this stage will involve significant work and is estimated to take between 4-5 months and will involve up to 40 construction staff. This will involve the laying of sewers within the site, the construction of Stormtech underground, the provision of footpaths, lighting and roadways. As part of any works (i.e. provision of services) along the public areas/roads in the vicinity of the site, it will be ensured that the surface of the roads/areas will be re instated to a high standard. Due to the catchment areas the site services associated with the phasing will be constructed as and when required to ensure that all surface water is attenuated prior to discharging to the existing surface water network.

- **Phase 1 -5 – Construction of Units**

The construction of the residential units will, to a certain degree respond to the demand/sale of the units involved, however our client has already had a significant number of enquiries from prospective purchasers and it is anticipated that the construction progress will reflect this strong demand and will involve up to 150 no. construction staff (depending on the number of units being constructed at any one time). The proposed development is expected to take up to four (4) years to complete (subject to planning and market demand).

#### Construction Hours

Construction hours will be subject to planning permission and associated conditions. However it is noted that it may be necessary for construction to take place outside of normal construction hours in the case of services diversions and connections, concrete finishing and fit out works.

Deliveries to site will generally be between the hours of 07:00 to 19:00 Monday to Friday and 08:00 to 14:00 on Saturdays. There may be occasions where it is necessary to make deliveries outside of these times, for example when large loads are limited to road usage outside of peak times.

Any deliveries or construction works that need to take place outside of the agreed working hours will be completed with the advance agreement of WCC.

#### Vehicular Access to Site during Construction

The subject site will be accessed via the existing entrance to the adjacent Drumaconn estate off the N55 to the east of the subject development. It is noted that a section of the distributor road granted under WMCC Reg Ref. 22/253 will be constructed into the Cornamaddy lands providing site access.

A pedestrian only access point to the site will be installed to separate vehicular and pedestrian movements when accessing and egressing the site.

Security personnel will be present at the site entrance to ensure all traffic is entering/ exiting the site in a safe manner.

A wheel wash will be installed at the site entrance to prevent dirt from the site being carried out onto the public road.

#### Site Parking during Construction

Provision of on-site parking will be provided during the construction phase to any trades that require parking for vehicles due to transportation of specialist equipment/ plant requirements.

#### Operational Phase

Once operational, the geology on site will be protected from the elements. Subsoil will either have a surface road dressing, building footprint or topsoil covering. Topsoil will be grassed to prevent erosion or surfaced with paving. Planting and landscape of open space areas will protect against erosion of soil.

The proposed development will increase the area of hard standing on the existing site, through the inclusion of new houses and paved areas. Unmitigated, this will lead to an increase in the volume of rainfall runoff generated on the site and a reduction in percolation to the groundwater table.

The impacts of the operational phase of the proposed development are further addressed as appropriate in the relevant chapters of this EIAR.

## **2.8 Monitoring**

#### Construction Noise

All construction activities will be carried out in compliance with the recommendations of BS 5228 Noise Control on Construction and Open sites.

Potential Sources of Noise include construction activities on site which may involve the use of heavy machinery. It is submitted that contractors will ensure the careful selection of quiet plant and machinery to undertake work where available.

Any ancillary plant such as generators, pumps or compressors will be located in areas on the site away from noise sensitive locations to minimise disturbance on the surrounding areas. Mechanical plant and equipment used for the purpose of works will be fitted with exhaust silencers and maintained in good working order.

A complaints procedure will be operated by the contractor throughout the construction phase and efforts will be made to address any noise issues at the nearest surrounding noise sensitive receptors, should they arise.

#### Air Quality and Dust Monitoring

Best practices will be employed throughout the construction period to ensure that emission to air of pollutants is appropriately minimised. Air monitoring will be carried out throughout the construction period as deemed necessary.

Construction materials will be appropriately handled and stored to ensure that any arising adverse effect from the generation of dust will be reduced or eliminated. Waste skips will be covered, scaffold netting will be used, and water will be used to suppress dust. Trucks and vehicles accessing and egressing the site will do so via a hardstanding area.

Construction material handling areas will be located as far away as is practical from any surrounding residential or public areas and prolonged storage of materials will be avoided where possible.

The burning of any waste materials will be strictly prohibited.

#### Vibration

The contractor will be required to carry out works such that the effect of vibration on adjacent buildings and the surrounding area is minimised and that no damage to these occurs because of construction activity on the site.

Potential sources of vibrations include construction activities on site which may involve the use of heavy machinery. The contractor will be required to comply with the requirements of the planning permission for any vibration limits on the for the works.

### **2.9 Sustainability**

The proposed development will meet the requirements for Conservation of Fuel and Energy in Dwellings (Part L Building Regulations 2011), and as such will meet the requirements for compliance with Nearly Zero Energy Building Standards.

### **2.9 Cumulative Impacts**

There are potential short term nuisances arising from the construction phase of the subject development.

In advance of works starting on site the works contractor will prepare a detailed Construction Environmental Management Plan (CEMP). The CEMP will set out the overarching vision of how the construction of the proposed development will be managed in a safe and organised manner by the contractor.

It is considered that these short-term impacts have the potential to combine with impacts arising from the construction of other permitted and planned projects on the applicant's overall landholding, should the construction period for each of these developments overlap.

The applicant's overall landholding has the benefit of permissions granted under WMCC Reg Refs. 147103 and 22253 and 22340. It is considered that should the construction periods of the subject application and these extant permissions overlap that short term slight negative effects would arise.

It is considered that the subject development in combination with surrounding planned and permitted projects would have an overall long term slight positive impact on the site. This is outlined in detail within the prepared Cumulative Impacts Chapter of this submitted Environmental Impact Assessment Report.

All extant permissions on the site have been independently assessed on their own merits and should adhere to any relevant conditions attached to their grants of permission during the construction period to minimise the potential for negative effects to arise.

#### **2.10 Decommissioning**

Given the nature of the proposed development, residential use, road development and active open space, it is not envisaged that the proposed development will require closure or decommissioning in the future.

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### 3 PLANNING AND DEVELOPMENT CONTEXT

The development lands are subject to national, regional, sub regional and county/ local planning policy.

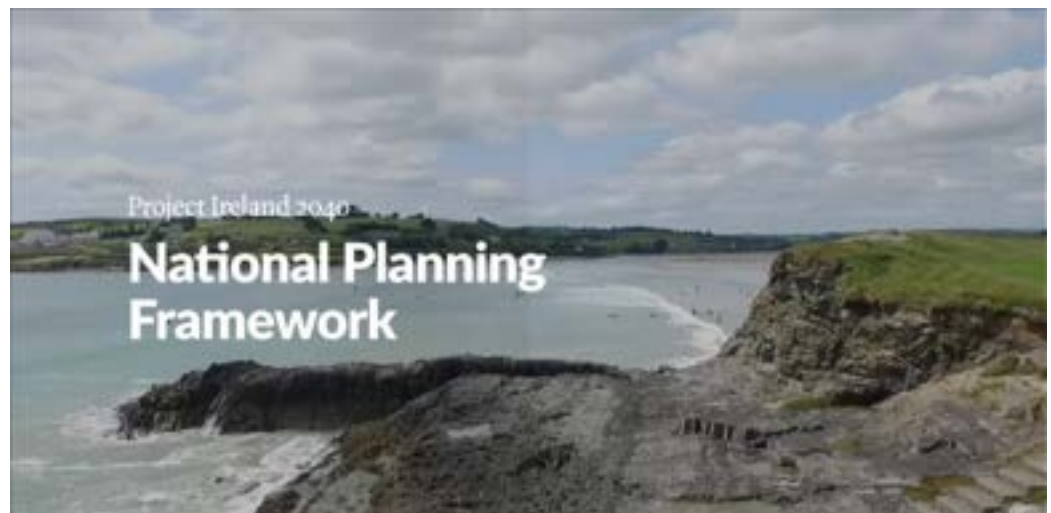
This chapter considers the strategic and local level statutory planning context governing development on the application site, inclusive of a review of the relevant national and regional policy context and local statutory planning context for Westmeath County and the application site, with an aim to promote the proper planning and sustainable development of the subject site.

#### 3.1 Strategic Planning Policy Documents

It is our considered opinion that the key policy documents for consideration as part of this section are identified as follows:

- National Planning Framework – Project Ireland 2040
- Rebuilding Ireland: Action Plan for Housing and Homelessness
- Regional Spatial & Economic Strategy for the Eastern and Midland Region 2019-2031
- Design Manual for Urban Roads and Streets 2019
- Smarter Travel – A New Transport Policy for Ireland 2009-2020
- Sustainable Urban Housing: Design Standards for New Apartments
- Sustainable Residential Development in Urban Areas (2009)
  - a. Urban Design Manual - Best Practice Guidelines
- Delivering Homes, Sustaining Communities (2008)
  - a. Best Practice Guidelines - Quality Housing for Sustainable Communities
- Guidelines for Planning Authorities on Childcare Facilities (2001)
- The Planning System and Flood Risk Management (2009)
- Urban Development and Building Height Guidelines (2018)
- Housing for All – A New Housing Plan for Ireland (2021)

##### 3.1.1 National Planning Framework – Project Ireland 2040



The National Planning Framework (NPF) is the Government's high-level strategic plan for shaping the future growth and development of our country out to the year 2040. It caters for:

- The extra one million people that will be living in Ireland by 2040;
- The additional two thirds of a million people working in Ireland by 2040; and
- The half a million extra homes needed in Ireland by 2040.

The Framework focuses on:

- Growing our regions, their cities, towns and villages and rural fabric.
- Building more accessible urban centres of scale.
- Better outcomes for communities and the environment, through more effective and coordinated planning, investment, and delivery.

As a strategic development framework, this Plan sets out the long-term context for the Country's physical development and associated progress in economic, social, and environmental terms and in an island, European and global context. Ireland 2040 will be followed and underpinned by supporting policies and actions at sectoral, regional, and local levels.

The key high - level objectives of the Plan are:

- To continue a path of economic, environmental, and social progress that will improve our prosperity, sustainability and well - being.
- To ensure that Irelands many unique assets can be built upon, with an emphasis on improving economic output and stability as well as quality of life, environmental performances and the livability of Dublin, our cities, towns, and rural areas.
- To set out likely future change in Ireland and the spatial pattern required for effective and coordinated investment in a range of sectors to best accommodates and support that change.
- To put in place a strategy for the sustainable development of places in Ireland and how that can be achieved through planning, investment, and implementation.

The NPF sets out that the Eastern and Midlands region will, by 2040, be a Region of around 2.85 million people, at least half a million more than today. It is identified that progressing the sustainable development of new greenfield sites for housing and particularly those close to public transport corridors is key to enabling growth.

It is worth highlighting that the projected level of population and jobs growth in the Eastern and Midland Regional Assembly area respectively represents 475,000 - 500,000 additional people and 330,000 additional jobs by 2040.

It is noted in the NPF that the 5 key cities, whilst geographically distributed, do not offer influence that extends to all parts of Ireland, particularly towards the Northwest and Midlands region. Sligo fulfils this role in the northwest and Athlone in the midlands, acting as an accessible centre of employment and services and a key point for investment in the midland's region, allowing Athlone to have the widest possible regional reach.

The NPF notes that due to its strategic location and scale of population, employment and services, Athlone has an influence that extends to all three Regional Assembly Areas (Southern, Eastern & Midlands and Northern & Western). Given the importance of the regional interdependencies, it is noted that it will be necessary to prepare a co-ordinated strategy for Athlone at both regional and town level to ensure that the town and environs have the capacity



to grow sustainably and to secure investment as the key regional centre in the Midlands.

The NPF recommends the following in relation to compact urban development: *“At a metropolitan scale, this will require focus on a number of large regeneration and redevelopment projects, particularly with regard to underutilised land within the canals and the M50 ring and a more compact urban form, facilitated through well designed higher density development.”*

It is also apparent from the NPF that low-density housing development, and underused sites, have been a feature of Ireland’s housing landscape in cities, towns, and the open countryside. To avoid urban sprawl and the pressure that it puts on both the environment and infrastructure demands, increased residential densities are required in the urban areas.

The following National Policy Objectives have direct relevance to the proposed development:

- **National Policy Objective 2b** - The regional roles of Athlone in the Midlands, Sligo and Letterkenny in the North-West and the Letterkenny-Derry and Drogheda Dundalk-Newry cross-border networks will be identified and supported in the relevant Regional Spatial and Economic Strategy
- **National Policy Objective 4** - 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 well-being.
- **National Policy Objective 5** - Develop cities and towns of sufficient scale and quality to compete internationally and to be drivers of national and regional growth, investment and prosperity
- **National Policy Objective 6** - Regenerate and rejuvenate cities, towns and villages of all types and scale 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.
- **National Policy objective 7** – Apply a tailored approach to urban development, that will be linked to the Rural and Urban Regeneration and Development Fund, with particular focus on:
  - Strengthening Ireland’s overall urban structure, particularly in the Northern and Western and Midland Regions, to include the regional centres of Sligo and Letterkenny in the North-West, Athlone in the Midlands and cross-border networks focused on the Letterkenny-Derry North-West Gateway Initiative and Drogheda-Dundalk-Newry on the Dublin-Belfast corridor.

The national planning framework promotes the creation of mixed tenure communities by stating *“More affordable homes must be provided in our urban areas as part of the creation of mixed-tenure communities.”*

The sites zoning allows for residential development and is considered appropriately serviced with appropriate infrastructure to deliver on a sustainable form of development.

It is submitted that the current proposal for 177 new residential units will deliver on the above objectives of the NPF. We note specifically that the addition of a

wide range of unit typologies is appropriate at this highly accessible site, catering to a wide demographic of potential future residents.

**We submit that the proposal for a medium-density residential development at this highly accessible location is consistent with the National Planning Framework for 2040.**

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### 3.1.2 Rebuilding Ireland: Action Plan for Housing and Homelessness



The action plan for housing and homelessness recognises that a significant increase in new homes is required. The action plan outlines a 5 pillar approach as follows:

- Pillar 1 - Address Homelessness
- Pillar 2 - Accelerate Social Housing
- Pillar 3 - Build More Homes
- Pillar 4 - Improve the Rental Sector
- Pillar 5 - Utilise Existing Housing

The plan outlines that “Accelerating delivery of housing for the private, social and rented sectors is a key priority for the Government. Ensuring sufficient stable and sustained provision of housing that is affordable, in the right locations, meets peoples different needs and is of lasting quality is one of the greatest challenges facing the country at present.”

The plan repeatedly states the need for housing to be in appropriate locations, “In addition to the scale of housing provision, the delivery of housing in the right place is also central to enabling a good standard of living and improving quality of life. Locating housing in the right place provides the opportunity for wider family and social networks to thrive, maximises access to employment opportunities and to services such as education, public transport, health and amenities, while also delivering on sustainability objectives related to efficiency in service delivery and investment provision.”

The proposed development supports Pillar 3 of the plan specifically by way of the delivery of 177 new residential units at a key location adjacent to services, amenities and employment in Athlone Town Centre. The site is considered a significant opportunity site for the delivery of residential units close to Athlone Town and will contribute to the overall development of the Cornamaddy lands.

**We submit that the proposal is consistent with the Action Plan for Housing and Homelessness.**

### 3.1.3 Housing for All – a New Housing Plan for Ireland



The Housing for All (HFA) plan has been introduced by the Government in order to achieve a more sustainable housing system with a planning system that is fit for purpose and that will create long-term vibrant communities with the necessary supporting infrastructure. It caters for:

- Preventing homelessness
- Protecting tenants
- Supporting social inclusion

The plan focuses on:

- Introducing incentives and measures to bring vacant and derelict properties back into residential use.
- Supporting homeownership and increasing affordability.
- Preventing homelessness, protecting tenants and supporting social inclusion and increasing social housing delivery.
- Increase the levels of new housing stock with the goal of ending homelessness by 2030.

- Achieve a more sustainable housing system with a planning system that is fit for purpose and that will create long-term vibrant communities with the necessary supporting infrastructure.
- Increasing the capacity and efficiency of delivery in both public and private sectors.
- Over 300,000 new homes to be built by 2020, including a projected 54,000 affordable homes for purchase or rent and over 90,000 social homes.
- Setting out a pathway to economic, societal and environmental sustainability in the delivery of housing.

The HFA is to be the largest State led building programme in our history and is financed by the biggest State funding commitment ever. The HFA also has the largest ever housing budget in the history of the State to transform our housing system, with an excess of €20 bn in funding through the Exchequer, the Land Development Agency (LDA) and the Housing Finance Agency over the next five years.

Housing policy objective 11, no. 11.2 supports high-density housing: *“Develop section 28 Guidelines for Planning Authorities on Sustainable and Compact Settlement Guidance (SCSG), including guidance on housing typologies to facilitate innovative approaches to medium and higher densities.”*

Additionally, housing policy objective 12, no 12.2 is to deliver a new approach to active land management: *“Develop proposals for new Urban Development Zones, to DHLGH deliver a coordinated and transparent approach to the delivery of residential and urban development, particularly on brownfield sites, meeting the compact growth objectives of the National Planning Framework.”*

Furthermore, the HFA plan will drive economic sustainability and reduce constructions costs. Objective 23, 23.11 states that the HFA plan will *“Reduce C&D waste and associated costs by working with the construction industry on demonstration projects to show how best practice (specifically in relation to urban high-rise apartment developments) waste segregation and other waste management measures, can reduce overall C&D disposal costs.”*

The subject proposal provides 177 new residential units which will contribute towards the government’s target deliverance of 33,000 new residential units per year between 2021 and 2030.

**We submit that the proposal is consistent with Housing for All – A New Housing plan for Ireland**

### 3.1.4 Regional Spatial & Economic Strategy for the Eastern and Midland Region 2019-2031



The *Regional Spatial and Economic Strategy for Eastern and Midland Regional Assembly* (RSES) has recently been published and adopted.

The RSES provides a:

- **Spatial Strategy** – to manage future growth and ensure the creation of healthy and attractive places to live, work, study, visit and invest in.
- **Economic Strategy** – that builds on our strengths to sustain a strong economy and support the creation of quality jobs that ensure a good living standard for all.
- **Metropolitan Plan** – to ensure a supply of strategic development areas for the sustainable growth and continued success and competitiveness of the Dublin metropolitan area.
- **Investment Framework** – to prioritise the delivery of key enabling infrastructure and services by government and state agencies.
- **Climate Action Strategy** – to accelerate climate action, ensure a clean and healthy environment and to promote sustainable transport and strategic green infrastructure.

Athlone is included in the Gateway Region as listed in the RSES which includes the Midlands and north west border areas, outside the Core Region, which are strategically located as inter regional portals to the Northern, Western and Southern Regions, where over 400,000 people reside. The gateway region also includes Regional Growth Centres such as Dundalk, a number of large county towns as well as smaller towns and villages which support the wider rural and agricultural area where population is more dispersed. Athlone is described as a Regional Growth Centre.

The RSES notes that Athlone is located in the centre of Ireland at a key node between Dublin and Galway on the River Shannon and has direct connectivity between towns such as Longford, Mullingar, Tullamore, Maynooth, Portlaoise, Ballinasloe and Roscommon. Due to its scale of population, employment and services, Athlone acts as a key regional centre for the extensive catchment that extends into the Northern and Western Region. Athlone's employment and housing potential, historic centre and cultural assets, along with its attractive

natural environment along the banks of the River Shannon, provide for significant tourism opportunities and an enhanced quality of life for both residents and visitors to the town.

The RSES targets significant growth in the Regional Growth Centres of Athlone, Drogheda and Dundalk to enable them as regional drivers, focusing on improving local economies and quality of life to secure investment to fulfil roles as key Regional Growth Centres, with Athlone being an economic driver in the centre of Ireland.

The RSES notes that Cornamaddy has the potential to deliver the population targets outlined in the RSES, stating that:

*‘The development of lands at Curragh Lissywollen, Lisseywollen South, Cornamagh, Cornamaddy and Monksland / Bellanamullia, have the potential to deliver the population targets identified in the RSES’.*

The proposal addresses the high demand for housing in this area located within a Regional Growth Centre and offers a high quality residential providing 177 new residential units on lands at Cornamaddy which have been identified in the RSES as having potential to deliver on population targets.

**We submit that the proposal is consistent with the Regional Spatial and Economic Strategy for the Eastern & Midland Region.**



### 3.1.5 Smarter Travel – A New Transport Policy for Ireland – 2009 – 2020



The Government has committed in ‘Smarter Travel - A Sustainable Transport Future: A New Transport Policy for Ireland 2009 - 2020’ to reducing the total share of car commuting from 65% to 45%, a rise in non-car trips by 55% and that the total vehicle miles travelled by the car fleet will not increase.

The key goals of the Guidelines are as follows:

- Future population employment growths will predominantly take place in sustainable compact forms which reduces the need to travel for employment and services.
- 500,000 more people will take alternative means to commute to work to the extent that the total share of car commuting will drop from 65% to 45%.
- Alternatives such as walking, cycling and public transport will be supported and provided to the extent that these will rise to 55% of total commuter journeys to work.
- The total kilometres travelled by the car fleet in 2020 will not increase significantly from current levels.
- A reduction will be achieved on the 2005 figure for Greenhouse gas emissions from the transport sector.

Achieving sustainable transport will require a suite of actions that will have complementary impacts in terms of travel demand and emissions. These are as follows:

- Actions to reduce the distance travelled by private car and encourage smarter travel.
- Actions aimed at ensuring that alternatives to the car are more widely available.
- Actions aimed at improving the fuel efficiency of motorised transport.
- Actions aimed at strengthening institutional arrangements to deliver the targets.

Smarter Travel acknowledges that good progress is being made in meeting the above targets and actions by providing better guidance on planning and development through the delivery of Planning Guidelines.

A Traffic Impact Assessment has been prepared by RoadPlan and is submitted as part of this planning pack. The Traffic Impact Assessment concludes that the



proposed development will not have an impact on the functional capacity of the surrounding roads junctions or roundabouts, with all predicted to continue to functionally operate 15 years after the opening of the proposed development, to 2039.

A Road Safety Audit has been prepared in respect of the subject proposal by RoadPlan. All recommendations as include within the Road Safety Audit have been implemented in the final scheme roads design by Paul McGrail Consulting Engineers.

These recommendations outlined in the submitted Road Safety Audit will be implemented to ensure that, in so far as possible, the impacts of traffic are reduced and minimised where practical, while providing several environmental and economic advantages.

**We submit that the proposal for a new residential development at this highly accessible location is supportive of the objectives of Smarter Travel - A New Transport Policy for Ireland (2009-2020).**

### 3.1.6 Sustainable Urban Housing: Design Standards for New Apartments 2020 (as amended)



‘Sustainable Urban Housing: Design Standards for New Apartments 2020’ are intended to promote sustainable housing, by ensuring that the design and layout of new apartments provide satisfactory accommodation for a variety of household types and sizes, including families with children over the medium to long term. The most recent amendments to this document were made in December 2022.

The Design Standards for new Apartment’s detail 3 no. locations where apartment developments are generally suitable. The development is classed as being in an ‘Intermediate Urban Location’ within the guidelines which are defined as the following in section 4.21:

*‘suburban/urban locations served by public transport or close to town centres or employment areas and particularly for housing schemes with more than 45 dwellings per hectare net (18 per acre), planning authorities must consider a*

*reduced overall car parking standard and apply an appropriate maximum car parking standard’.*

The relevant guidance relating to the location of apartments in intermediate urban areas as outlined in the Design Standards for new Apartments document are outlined below:

- *Sites within or close to i.e. within reasonable walking distance (i.e. up to 10 minutes or 800-1,000m), of principal town or suburban centres or employment locations, that may include hospitals and third level institutions;*

*Sites within walking distance (i.e. between 10-15 minutes or 1,000- 1,500m) of high capacity urban public transport stops (such as DART, commuter rail or Luas) or within reasonable walking distance (i.e. between 5-10 minutes or up to 1,000m) of high frequency (i.e. min 10 minute peak hour frequency) urban bus services or where such services can be provided*

- *Sites within easy walking distance (i.e. up to 5 minutes or 400-500m) of reasonably frequent (min 15 minute peak hour frequency) urban bus services.”*

We submit that the duplex and maisonette apartment units provided as part of the subject development are appropriate for the site given its location close to Athlone Town, Educational Facilities, Amenties and Public Transport. The proposed apartment offering on the site increases the number of unit types offered across the overall development.

The proposal offers 177 no. new units total, of these there are 24 no. maisonette 1 bed units and 8 no. 3 storey 3 bed duplex units.

#### Specific Planning Policy Requirement 1

*Apartment developments may include up to 50% one-bedroom or studio type units (with no more than 20-25% of the total proposed development as studios) and there shall be no minimum requirement for apartments with three or more bedrooms. Statutory development plans may specify a mix for apartment and other housing developments, but only further to an evidence-based Housing Need and Demand Assessment (HNDA), that has been agreed on an area, county, city or metropolitan area basis and incorporated into the relevant development plan(s).*

#### Applicant Response to SPPR1

The proposed development apartment mix is as follows:

- 24 no. 1 bed maisonette
- 8 no. 3 storey 3 bed duplex

We submit that there are no studio units proposed as part of the scheme, following an in-depth review of the local housing market. The development provides 24 no. 1 bed maisonette apartments as part of an overall development of 177 no. units, and therefore will not exceed the maximum allowable provision of 1 bed units of 50% as set out in SPPR1 of the Design Standards for New Apartments document.

#### Specific Planning Policy Requirement 3

**Minimum Apartment Floor Areas:**

- Studio apartment (1 person) 37 sq.m
- 1-bedroom apartment (2 persons) 45 sq.m
- 2-bedroom apartment (4 persons) 73 sq.m
- 3-bedroom apartment (5 persons) 90 sq.m

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**Applicant Response to SPPR3**

The subject proposal complies with the minimum apartment floor areas as follows:

- 1 bed maisonettes – Minimum 56 sq.m
- 3 storey 3 bed duplex – Minimum 115 sq.m

It is noted that all provided apartment and duplex units exceed the minimum floor area requirements for apartment units. Please refer to the Housing Quality Assessment prepared by Doran Cray for more information regarding floor areas across all units.

**Specific Planning Policy Requirement 4**

*In relation to the minimum number of dual aspect apartments that may be provided in any single apartment scheme, the following shall apply:*

- (iii) *A minimum of 33% of dual aspect units will be required in more central and accessible urban locations, where it is necessary to achieve a quality design in response to the subject site characteristics and ensure good street frontage where appropriate.*
- (ii) *In suburban or intermediate locations, it is an objective that there shall generally be a minimum of 50% dual aspect apartments in a single scheme.*
- (iii) *For building refurbishment schemes on sites of any size or urban infill schemes on sites of up to 0.25ha, planning authorities may exercise further discretion to consider dual aspect unit provision at a level lower than the 33% minimum outlined above on a case-by-case basis, but subject to the achievement of overall high design quality in other aspects.*

**Applicant Response to SPPR4**

All 32 no. apartment units provided will have the benefit of dual aspect due to their design as maisonette units and duplexes, totalling 100%.

Given this, we submit the proposal complies with the dual aspect ratio requirements of the Apartment Guidelines.

**Specific Planning Policy Requirement 5**

*Ground level apartment floor to ceiling heights shall be a minimum of 2.7m and shall be increased in certain circumstances, particularly where necessary to facilitate a future change of use to a commercial use. For building refurbishment schemes on sites of any size or urban infill schemes on sites of up to 0.25ha, planning authorities may exercise discretion on a case-by-case basis, subject to overall design quality.*

**Applicant Response to SPPR5**

The proposed floor to ceiling height of all floors of the buildings will be at least 2.4 metres.

We note the Guidelines state the following:

*“Building Regulations Technical Document F deals with Ventilation. It provides guidance on ceiling height in habitable rooms. The suggested minimum floor to ceiling height, consistent with good room design, the use of standard materials and good building practice is **generally 2.4m.**”*

Given this, we submit the proposal complies with the floor to ceiling height requirements of the Apartment Guidelines.

#### Specific Planning Policy Requirement 6

*A maximum of 12 apartments per floor per core may be provided in apartment schemes. This maximum provision may be increased for building refurbishment schemes on sites of any size or urban infill schemes on sites of up to 0.25ha, subject to overall design quality and compliance with building regulations.*

#### Applicant Response to SPPR6

As the provided apartment units are set up as 3 storey 3 bed duplex units and maisonettes. Each unit will have own door access. We refer to the Duplex and Maisonette Floor Plan drawings prepared by Doran Cray Architects for details regarding this.

#### **Internal Storage**

All apartment and duplex units provided meet and exceed the requirements for minimum storage areas as outlined in the guidelines.

No. of bedrooms	Minimum storage requirements	Proposed
1 bedroom maisonette	3 sq.m	3.4 – 3.8 sq.m
3-bedroom duplex	9 sqm	9.2 sq.m

Please refer to the Housing Quality Assessment prepared by Doran Cray for further details on internal storage.

#### **Private Amenity Space**

We submit that compliance with the minimum required areas for private amenity space is achieved for all units. We submit this is consistent with the design standards and is acceptable in this instance given the overall design quality put forward.

No. of bedrooms	Minimum floor areas for private amenity space	Proposed
1 bedroom maisonette	5 sqm	32 sq.m
3-bedroom duplex	9 sqm	21 – 23 sq.m

### Refuse Storage

The Apartment Guidelines requires that the storage and collection of waste materials be provided in apartment schemes. The Guidelines also state that *“Refuse facilities shall be accessible to each apartment stair/lift core and designed with regard to the projected level of waste generation and types and quantities of receptacles required. Within apartments, there should be adequate provision for the temporary storage of segregated materials prior to deposition in communal waste storage and in-sink macerators are discouraged as they place a burden on drainage systems.”*

The waste storage areas shown in the architectural drawings have been strategically located and are sufficiently sized. There will be sufficient space to allow for the segregation of waste into appropriately sized receptacles within minimal collection frequencies. A full Operational Waste Management Plan has been prepared for the subject development by Paul McGrail Consulting Engineers, and provides further detail on how waste will be managed during the operation of the site.

### Communal Amenity Space

The below calculation shows the required communal space areas that should be provided for the apartment element of the development:

No. of bedrooms	Minimum floor areas for communal amenity space	Required
1 bed Maisonette	5 sq.m ( 24 x 5 sq.m)	120 sq.m
3 bedroom duplex	9 sqm (8 x 9sq.m = 54 sq.m)	72 sq.m
	<b>Total required</b>	<b>192 sq.m total</b>
	<b>Total provided</b>	<b>200 sq.m total</b>

There is a requirement for 192 sq.m to be provided as communal amenity open space for the proposed development. The proposal far exceeds this requirement, providing 400 sq.m as communal amenity open space for residents of the apartment units provided.

It is submitted that the communal open space areas have been located adjacent to the duplex units provided given that they are located away from the primary areas of open space in the central area of the site. The proposed Maisonette units have direct access to the central areas of public open space provided across the development site.

### Car Parking

The Apartment Guidelines generally encourage reduced standards of car parking. The document defines accessible locations as falling into 3 categories:

- Central and/or Accessible Urban Locations
- Intermediate Urban Locations
- Peripheral and/or Less Accessible Urban Locations

Our review of these 3 categories identified that the site can be categorised as being located in a Peripheral and/or Less Accessible Urban Location.

Regarding car parking, the Apartment Guidelines set out the following requirements for Peripheral and/ or Less Accessible Urban Areas:

*‘As a benchmark guideline for apartments in relatively peripheral or less accessible urban locations, one car parking space per unit, together with an element of visitor parking, such as one space for every 3-4 apartments, should generally be required’.*

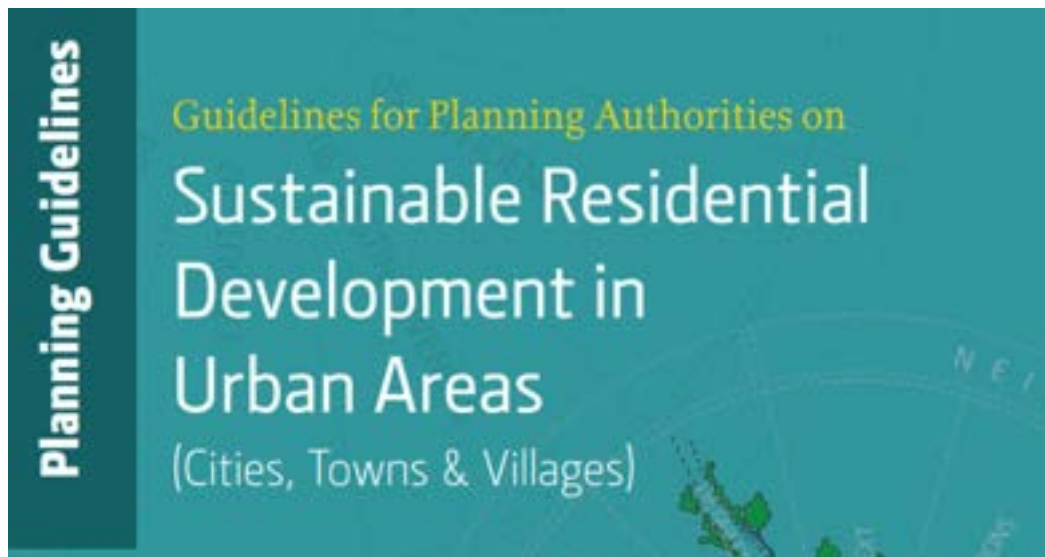
We submit the parking ratio proposed for the apartment element of this development is acceptable for the site given the nature of the development and its location.

**We submit that the proposal is consistent with the overall principles of the Sustainable Urban Housing: Design Standards for New Apartments (2020)**

### 3.2 Ministerial Guidelines

Each of the relevant strategic policy documents are now considered below and their relevance to the subject site and the developments compliance with same, is assessed in detail.

#### 3.2.1 Sustainable Residential Development in Urban Areas (2009)/ Urban Design Manual (2009) Guidelines



The role of these guidelines is to ensure the sustainable delivery of new development throughout the country. The Guidelines provide guidance on the core principles of urban design when creating places of high quality and distinct identity. High quality design is recommended in the development management process. The Guidelines are accompanied by an Urban Design Manual, which demonstrates how key principles can be applied in the design and layout of new residential development.



The development site can be best described as Outer Suburban/ 'Greenfield' outlined in section 5.11 (f) of this document:

*"These may be defined as open lands on the periphery of cities or larger towns whose development will require the provision of new infrastructure, roads, sewers and ancillary social and commercial facilities, schools, shops, employment and community facilities'.*

The document goes on to state that:

*'Studies have indicated that whilst the land take of the ancillary facilities remains relatively constant, the greatest efficiency in land usage on such lands will be achieved by providing net residential densities in the general range of 35-50 dwellings per hectare and such densities (involving a variety of housing types where possible) should be encouraged generally. Development at net densities less than 30 dwellings per hectare should generally be discouraged in the interests of land efficiency, particularly on sites in excess of 0.5 hectares'.*

*The density of the proposed development on residential lands within the application site boundary is as follows:*

177 no. units on a net site area zoned on a net site area of 5.27 ha offering an overall residential density of 34 uph on the development site.

This level of density is considered to be appropriate having regard to the National Planning Framework, Regional Planning Guidelines and Sustainable Urban Housing: Design Standards for New Apartments: Guidelines for Planning Authorities (2018) which promotes an increase in residential density.

The development provides a variety of unit types and sizes which are capable of catering for a wide range of demographics in the Athlone area, and will appropriately deal with demand for varying unit typologies as population in the area increases.

There is also significant flexibility within the scheme to vary the mix. The proposed housing typologies have the possibility to extend into the back garden to create an additional family/flexible space, or up into the attic for an additional bedroom, allowing families to grow and evolve in the same house in accordance with the "Lifetime Homes" philosophy.

The proposed units are designed to be adaptable by their owners, so that typical modifications can be easily facilitated. For example, the family room can be added without major changes to the kitchen layout. In addition, the stairs are designed so that another staircase from the first floor to the attic level can be added, without carrying out any modifications to the existing stairs or the first floor layout. It is noted that the adaptability shall also increase the potential population density of the scheme over time.

The building height on the site of 2 storey with an optional attic conversion to 3 storeys with a pitched roof is considered appropriate to deliver a sustainable residential density suitable to the nature of the site and its surroundings, and maximise the development potential of the site whilst providing high quality units with access to large areas of open space. The proposal is appropriately located close to Athlone Town Centre. There are no existing residential dwellings immediately adjacent to the site, besides granted development for 75 no. residential units (Phase 1), which Phase 4 accompanies, and so unduly overlooking or overshadowing does not present itself as an issue in this case.

The development is located on the north-eastern periphery of Athlone Town (population over 5000) which puts the development in the category of 'Larger Towns' as outlined in the guidelines. We examine the contents of the Guidelines below as they relate to Larger Towns.

### Design

The key elements of design in the context of larger towns are as follows:

- Acceptable Building Heights
- Avoidance of Overlooking/Overshadowing
- Provision of adequate public and private open space
- Internal Space in Apartments
- Suitable parking provision
- Provision of ancillary facilities

The current proposal has been designed in the context of the above and we note the following in this regard:

- Appropriate building heights are proposed in accordance with performance criteria under the Building Height Guidelines.
- Overshadowing is not considered an issue in this case; the proposed development is maximum 3 storeys (including optional attic conversion) and does not immediately border any residential sites of differing character.
- An adequate level of parking is delivered across the site with 239 no. parking spaces total provided across the site for 177 no. units. These are provided as 154 no. in curtilage residential parking spaces, 26 no. on street residential parking spaces and 59 no. on street visitor parking spaces. Separate to the parking provided for the subject development there are also 19 no. car parking spaces associated with the adjacent granted creche facility (WMCC Ref. 22/340), which have been included within the site redline boundary at the request of the planning authority.
- Multiple safe open spaces are provided throughout the development site overlooked by dwellings and equipped with children's play spaces and landscaped areas for residents.
- A coherent and permeable network of open spaces is proposed.
- Pedestrian access and permeability are key across the site and specific attention has been given to accessibility and the connectivity of the site with surrounding street interfaces, with wide footpaths and safe cycle lanes provided along this site access route.

### Density

The proposed development aims to deliver an appropriate density and form of residential development to accommodate the growing population of Athlone on the subject site located on the north-eastern periphery of Athlone Town.

The proposed development offers a residential density of 34 units per hectare for the total quantum of development (177 no. units) on the residential zoned lands within the site redline, totalling 7.31 ha (proposed gross site area). It is

noted that the proposed net site area totals 5.27 ha, but excludes links roads serving the wider area and lands zoned open space.

The proposed density is considered an appropriate approach to development, having regard for the site location in proximity close to Athlone Town Centre, the importance of the site for the deliverance of new residential development within Athlone, and the site access surrounding transport, services, amenities, and infrastructure.

The proposal has been carefully considered to offer a sustainable form of development, taking precedence from the typology of surrounding developments, whilst still providing a high level of residential density and amenity.

As the site is considered a greenfield site, section 2.7 of the guidelines state that:

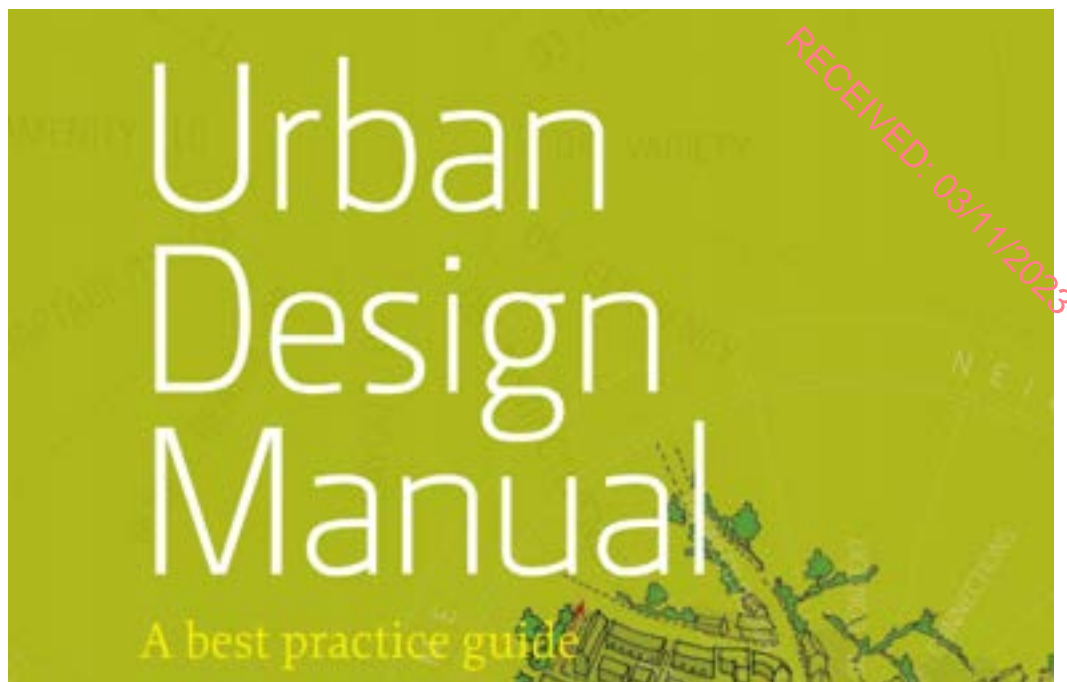
*‘where substantial areas of brownfield or greenfield sites are going to be (re)developed, it is strongly recommended that a local area plan (LAP) be prepared to facilitate the sustainable development of the area and to avoid it being developed in a piecemeal and incoherent fashion over a long period of time’.*

The Athlone Town Plan 2014-2020 provides the relevant context for the development area and sets forward an appropriate density for new development on residential zoned lands. Section 3.4 of the plan outlines the general density parameters for new residential development as follows:

Location for News Residential Development	General Density Parameters
Town Centre and Brownfield Sites	Site Specific/ 35 per ha
At Strategic locations including public transport nodes	35 units per ha
Inner Suburban/ Infill	Site Specific
Outer Suburban/ Greenfield	30-35 per ha
Outer edge of Urban/ Rural Transition	20-35 per ha

It is noted that the Athlone Town Plan generally advocates new developments on greenfield sites at a density of 35 units per hectare. The proposed density provides 34 units per hectare, considering the Sustainable Residential Development in Urban Areas (2009)/Urban Design Manual (2009) Guidelines and the Urban Development and Building Height Guidelines (2018) supersede the Athlone Town Plan 2014-2020, which provide a density of 35-50 dwellings per hectare. The proposed density of 34 units per hectare on the residential zoned lands is therefore considered generally in keeping with policy precedent.

#### **Urban Design Manual**



Aside from the above, we draw attention to the compliance of the scheme with the ‘sister’ document for these guidelines, the ‘Urban Design Manual’. This planning application is accompanied by a Design Statement, prepared by Doran Cray Architects, which demonstrates how the proposed development has regard to and has been developed in accordance with best practice in respect to urban design.

The Design Statement should be read in conjunction with this Planning Report and with the plans and particulars accompanying this planning application.

For the purposes of this report, compliance with the key requirements of the Urban Design Manual are noted below:

CRITERIA	RESPONSE
<b>CONTEXT</b> <b>How does the development respond to its surroundings?</b>	<p>The proposal seeks to provide a development that is self-sufficient in terms of privacy, access to open space, and parking. Appropriate access points are provided to the development – both pedestrian and vehicular.</p> <p>The development location and design has been chosen to protect the amenity of the surrounding area. The development is maximum 3 no. storeys (when optional attic conversions are included for) which respects the existing landscape of the area and caters to the needs of the growing population in Athlone appropriately. The scale, layout and design of the development poses no impact in terms of overlooking or overshadowing to the residential units granted under reg. ref. 22/253 (Phase 1) to the east and reg. ref. 22/577 (Phase 3) to the south of the application lands, currently live for decision.</p> <p>The development will cater for improved connections to surrounding future developments</p>

	through the provision of a new link road through the central portion of the site, which will be partially constructed as part of the proposed development.
<b>CONNECTIONS</b> How well is the new neighbourhood/site connected?	<p>The proposal delivers on the following in terms of connections:</p> <ul style="list-style-type: none"> <li>○ Appropriate access points are provided to the development.</li> <li>○ The site's proximity to Athlone town and public transport links ensures a safe and easy access from the site to amenities and facilities in the area. There is adequate parking for the development to allow all future residents to own a private car.</li> <li>○ The site also benefits from existing cycle paths that link to the Greenway (the old Mullingar Rail Line) located on the southern side of the N6.</li> <li>○ The revised layout extends the proposed link road running east/west through the site, which maintains the links proposed in Phase 1, 2 and 3.</li> <li>○ The link road through the site is also afforded separate pedestrian and cycle paths, both of which are buffered from the main road by a grass verge. This approach is continued on the main links north and south of the link road.</li> <li>○ The layout facilitates vehicular and pedestrian links to the existing Drumaconn estate to the south-east and to the future residential development lands to the south-west.</li> </ul>
<b>INCLUSIVITY</b> How easily can people use and access the development?	<p>We note the following in terms of usability and access to and within the scheme:</p> <ul style="list-style-type: none"> <li>○ Pedestrian access and linkages are proposed within the site and are within walkable distances to nearby public transport.</li> <li>○ Pedestrian access is further enhanced within the development with 'pedestrian priority' given to the north-western portion of the site within the open space zoned land. There is a landscaped linear park provided, which connects to the oval green area and playground towards the middle of the subject site. No vehicular access is proposed to this portion of the site.</li> <li>○ The oval area is joined to the adjacent pocket park areas through interrelated pedestrian paths, linking the linear park to the rest of the subject site.</li> <li>○ The public realm is also designed to ensure accessibility on equal terms for people of a range of ages and physical mobility with site gradients providing accessibility across the site.</li> <li>○ The proposed development will provide a range of accommodation types which have been designed to allow for full part M accessibility where possible.</li> </ul>

<p><b>VARIETY</b> How does the development promote a good mix of activities?</p>	<ul style="list-style-type: none"> <li>○ Variety in the development is provided through a range of design proposals in both the built environment and in the landscaping layout.</li> <li>○ In the built environment, there are a variety of different unit typologies proposed, which allows for accommodation for a variety of end users, i.e. singles, couples, families and retirees.</li> <li>○ The landscaped elements are divided between several areas throughout the site which gives residents a variety of areas to avail of.</li> <li>○ Passive security is designed to provide total surveillance.</li> <li>○ Communal landscaped outdoor areas are provided within the scheme which can allow for a range of activities to be provided to future residents.</li> </ul>
<p><b>EFFICIENCY</b> How does the development make appropriate use of resources including land?</p>	<p>The scheme proposes a development at an appropriate density for the site on currently underutilised lands in a highly accessible location adjacent to the N55 Cavan-Athlone Road to the northeast of Athlone Town.</p> <p>The massing of the buildings on the site was carefully considered by the project team throughout the design process. It was decided that 2 storey housing units and 3 storey duplex units, were the most appropriate form of development for the site given its size, location, demand for unit typology in this area, and surrounding permitted development to allow for a high level of residential amenity to be provided.</p>
<p><b>DISTINCTIVENESS</b> How do the proposals create a sense of place?</p>	<p>The scheme promotes the principles of DMURS - Design Manual for Urban Roads and Streets. This balance of road planning, public space and site layout will provide an inviting and enticing setting for a new community.</p> <p>The proposal features landscaping unique to the subject site which will create an immersive open space area for residents synonymous with the proposed development. The proposal features appropriate boundary treatments to provide a level of privacy for residents of the proposed development. Landscaping plans for the site are outlined within the Landscape Drawing Pack submitted as part of this LRD Application Pack prepared by CSR.</p>
<p><b>LAYOUT</b> How does the proposal create people-friendly streets and spaces?</p>	<p>As can be seen from the site layout plan, pedestrian priority is maintained within the scheme, with the entire north-western portion of the site zoned as open space zoned land, providing residents and the public with a walkway through the proposed linear park, which links to the oval area, which includes a playground for children to use.</p>



	<p>Pockets of landscaped space are also provided throughout the residential portion of the site, with numerous pocket areas providing additional play and leisure areas.</p> <p>All streets have been designed to DMURS standards with a specific emphasis on promoting low speed travel for vehicles throughout the development site.</p> <p>The proposal creates people friendly streets and spaces by placing an emphasis on facilitating connections to the wider community. The proposed road through the site provides segregated vehicular, cycle and pedestrian access to the subject proposal and to future developments bordering the site. The layout is also logical and legible, which makes it easy to navigate.</p> <p>The public open spaces provide for a mixture of activities, which include cycling, walking, playing and general leisure activities for public enjoyment.</p>
<b>PUBLIC REALM</b> How safe, secure and enjoyable are the public areas?	<p>All communal spaces within the scheme are easily accessible from all units. The layout of communal open space areas has been arranged to ensure that these spaces are safe secure and well maintained.</p> <p>The development has also been designed in a manner that allows for maximum passive surveillance throughout the development site.</p>
<b>ADAPTABILITY</b> How will the buildings cope with change?	<p>The development offers a range of unit types and sizes. Homeowners have the option for future internal reconfiguring or future expansion to the rear and attic. These alterations and adaptations can be carried out without affecting the character of the houses or the neighbourhood.</p>
<b>PRIVACY AND AMENITY</b> How do the buildings provide a high quality amenity?	<ul style="list-style-type: none"> <li>○ Appropriate set back distances are maintained.</li> <li>○ Private open space is in line with all required development standards.</li> <li>○ All units feature own door access.</li> <li>○ All units have access to high quality landscaped communal amenity areas.</li> <li>○ All units will have the opportunity to avail of childcare facilities which will be provided as part of the planning application in Phase 2 of the overall development.</li> </ul>
<b>PARKING</b> How will parking be secure and attractive?	<p>Parking areas are private for the units provided as part of the development and all parking areas within the development site benefit from passive surveillance.</p>
<b>DETAILED DESIGN</b> How well thought through is the building and landscape design?	<p>CSR have worked closely with Doran Cray to devise a scheme that complements and respects the original design concept, existing permissions, and existing development in the vicinity of the site. The landscaping proposal enhances the development and ensures that the individual amenity of the units</p>

	and wider residential amenity of the scheme is of high quality.
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Table 3.2 - Compliance with Urban Design Manual

The above table clearly outlines how the development proposal is envisaged to deliver on the key provisions of the Urban Design Manual. We submit that the current proposal is supportive of the objectives of the Sustainable Residential Development in Urban Areas (2009) / Urban Design Manual.

### 3.2.3 Delivering Homes Sustaining Communities (2007)



The Department's policy on housing provides the overarching policy framework for an integrated approach to housing and planning and notes that demographic factors will continue to underpin strong demand for housing. This in turn presents challenges for the physical planning of new housing and associated services. The quality of the housing environment is central to creating a sustainable community.

The *Delivering Homes Sustaining Communities* policy statement is accompanied by Best Practice Guidelines entitled 'Quality Housing for Sustainable Communities' and these are the focal point in terms of the consistency of the current proposal.

#### **Quality Homes for Sustainable Communities (2007)**

The purpose of these Guidelines is to promote high standards in design and construction and in the provision of residential development and services in new housing schemes. It is our considered view that the proposal for the site has delivered on the key principles of this document by delivering the following:

- The proposed development will provide a quality living environment through 1 bedroom maisonettes, 3 bed duplex apartments, 2 bed terraced houses, 3 bed end of terrace/semi-detached houses and 3-4 bed semi-detached/detached houses designed to meet or exceed standards and ample amenities and open space are provided.

- Pedestrian Access is prioritized within the scheme. The proposed layout facilitates connection to the adjoining sites (Phase 1, 2 and 3), which are earmarked for future development. The entirety of the north-eastern portion of the site is zoned as open space and is appropriately landscaped, with no residential development or vehicular access proposed to this area of the subject lands.
- All open spaces are safe and benefit from passive surveillance from the proposed dwelling buildings on site.
- The chosen materials have been selected for their aesthetic and durable qualities over the life cycle of the scheme.

A Schedule of Accommodation has been prepared by Doran Cray Architects and submitted with this planning application. We direct the Planning Authority to this assessment for full details on the extent of proposals. We submit to the Board that the current proposal is supportive of the objectives of the Delivering Homes Sustaining Communities (2007) and the associated Best Practice Guide 'Quality Housing for Sustainable Communities'.

### 3.2.4 Guidelines for Planning Authorities on Childcare Facilities (2001)

## Childcare Facilities

### Guidelines for Planning Authorities

The Childcare Guidelines provide a framework to guide local authorities in preparing development plans and assessing applications for planning permission, and developers and childcare providers in formulating development proposals. The Guidelines are intended to ensure a consistent approach throughout the country to the treatment of applications for planning permission for childcare facilities.

The Guidelines state: *"Access to quality childcare services contribute to the social, emotional, and educational development of children. There are clear economic benefits from the provision of childcare. The lack of accessible, affordable, and appropriate childcare facilities makes it difficult for many parents/guardians to access employment and employment related opportunities."*

The Guidelines identify several appropriate locations for childcare facilities, which include the following:

- New Communities/Large Housing Developments
- The vicinity and concentrations of workplaces, such as industrial estates, business parks and any other locations where there are significant numbers working
- In the vicinity of schools
- Neighbourhood, District and Town Centres
- Adjacent to public transport corridors, park and ride facilities, pedestrian routes, and dedicated cycle ways

Notwithstanding the locations identified above, the Guidelines state that proposals should have regard to the following:

- Child Care (Pre-School Services) Regulations, 1996.
- Suitability of the site for the type and size of facility proposed.
- Availability of outdoor play area and details of management of same.
- Convenient to public transport nodes.
- Safe access and convenient parking for customers and staff.
- Local traffic conditions.
- Number of such facilities in the area; and
- Intended hours of operation.

The recommendation for new housing developments is the provision of 1 facility for 75 dwellings.

The subject application proposes 177 no. new residential units. The permitted creche granted under Reg Ref. 22340 (Phase 2) that will cater for any childcare demand arising from the subject development. We note that the quantum of units and size of the permitted creche is considered acceptable by Westmeath County Childcare Committee.

### 3.2.5 The Planning System and Flood Risk Management (2009)



The Planning System and Flood Risk Management Guidelines were published by the Minister for the Environment, Heritage & Local Government in November 2009 under Section 28 of the Planning & Development Act 2000 (as amended).

The purpose of the Guidelines is that Planning Authorities must implement the Guidelines in ensuring that where relevant, flood risk is a key consideration in the assessment of planning applications.

We refer to the enclosed Engineering Report prepared by Paul McGrail Consulting Engineers Consulting for full details on the assessment carried out in line with the above guidelines. The key conclusions of this document are as follows:

The site is considered to be within Flood Zone C.

It is considered that the site is not subject to any risk of pluvial or coastal flooding at present given its location. Pluvial flood risk has been addressed by designing the development to accommodate surface water runoff from a 100 year period storm plus Climate Change. The site is outside the 1:1000 year coastal flood zone.

The site has been assessed for potential fluvial flooding.

It is concluded that the development is considered to be adequately protected in the context of potential future flood events in the area.

The site has been assessed to ensure that no flooding will occur in the event of a 1:30 year return period, and accounting for 20% of Climate Change. The site has been protected against potential river flooding via the attenuation that is provided within the SUDS features, i.e. modular permeable paving and on-line attenuation structures/ features.

### 3.2.6 Guidance on Appropriate Assessment for Planning Authorities

Under Article 6(3) of the EU Habitat Directive and Regulation 30 of SI no. 94/1997 “European Communities (Natural Habitats) Regulations (1997)” any plan or project which has the potential to significantly impact on the integrity of a Natura 200 site (i.e., SAC or SPA) must be subject to an Appropriate Assessment. This requirement is also detailed under in the Planning and Development Acts (2000 - 2010).

An Appropriate Impact Assessment Screening Report has been prepared by Enviroguide as part of the subject application.

The AA Screening concludes that upon the examination, analysis and evaluation of the relevant information and applying the precautionary principle, it is concluded by the authors of this report that the possibility may be excluded that the Proposed Development will have a significant effect on any of the European sites listed below:

River Shannon Callows SAC (000216).

Middle Shannon Callows SPA (004096).

However, upon examination of the relevant information including in particular the nature of the Proposed Development and the likelihood of significant effects on European sites, the possibility may not be excluded that the Proposed Development will have a likely significant effects on the European sites listed below:

Lough Ree SAC (000440).

Lough Ree SPA (004064).

Accordingly, a NIS has been prepared for the Proposed Development. The prepared Natura Impact Assessment concluded that:

The above sites were identified by a screening exercise that assessed likely significant effects of a range of impacts that have the potential to arise from the Proposed Development. The AA investigated the potential direct and indirect effects of the Proposed Development works, both during construction and operation, on the integrity and QIs of the above European sites, alone and in combination with other plans and projects, taking into account the site's structure, function and conservation objectives.



Where potentially significant effects were identified, a range of mitigation and avoidance measures have been suggested to avoid them. This NIS has concluded that, once the avoidance and mitigation measures are implemented as proposed, the Proposed Development will not have an adverse effect on the integrity of the above European site(s), individually or in combination with other plans and projects. Where applicable, a suite of monitoring surveys have been proposed to confirm the efficacy of said measures in relation to ensuring no adverse impacts on the habitats of the relevant European sites have occurred.

As a result of the complete, precise and definitive findings in of this NIS, it has been concluded, beyond reasonable scientific doubt, that the Proposed Development will have no significant adverse effects on the QIs, SCIs and on the integrity and extent of Lough Ree SAC (000440) and Lough Ree SPA (004064). Accordingly, the Proposed Development will not adversely affect the integrity of any relevant European site.

### 3.2.7 Design Manual for Urban Roads and Streets 2019



The Design Manual for Urban Roads and Streets (DMURS), 2019, sets out design guidance and standards for constructing new and reconfiguring existing urban roads and streets in Ireland. It also outlines practical design measures to encourage more sustainable travel patterns in urban areas. DMURS places a focus on pedestrians, cyclists and public transport users and sets out guidance and standards for constructing new and reconfiguring existing urban roads and streets in Ireland.

Consideration of DMURS and its contents has been a key objective for this project. The four key design principles have been incorporated as follows:

- **Connected networks:** To support the creation of integrated street networks which promote higher levels of permeability and legibility for all users, and more sustainable forms of transport.

The proposed development provides an additional section of the envisioned distributor road through the central portion of the Cornamaddy lands, connecting to the east with the section of the distributor road permitted under WCC Reg Refs 147103 and 22253. The completion of the entirety of the distributor road through the central portion of the lands will be subject to a future planning application and will consolidate the development of



Cornamaddy as a new neighbourhood on the north-eastern periphery of Athlone Town.

A future connection point to lands to the southwest of the site is also proposed as part of the subject proposal.

A large portion of the northern section of the site does not feature vehicular access or residential development due to an esker being present at this location and the designated zoning of this portion of the site as open space. Pedestrian priority is given to this area with a landscaped looped walkway provided at the base of the esker, featuring a number of landscaped areas that residents and the public can interact with, including an informal kickabout zone and natural play area.

Roads without long straight sections are proposed throughout the development site to encourage lower speeds and lower traffic flow throughout the site, creating a safer environment for pedestrians.

- Multi-functions streets: The promotion of multi-functional, place-based streets that balance the needs of all users within a self-regulating environment.

There is limited scope for encouraging multi-functional streets within the development site given the singular nature of the proposal as a residential development. However, the proposal promotes multi-functional use for pedestrians and cyclists who can access the site safely via proposed new pedestrian and cycle infrastructure to access the housing units or to access the large landscaped communal open space areas provided.

- Pedestrian focus: The quality of the street is measured by the quality of the pedestrian environment.

Pedestrians are considered throughout the development with improved connectivity throughout the site and along the site perimeter. Additionally, internal roads have been omitted from much of the northern portion of the development site, encouraging increased pedestrian activity and ensuring pedestrians have priority over vehicles across this portion of the site.

The restriction of vehicular access across the northern portion of the site allows a large area of pedestrian focused space to be provided which is safe and removed from traffic traversing the site.

- Multidisciplinary approach: Greater communication and co-operation between design professionals through the promotion of a plan-led, multidisciplinary approach to design.

The multi-disciplinary approach is reflected in the chosen design which arose from a series of meetings with the design team. This has ensured a holistic and considered approach to designing the development has been maintained.

All internal roads within the development site have been designed for a vehicular speed of between 10km/h and 30km/h, which allows the movement of vulnerable road users to be prioritised.

We submit that the proposal for a high density, mixed tenure development at this highly accessible location is supportive of the objectives of Design Manual for Urban Roads and Streets (2013).

### 3.2.8 Urban Development and Building Height Guidelines (2018)



The publication of the ‘**Urban Development and Building Heights, Guidelines for Planning Authorities (2018)**’ is intended to set out national planning policy guidelines on building heights in relation to urban areas. These guidelines are the most recent form of guidance from the Minister on the matter of building height and were formally adopted in December of 2018. We note that section 1.14 of the document sets out the following:

*“Accordingly, where SPPRs are stated in this document, **they take precedence over any conflicting, policies and objectives of development plans, local area plans and strategic development zone planning schemes.** Where such conflicts arise, such plans/ schemes need to be amended by the relevant planning authority to reflect the content and requirements of these guidelines and properly inform the public of the relevant SPPR requirements.*

The Urban Development and Building Height Guidelines are the predominant context for assessment of height in this case.

The development is considered to be located in a ‘suburban/edge location (City and Town)’. Section 3.4 of the guideline’s states that:

*'Newer housing developments outside city and town centres and inner suburbs, i.e. the suburban edges of towns and cities, typically now include town-houses (2-3 storeys), duplexes (3-4 storeys) and apartments (4 storeys upwards). Such developments deliver medium densities, in the range of 35-50 dwellings per hectare net. Such developments also address the need for more 1 and 2 bedroom units in line with wider demographic and household formation trends, while at the same time providing for the larger 3, 4 or more bedroom homes across a variety of building typology and tenure options, enabling households to meet changing accommodation requirements over longer periods of time without necessitating relocation. These forms of developments set out above also benefit from using traditional construction methods, which can enhance viability as compared to larger apartment-only type projects'.*

Section 3.6 of the guidelines regarding building heights in suburban/ edge locations states that:

*'Development should include an effective mix of 2,3 and 4 – storey development which integrates well into existing and historical neighbourhoods and 4 storeys or more can be accommodated alongside existing larger buildings, trees and parkland, river/sea frontage or along wider streets'.*

The proposed development provides 177 no. new residential units on a net site of 5.27 ha and a gross site area of 7.31 ha. There is a density of 34 units per hectare across the subject site. It is noted that the proposed net site area excludes link roads serving the wider area and lands zoned open space.

It is considered that 2-3 storey residential units represent the most appropriate form of development for the site given its size, location, surrounding development context and demand for the proposed unit types in the areas surrounding Athlone.

SPPR 4 of the Urban Development and Building height guidelines relates directly to the subject development and states that:

*'It is a specific planning policy requirement that in planning the future development of greenfield or edge of city/town locations for housing purposes, planning authorities must secure:*

- 1. the minimum densities for such locations set out in the Guidelines issued by the Minister under Section 28 of the Planning and Development Act 2000 (as amended), titled "Sustainable Residential Development in Urban Areas (2007)" or any amending or replacement Guidelines;*
- 2. a greater mix of building heights and typologies in planning for the future development of suburban locations; and*
- 3. avoid mono-type building typologies (e.g. two storey or own-door houses only), particularly, but not exclusively so in any one development of 100 units or more'.*

The proposed development provides 24 no. 1 bed units, 71 no. 2 bed units, 77 no. 3 bed units and 9 no. 4 bed units ranging in height from 2-3 storeys, on residential zoned land, on a site located to the northeast of Athlone Town. It is considered that this form of development offers unit typology that matches demand and delivers an appropriate density on the site while maintaining a high level of residential amenity.

### Specific Planning Policy Requirements

The following Specific Planning Policy Requirements are considered particularly relevant to the current site context and the compliance of the scheme with these SPPRs is set out below.

#### SPPR 3 (A)

*“It is a specific planning policy requirement that where:*

*(A) 1. an Applicant for planning permission sets out how a development proposal complies with the criteria above; and 2. the assessment of the planning authority concurs, taking account of the wider strategic and national policy parameters set out in the National Planning Framework and these guidelines; then the planning authority may approve such development, even where specific objectives of the relevant development plan or local area plan may indicate otherwise.”*

#### Applicant Response to SPPR 3A

The performance of the proposal vis a vis the building height criteria is further assessed below in sub-section ‘Development Management Criteria’.

#### Development Management Criteria

The Guidelines clearly set out that in the event of making a planning application, the applicant shall demonstrate to the satisfaction of the Planning Authority that the proposed development satisfies several criteria. The relevant criteria, followed by an applicant response is set out below to clearly set out for the benefit of the Planning Authority:

At the scale of the relevant city / town	
Assessment Criteria	Response
<b><i>“The site is well served by public transport with high capacity, frequent service and good links to other modes of public transport.</i></b>	<p>While the site is located within a comfortable walking distance of Athlone Town, it also benefits from nearby services on Ballymahon Road and Blyry Industrial Estate as well as transport links. The site is well served by a number of reasonably frequent bus services departing from Athlone bus station approximately 2km to the south west of the site offering services connecting to Limerick, Green Bridge, Rail Walk, Roscommon, Longford, Waterford, Mullingar and Kilnacloy.</p> <p>The closest bus stop to the site is located approximately 350 metres to the south west of the site along the N55 and is served by the A2 Bus Eireann route which offers connections to Bealnamulla in Roscommon. It is noted that the Applicant has provided indicative locations for future bus stop locations along the proposed distributor road</p>

	<p>through the application site as part of the subject application and previous applications lodged to Westmeath County Council under Reg Refs. 147103, 22253 and 22577.</p> <p>Athlone Rail Station is also located approximately 2km to the south west of the site which is located on the Galway to Dublin rail route, ensuring that Athlone is well connected to both the west and east coasts.</p>
<p><b>Development proposals incorporating increased building height, including proposals within architecturally sensitive areas, should successfully integrate into/enhance the character and public realm of the area, having regard to topography, its cultural context, setting of key landmarks, protection of key views. Such development proposals shall undertake a landscape and visual assessment, by a suitably qualified practitioner such as a chartered landscape architect.</b></p>	<p>The proposal is not located within an architecturally sensitive area. However, careful consideration has been given to the successful integration of the scheme into the existing character and topography of the site and area. The Architectural Design Statement and Landscape Design Statement prepared by Doran Cray and CSR respectively, outline the rationale for the development and respectively confirms the proposal, while substantial, would result in a positive contribution to the character and urban fabric of this area in terms of landscape character and quality due to both the low sensitivity, quality and nature of the existing site and the proposed revitalisation and new architectural character.</p>
<p><b>On larger urban redevelopment sites, proposed developments should make a positive contribution to place-making, incorporating new streets and public spaces, using massing and height to achieve the required densities but with sufficient variety in scale and form to respond to the scale of adjoining developments and create visual interest in the streetscape.”</b></p>	<p>The proposed development would not reduce the visual amenity of the surrounding area.</p> <p>Careful consideration has been given to the existing residential estate ‘Drumaconn’ to the southeast of the development site to maintain a high level of residential amenity for these properties. Appropriate set back distances have been maintained and the proposed architectural style and unit typology is respecting of the surrounding existing development and extant permissions on the surrounding lands.</p> <p>A variety of unit types are provided across the development site offering a variety in scale and form while also providing an appropriate density for the site given its location and scale.</p>
<p><b>At the scale of district/ neighbourhood/ street</b></p>	

<p><b>The proposal responds to its overall natural and built environment and makes a positive contribution to the urban neighbourhood and streetscape.</b></p>	<p>The proposal responds to the natural and built environment in an appropriate manner. Careful consideration has been given to the proposal regarding how it addresses the surrounding area with particular attention given to the streetscape and similar surrounding development. The high-quality design submitted provides an appropriate development which will provide a precedent for development on nearby similar sites. The development aims to deliver a new high quality residential estate, offering unit types that cater to demand for new units as outlined in national policy documents on a currently underutilised site, earmarked for development.</p>
<p><b>The proposal is not monolithic and avoids long, uninterrupted walls of building in the form of slab blocks with materials / building fabric well considered.</b></p>	<p>Careful consideration has been given to ensure that a monolithic appearance is avoided. Different materials and fenestration as well as changes in massing between terraced rows and duplex units across the site will break up the uniform appearance of the site and create visual interest.</p> <p>The changes in unit size/ type on the site creates a unique townscape, avoiding the feel of a monolithic one-dimensional estate.</p> <p>We refer to the Architectural Design Statement prepared by Doran Cray Architects enclosed herewith for further details regarding the architectural design of the development.</p>
<p><b>The proposal enhances the urban design context for public spaces and key thoroughfares and inland waterway/ marine frontage, thereby enabling additional height in development form to be favourably considered in terms of enhancing a sense of scale and enclosure while being in line with the requirements of “The Planning System and Flood Risk Management – Guidelines for Planning Authorities” (2009).</b></p>	<p>There is no inland waterway or marine frontage within the current proposal. We can confirm that initial investigations have concluded that there will be no inappropriate flood risk because of the proposal. A Flood Risk Assessment will be submitted with the LRD application.</p>
<p><b>The proposal makes a positive contribution to the improvement of legibility through the site or wider urban area within which the development is situated and integrates in a cohesive manner.</b></p>	<p>The high-quality design proposed will ensure that the development will be legible and attractive when viewed from the wider area. Internally, the site provides pedestrian and cycle linkages which integrates the development and</p>



	have been designed to link to future development on the surrounding Cornamaddy lands.
<b>The proposal positively contributes to the mix of uses and/ or building/ dwelling typologies available in the neighbourhood.”</b>	The appropriate mix of unit types and sizes will be incorporated into the proposed development to contribute to a currently limited market for this type of housing close to Athlone. The mix of 1, 2, 3 and 4-bedroom homes provides variety and options within a single development for future residents.
<b>At the scale of the site/building</b>	
<b>The form, massing and height of proposed developments should be carefully modulated so as to maximise access to natural daylight, ventilation and views and minimise overshadowing and loss of light.</b>	The design of the subject scheme, particularly the orientation of the housing units was carefully considered to minimise the potential for overlooking and overshadowing.
<p><b>Appropriate and reasonable regard should be taken of quantitative performance approaches to daylight provision outlined in guides like the Building Research Establishment’s ‘Site Layout Planning for Daylight and Sunlight’ (2nd edition) or BS 8206-2: 2008 – ‘Lighting for Buildings - Part 2: Code of Practice for Daylighting’.</b></p> <p>Where a proposal may not be able to fully meet all the requirements of the daylight provisions above, this must be clearly identified and a rationale for any alternative, compensatory design solutions must be set out, in respect of which the planning authority or An Bord Pleanála should apply their discretion, having regard to local factors including specific site constraints and the balancing of that assessment against the desirability of achieving wider planning objectives. Such objectives might include securing comprehensive urban regeneration and or an effective urban design and streetscape solution</p>	It is considered that there will be no risk of negative impacts arising from overlooking/ overshadowing following the construction of the development given that there are no existing developments directly adjacent to the subject site. Any permitted developments due to commence construction in the surrounding area are appropriately located and scaled to avoid overbearing and overlooking of any future developments on the Cornamaddy lands.

Site Specific Assessment	
<b>Specific impact assessment of the micro-climatic effects such as down-draft. Such assessments shall include measures to avoid/ mitigate such micro-climatic effects and, where appropriate, shall include an assessment of the cumulative micro-climatic effects where taller buildings are clustered.</b>	Given the development height and the layout of the buildings across the development site it is considered that measures to avoid/ mitigate microclimatic effects are not necessary for the proposed development.
<b>In development locations in proximity to sensitive bird and / or bat areas, proposed developments need to consider the potential interaction of the building location, building materials and artificial lighting to impact flight lines and / or collision.</b>	An AA Screening and Natura Impact Statement have been prepared by the appointed ecologist, Enviroguide. In addition to this a full Environmental Impact Assessment Report has been prepared by the project team and is lodged in respect of the proposed development and the subject lands to gauge and assess any environmental impacts arising from the subject proposal and surrounding cumulative development.
<b>An assessment that the proposal allows for the retention of important telecommunication channels, such as microwave links</b>	As the subject buildings are not considered to be of significant height, this assessment is not required in this instance.
<b>An assessment that the proposal maintains safe air navigation.</b>	Given the development is removed from any airports or air strips this report is not required in this case.
<b>An urban design statement including, as appropriate, impact on the historic built environment</b>	An Architectural Design Statement has been prepared by Doran Cray and is enclosed as part of the submitted application documentation. There are no Protected Structures onsite, and the site is not located within an Architectural Conservation Area.  The development proposes no potential impact on any nearby protected structures.
<b>Relevant environmental assessment requirements, including SEA, EIA, AA and Ecological Impact Assessment, as appropriate.</b>	An AA Screening and Natura Impact Statement have been prepared by the appointed ecologist, Enviroguide. In addition to this a full Environmental Impact Assessment Report has been prepared by the project team and is lodged in respect of the proposed development and the subject lands to gauge and assess any environmental impacts arising from the subject proposal

	and surrounding cumulative development.
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*Table 3.3 Development Management Criteria*

In consideration of above, the current proposal for 177 no. new residential units can be positively considered on this site by the Planning Authority. Specifically, the proposal has addressed the specific development criteria requirements of the guidelines and is in compliance with the key relevant SPPRS. Most notably the site's location is considered to address the spirit and intent of the Guidelines, that being one proximate to transport links and a variety of services.

**We submit to the Board that the proposal is consistent with the Urban Development and Building Height Guidelines for planning authorities (2018)**

### 3.3 Westmeath County Development Plan 2021-2027

The Westmeath County Development Plan 2021 – 2027 is the relevant statutory planning document in place for county Westmeath. The Development Plan policies in relation to housing strategy policies relevant to the subject development are outlined below.

#### 3.3.1 Housing Strategy

A housing strategy for Westmeath that covers the life of the County Development Plan from 2021 to 2027 has been prepared to ensure the proper planning and sustainable development of Westmeath and address the overall supply of housing within the administrative boundary of the Local Authority.

The key objectives outlined within the housing strategy are as follows:

- To identify the existing need and likely future demand for housing in the area of the County Westmeath Development plan.
- To ensure Westmeath County Council provides for the development of sufficient housing to meet projected future demand over the lifetime of the County Development Plan.
- To ensure that sufficient zoned lands are provided to meet the needs of different households of all types and tenure.

The Housing Strategy plays a key role in the transition of housing policy from national level through to local level.

Table 8 of Section 3 of the Housing Strategy outlines the Annual Population Projections for Westmeath. It is predicted that there will be a total Population Increase of 10,483 across the county between the years 2021 and 2027.

This population growth will translate to a need for 4,983 new residential units to be built across Westmeath between 2021 and 2027.

Athlone is a Key Growth Centre within the county. The housing strategy states in section 2.1 shows that urban areas in Westmeath (Athlone, Mullingar, Kinnegad and Moate) experienced a collective population growth of 14.2% between 2011 and 2016.

The population of Athlone at the time of Census 2016 was 21,349. This is predicted to grow to 27,693 by 2027, a growth rate of 30%.

The proposed development seeks to aid towards the fulfilment of housing targets for Westmeath by providing 177 no. new units in Cornamaddy, Athlone, on the North-eastern periphery of Athlone Town, which has been subject to rapid population growth. The proposal provides a variety of unit typologies and sizes offering houses ranging from 1, 2, 3 and 4 bedrooms, which will cater for the demand for units caused by the recent population growth in Athlone and predicted population growth towards 2027.

### 3.3.2 Residential Density

The Westmeath County Development Plan section 3.7 states the following in relation to residential densities:

*‘Higher densities will be applied to the higher order settlements of Athlone and Mullingar to align with their roles as Regional Growth Centre and Key Town, subject to good design and development management standards being met.’.*

The proposed development offers a residential density of 34 units per hectare for the total quantum of development (177 no. units) on the residential zoned lands within the site redline, totalling 7.31 ha (proposed gross site area). It is noted that the proposed net site area totals 5.27 ha, but excludes links roads serving the wider area and lands zoned open space.

The proposed density is considered appropriate given the site size, location, and context of the surrounding built residential environment, particularly Phase 1 (reg. ref. 22/253) and Phase 3 (reg. ref. 22/577). The proposed density allows for the sustainable development of the site whilst providing much needed unit types close to Athlone Town.

### 3.3.3 Layout and Design

Section 3.8 of the Westmeath County Development Plan states the following in relation to layout and design of new development:

*‘A good development creates a ‘sense of place’ and community belonging to the residents. This is created by providing a mixture of house types and tenure, an individual design, the use of a variety of materials for the context of the site and area and connectivity of the site to other places. In considering proposals for development, the Council will have regard to the DEHLG Guidelines on ‘Quality Housing for Sustainable Communities – Best Practice Guidelines for Delivering Homes Sustaining Communities’ (2007), ‘Delivering Homes Sustaining Communities – Statement on Housing Policy’ (2007), ‘Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities’ (2018) and ‘Sustainable Residential Development in Urban Areas’ and the accompanying ‘Urban Design Manual: A Best Practice Guide’ (2009)’.*

We refer the Planning Authority to the Architectural Design Statement prepared by Doran Cray which outlines the design rationale for the development and details the materials proposed.

The project Architect, Doran Cray, has given extensive consideration to the DEHLG Guidelines on 'Quality Housing for Sustainable Communities – Best Practice Guidelines for Delivering Homes Sustaining Communities' (2007), 'Delivering Homes Sustaining Communities – Statement on Housing Policy' (2007), 'Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities' (2018) and 'Sustainable Residential Development in Urban Areas' and the accompanying 'Urban Design Manual: A Best Practice Guide' (2009) when designing the proposal.

CPO 16.21 outlines the council strategy for Public Open Space Provision and Recreational Amenities and states that:

*'In general, 15% of gross site area should be provided for multifunctional open spaces at suitable locations within new residential schemes. These open spaces should be easily accessible to all residents and provide for both passive and active uses for persons of all abilities regardless of age or mobility and including design measures and features incorporating sensory design aids, and landscaping, where feasible'.*

The proposal offers 0.82ha of public open space within the residential zoned portion of the development site, making up 16% of the net site area. This is in addition to the 1.09ha of Open Space zoned lands located to the north-western portion of the development site (linear park) and towards the middle of the site (5 no. pocket parks and 1 no. oval area and playground), that will be appropriately addressed with a high quality landscape proposal as part of the subject scheme.

It should be noted that there are additional areas of open space included within the development site that have not been included in the total calculation for public open space that will be landscaped as part of the proposed development.

### 3.3.4 Housing Policies

The proposed development is in line with the following relevant housing policies outlined in section 3.9 of the Westmeath County Development Plan:

**CPO 3.1** - Reserve sufficient lands to facilitate and implement the Housing Strategy and its policies, as informed by the HNDA undertaken as part of this Development Plan.

**CPO 3.2** - Ensure that settlements grow in a manner that is self-sustaining with sufficient social and economic infrastructure, and to a scale which aligns with the Settlement Hierarchy prescribed in the Core Strategy.

**CPO 3.4** - Ensure in accordance with Part V of the Planning & Development Act 2000 (as amended) that arrangements for the provision of Social and Affordable Housing are made in accordance with the current Housing Strategy.

**CPO 3.5** - Ensure that a suitable variety and mix of dwelling types and sizes is provided in developments to meet different needs, having regard to demographic and social changes.

**CPO 3.6** - Support independent living for people with disabilities and the elderly and where possible, to ensure that housing is integrated within proposed or existing residential developments and located close to existing community facilities.

**CPO 3.7** - Apply higher densities to the higher order settlements of Athlone and Mullingar to align with their roles as Regional Growth Centre and Key

Town, subject to good design and development management standards being met.

**CPO 3.14** - In developments of 20 units or above, the development should achieve, where possible, a minimum of 5% of units designed and built to facilitate occupation by persons with a disability without structural changes, in accordance with 'Universal Design Guidelines for Homes 2015'.

**CPO 3.15** - To support the development of quality residential schemes with a range of housing options having regard to the standards, principles and any specific planning policy requirements (SPPRs) set out in the 'Sustainable Residential Development in Urban Areas Guidelines for Planning Authorities' (2009); 'Urban Development and Building Heights Guidelines for Planning Authorities' (2018) and the 'Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities' (2018).

The design team has carefully considered the Housing Policies outlined in the Westmeath County Development Plan when designing the proposal.

The proposal contributes towards the objectives outlined in the county Housing Strategy by providing 177 units of the predicted requirement of 4,983 new residential units by 2027.

The proposal offers a variety of unit types which will cater for a broad spectrum of end user's needs and demand in the Athlone area, offering a variety of 1, 2, 3 and 4 bed homes.

### 3.3.5 Zoning

The Westmeath County Development Plan 2021 -2027 outlines the Land Use Objectives for Westmeath. The following Land Use Zoning Categories are listed within the Development Plan:

- *Established Residential*
- *Proposed Residential*
- *Self-Sustaining Rural Consolidation*
- *Mixed Use*
- *Consolidation Site*
- *Expanded Settlement Centre*
- *Enterprise & Employment*
- *Commercial*
- *Sporting Recreational*
- *Open Space*
- *Community, Educational & Institutional*

It is noted that these 11 categories present the land use zoning objectives for the county from 2021 to 2027. Athlone is subject to a new Local Area Plan and currently is not assigned specific zoning objectives as per this list presented in the County Development Plan. The current land use zoning objectives for Athlone are presented in the Athlone Town Development Plan 2014-2020 which presents the most recent specific zoning context for the Athlone area. The specific zoning objectives for the site as outlined in the Athlone Town Development plan 2014 – 2020 are outlined in section 10.1 below.



### 3.3.6 Childcare and Youth Facilities

Section 4.12.3 of the Westmeath County Development Plan 2021-2027 outlines the importance of the provision of appropriate Childcare Facilities across the county to enable parents to participate in the workforce and obtain an income that provides an acceptable standard of living for both them and their children. The Development Plan states that:

*'Westmeath County Childcare Committee supports 91 early childcare services, throughout the County catering for full day care, after school and preschool care, which employs 428 staff. The 0-4-year preschool population within the County in 2016 represents 7.3% of the population of Westmeath. Whilst the Council is not directly involved in the provision of childcare services, the Plan will seek to ensure sufficient facilities are provided in the areas required'.*

The subject application proposes 177[ no. new residential units. No creche facility is provided as part of the subject application. However, the Applicant has received a grant of permission for an application under reg. ref. 22/340 (Phase 2), which will cater for any childcare demand arising from the overall development including the subject development.

### 3.3.7 Development Standards

Chapter 16 of the Westmeath County Development Plan 2021 – 2027 presents Development Management Standards. We submit that all relevant Development Management Standards have been considered and complied with. We refer to Section 10 below which details compliance with the development standards outlined in the Athlone Town Plan 2014-2020.

## 3.4 Athlone Town Development Plan 2014-2020

The Athlone Town Development Plan 2014-2020 is the relevant statutory planning policy document for the subject lands. This plan is due to be replaced by a new Urban Area Plan for Athlone however no draft of a replacement plan has been prepared as of April 2022.

The plan is generally supportive of high-quality residential development providing that it adheres to the sustainable development and proper planning of the area and the objectives and policies supporting this.

The key provisions of the Plan and the compliance of the proposed development with same are now detailed herein.

The Plan sets out the zoning objectives for all lands within Athlone. The zoning objectives for the application lands are presented in figure 3.1 below:

### 3.4.1 Zoning



Fig 3.1 – Site Zoning as per the Athlone Town Development Plan 2014-2020

The site extends across residential and open space zoned areas as follows:

- **Residential o-LZ1** – ‘To provide for residential development, associated services and to protect and improve residential amenity’.
- **Open Space o-LZ8** – ‘To provide for, protect and improve the provision, attractiveness, accessibility and amenity value of public open space and amenity areas’.

Section 13.2.1 of the Athlone Town Development Plan 2014-2020 outlines the following vision for areas zoned for residential development:

*‘The priority of the Councils is to improve the quality of existing residential areas and to protect their amenities and to strengthen the provision of local community services and amenity. In both new and established residential areas, a range of uses will be permitted in principle, in addition to housing, which has the potential to strengthen communities and encourage the enjoyment of residential amenity. Such uses may include local shops, crèches, schools, nursing homes, open space and recreation facilities. These may be permitted provided they are appropriate in scale and do not unduly interfere with the predominant residential land use.’*

We submit that the proposed development improves the quality of the existing surrounding residential development at the Drumaconn estate to the south-east by extending development outwards into the Cornamaddy residential zoned lands and consolidating the development of the area as a new residential settlement to the north east of Athlone Town centre. In addition to this, the

proposal shall integrate into the proposed “Phase 3” development to the south of the subject site, which is currently at Further Information Stage under WMCC reg. ref. 22/577.

The proposal introduces a mix of unit types and sizes into the area which can cater for the demands of a variety of end users, creating a vibrant estate with a mix of family sizes and ages living side by side.

Section 13.2.7 of the Athlone Town Development Plan 2014 – 2020 outlines the following vision for areas zoned for the provision of open space:

*‘To provide for, protect and improve the provision, attractiveness and accessibility of public open space and amenity areas intended for use for recreational or amenity purposes. Only development that is incidental to, or contributes to the enjoyment of open space, amenity or recreational facilities will be permitted within this zone’.*

We submit that this objective for lands zoned Open Space has been considered and respected in the layout of the proposed scheme. The development has been designed to protect the existing light shrubbery and trees, which form a boundary to the north-west and south-west of the development site, which enclose the proposed linear park. This area in the northern portion of the development site will be appropriately landscaped with high quality finishes to ensure that it is a space that future residents of the development and the public can interact with within the development site. This park also serves a dual purpose: protecting the edge of the western portion of the site and seamlessly integrating green links into the overall urban design structure of the neighbourhood. By preserving the natural beauty and open vistas of the western boundary, this linear park acts as a buffer zone, harmoniously blending the built environment with the surrounding natural landscape.

### 3.4.2 Cornamaddy Area Action Plan 2005

We note that an Area Action Plan for Cornamaddy was published in 2005 which outlines a detailed plan for the development of the Cornamaddy Lands where the proposal is located. Although the AAP is now outdated it still offers the most recent specific context for the goal of the future development of the Cornamaddy lands, which has remained a consistent objective that has not yet been fulfilled since the publication of the AAP.

Map 9 included in the Area Action Plan details the zoning objectives for the Cornamaddy lands, which have remained largely unchanged from the publication of the AAP in 2005 to the publication of the Athlone Town Development Plan in 2014 which presents the most recent zoning context for the site. The zoning map as per the AAP is shown on figure 3.2 below and demonstrates that the site has been earmarked for residential development via the zoning objectives in place since 2005.

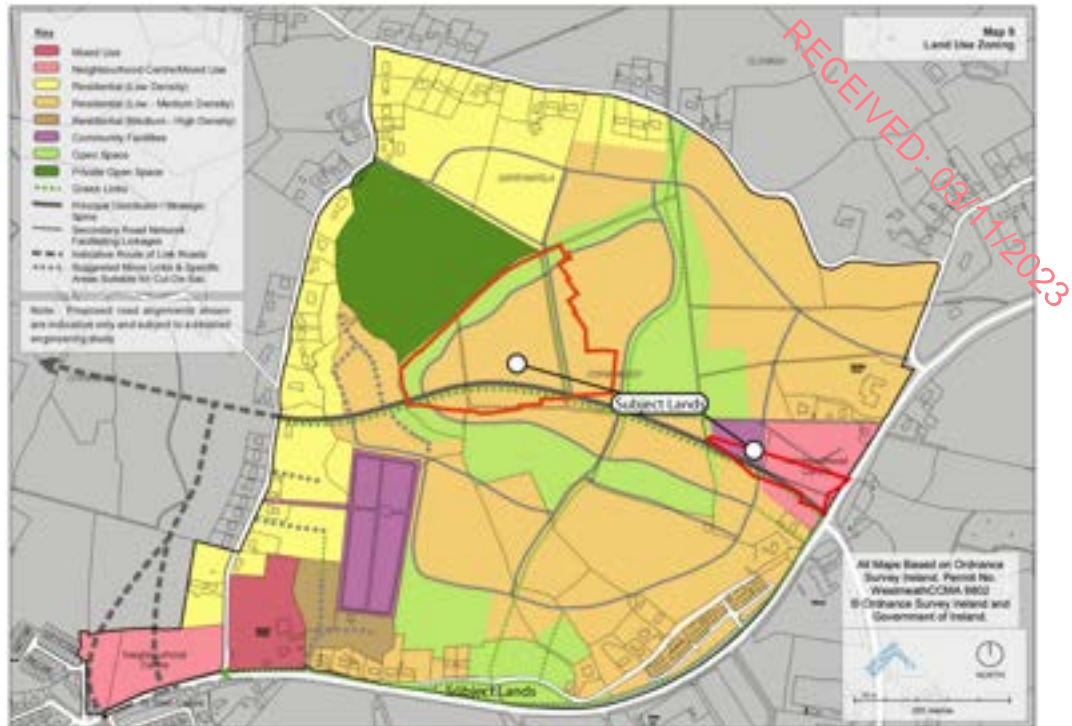


Figure 3.2 - Cornamaddy Zoning Objectives as per AAP 2005

The Area Action Plan sets out an indicative route through the central portion of the Cornamaddy lands for a new link road which will join up to a second envisioned link road to the west of the lands as outlined in the Cornamagh Local Area Plan 2009. The objective of providing a continuous distributor road through the Cornamaddy AAP and Cornamagh LAP lands will allow for access to future residential development on the Cornamaddy and Cornamagh Lands and regulate the flow of traffic through Athlone.

The proposed development provides a section of the envisioned link road through the Cornamaddy lands and will facilitate the further provision of this road towards the Cornamagh lands to the west of the site subject to a separate planning application. The section of the distributor road associated with the proposed development will connect to sections of the distributor road granted to the south of the development site under WMCC reg. ref. 147103 and to the east under reg. ref. 22/253 (Phase 1).

The indicative route for the distributor road through the Cornamaddy lands is shown on Map 1 of the AAP. Figure 12 below overlays the proposed development red line boundary onto Map 1 to show the portion of the envisioned distributor road that will be provided as part of the subject proposal, following close to and on the proposed indicative route from the 2005 Cornamaddy AAP.



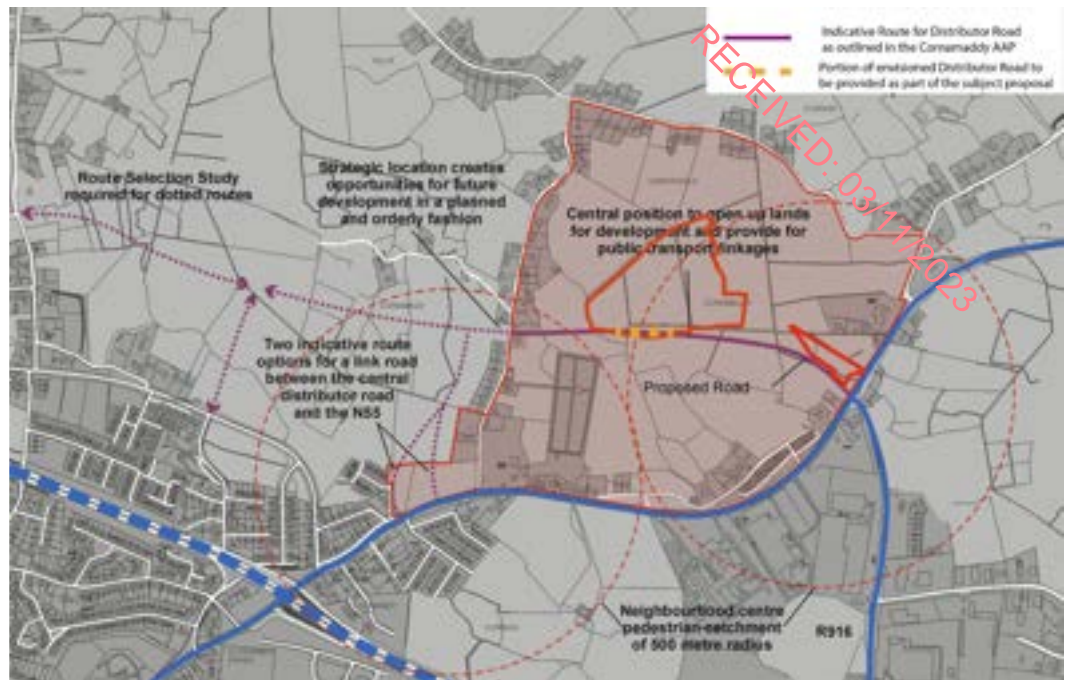


Figure 3.3- Portion of Distributor Road to be provided as part of the subject application

It is evident from figure 3.3 above that the proposed portion of the distributor road to be provided as part of the subject application is wholly consistent with the envisioned route for the road through the Cornamaddy lands.

The AAP considers several key principles as guiding factors for development on the Cornamaddy Lands, listed in section 3.1:

- Consideration for the existing land use patterns in the area and development of appropriate linkages between the study area and the surrounding environment, including zoned land identified in the adjacent LAP areas.
- The protection and integration of key environmental and landscape features. These features include the local water course that flows to Lough Ree, mature tree groupings, significant hedgerows, significant views, and open space networks,
- Ensure the provision of a network of open spaces, to include playing fields, amenity areas and linear parks.
- Identify an appropriate level of land use intensification that will facilitate the provision of a viable public transport service and support the provision of/accessibility to services, while also creating a desirable balance between the natural and built environment.
- Through design, develop high quality walking and cycling routes and convenient access to public transport (facilitated by an appropriate road network) as a viable alternative to private car use both within the study area and linked to the wider area, particularly to services, facilities and amenities.

We submit that the subject development is consistent with the proposed development framework as per the Cornamaddy Area Action Plan.

The development has given consideration of surrounding land uses and the zoning objectives for the site, as well as the objectives for the lands and provides

177 no. new residential units and associated open space on appropriately zoned lands. The surrounding development has been carefully considered and the proposal offers a similar unit type and style to that both permitted and built in the vicinity of the site, consolidating the development of the area. A section of the distributor road linking the N55 to the Cornamagh lands through the central area of the Cornamaddy lands is proposed as part of the subject application.

The protection of key environmental and landscape features has been carefully considered on the subject site.

An Appropriate Assessment Screening, Natura Impact Statement and Environmental Impact Assessment Report have been prepared as part of this LRD application pack.

Open space areas are provided across the site and make use of the Open Space zoned lands around the northern and eastern site boundaries, incorporating these areas into the landscaped open space areas proposed as part of the scheme.

The proposal offers a variety of unit typologies and sizes appropriate for the demand for new houses in Athlone and is considered an appropriate intensification of use on the development site, which is currently underutilised and greenfield.

The proposed portion of the envisioned Distributor Road on the lands will facilitate the development of the entirety of the road as the overall Cornamaddy lands are developed. This will allow for future public transport and cyclist/pedestrian links through the Cornamagh and Cornamaddy lands.

### 3.4.3 Core Strategy

Chapter 2 of the Athlone Town Development Plan 2014-2020 sets out Core Strategy Objectives for Athlone. The vision for the town is described in section 2.2 as follows:

*“To provide for the development of Athlone as a driver of sustainable economic growth, commensurate with the Linked Gateway status of the town, whilst balancing the need to safeguard the town’s inherent environmental assets with the creation of appropriate development opportunities. To develop Athlone as a vibrant and dynamic town in which to live, work, do business and visit, offering high quality employment, educational, sporting and tourism facilities, together with sustainable communities.”*

Section 2.8 deals with the strategy for Housing Requirement in Athlone from 2014 – 2020. Although this is now outdated, it is considered the most relevant recent policy context for the town as a replacement Town Development Plan has not yet been prepared. It was predicted that

*3,310 housing units will be required up to 2020 to meet projected population targets set in the Midland Regional Planning Guidelines 2010-2022 for the Gateway Towns.*

This large requirement for new housing stock in Athlone still stands, with the Westmeath County Development Plan 2021 – 2027 forecasting that the population of Athlone will grow from 21,349 in 2016 to 27,693 in 2027, an increase in population of 30%, which means that the requirement for an increase in housing stock as per the Athlone Town Development Plan 2014-2020 is still relevant in 2022.



The following relevant Core Strategy Policies as listed in the Athlone Town Development Plan 2014-2020 are as follows:

- **Policy -SC1** - To ensure that the future spatial development of Athlone is in accordance with higher level Plans including National and Regional Spatial Policy, together with national policy guidance issued under Section 28 of the Planning and Development Acts 2000 as amended, the River Basin Management Plans, Surface Water Regulations and the Habitats Directive.
- **Policy P-CS4** - To seek the delivery of physical and community infrastructure in conjunction with high quality residential developments to create quality living environments.
- **Policy P-CS5** - To guide the future development of Athlone in accordance with the spatial framework established in Local Area Plans in the town.
- **Policy P-CS7** - To ensure a sequential approach to development and promote residential development, prioritisation of infill sites / developments and the occupation of residential units in the town core, in order to promote the achievement of critical mass and protect and enhance town centre function.
- **Policy P-CS8** - To promote the integration of land use and transportation policy and to prioritise provision for cycling and walking travel modes and the strengthening of public transport.
- **Policy P-CS11** – To promote the appropriate use and re-use of town centre back land and under-utilised sites and to promote the regeneration of areas in need of renewal.
- **Policy P -CS12** – To facilitate the sustainable development of Athlone as part of the Midland Linked Gateway to meet economic, social and demographic growth requirements in accordance with the provisions of the National Spatial Strategy and the Midland Regional Planning Guidelines 2010-2022.

We submit that the proposed development has been prepared in accordance with the Core Strategy outlined in the Westmeath County Development Plan 2021 – 2027 and provides a new quality residential development, creating a quality living environment on zoned lands at Cornamaddy, facilitating the sustainable growth of Athlone as a key town in the Midlands region.

#### 3.4.4 Residential Development

Within the Athlone Town Development Plan, Housing is dealt with in Chapter 3. The following housing policies listed in the Town Plan are of relevance to the subject site and future development should consider same:

- **Policy P-H2** - To secure the provision of social and affordable housing, to meet the needs of all households and disadvantaged sectors in Athlone, including the elderly, first time buyers, single person households on modest incomes, people with disabilities and special needs etc.

We refer the Planning Authority to the Part V drawing pack submitted as part of the Application Drawing Pack prepared by Doran Cray Architects for details on the Part V unit allocation proposed.

- **Policy P-H5** - To ensure the provision of a suitable range of house types and sizes to facilitate the demographic profile of the town.
- **Policy P-H7** - To require diversity in the form, size and type of dwelling within residential schemes.
- **Policy P-FH-1** - To ensure a mix and range of housing types and in particular two bedroom accommodation, to meet the diverse needs of residents of the town.
- **Policy P-FH-3** - To ensure that a suitable variety and mix of dwelling types and sizes is provided in developments to meet different needs, having regard to demographic and social profile of the town's population.

We submit that the development provides a wide variety of unit types and sizes and caters for a broad demographic from young couples or older people looking to downsize to large families.

The following Council policies relating to the Sustainable Residential Development of Athlone are outlined in Section 3.7 of the Athlone Town Development Plan 2014-2020.

- **Policy P-SR1** - To support the principle of sequential development in assessing all new residential development proposals, whereby areas closer to the centre of the town, including underutilised and brownfield sites, will be chosen for development in the first instance to promote a sustainable pattern of development.
- **Policy P-SR6** - To ensure that new Greenfield residential estate development should be in accordance with the spatial framework established in the relevant Local Area Plan for the subject area.
- **Policy P-SR8** - To promote social inclusion by encouraging the provision of community facilities and in particular child care facilities in new and established residential areas.

We submit that the proposed development is on lands that have been earmarked for new residential development since the early 2000's as per the Cornamaddy Area Plan, the Athlone Town Development Plan and the Westmeath County Development Plan. The proposed development offers new residential development on appropriately zoned lands.

Section 3.8 of the Athlone Town Development plan states that the following densities shall apply for all new residential development outside the Local Area Plans in the town:

Location for New Residential Development	General Density parameters
Town Centre and Brownfield Sites	Site Specific 35 per ha
At strategic locations including public transport nodes	35 units per ha
Inner suburban/ Infill	Site Specific
Outer Suburban/ Greenfield	30-35 per ha

Outer edge of Urban/ Rural Transition	20-35 per ha
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The subject development provides 177 no. residential units on a proposed gross site area of 7.31ha and a proposed net site area of 5.27ha, giving a density of 34 units per hectare. There is also 0.82ha of public open space provided within the net development area, which totals 16% of the total developable site area.

The unit typology of 1, 2, 3 and 4 bed houses gives rise to an increase in density, which is considered appropriate given the demand for different unit typologies and sizes within Athlone.

Given the density standards outlined in the Athlone Town Development Plan and the DEHLG'S Sustainable Residential Development in Urban Areas (2009) document, this level of density is considered appropriate at this Outer Suburban/ Greenfield site.

The following council policies relating to Residential Density are outlined in section 3.9 of the Athlone Town Plan and are considered relevant to the subject proposal:

- **Policy P-RD1** - To require that new residential schemes in the town centre are to a high-quality design and include provision for environmental, economic, social and community functions, combined with improvements in the public realm, required in tandem to increase the attractiveness of the town centre as a residential location.
- **Policy P-RD3** - To apply the residential standards set out in the DEHLG's guidelines Sustainable Residential Development in Urban Areas (2009) as appropriate.

We submit that the proposed scheme is in general compliance with the residential standards set out in the DEHLG's guidelines for Sustainable Residential Development in Urban Areas (2009).

### 3.4.5 Residential Layout and Design

Section 3.11 of the Athlone Town Development Plan outlines the Residential Layout and Design Policy and Objectives for Athlone. The following policies outlined in the Town Development Plan are considered relevant to the subject development:

- **Policy P-RLD1** - To achieve attractive and sustainable development and create high standards of design, layout, and landscaping, for new housing development.
- **Policy RLD2** - To determine the layout of new development before or at the same time as the road layout with connections to social infrastructure identified.
- **Policy RLD3** - To require that appropriate provision is made for amenity and public open space as an integral part of new residential or extensions to existing developments.
- **Policy RLD4** - All new housing schemes shall be designed to reduce energy demand and shall comply with the Building Regulations energy performance standards.
- **Policy RLD5** - To ensure that all residential properties are designed with flexible and adaptable layouts to suit the home owner with regard to Lifetime Homes.

We submit that the council policies for residential layout and design have been carefully considered when designing the subject proposal. We refer the Planning Authority to the Design Statement prepared by Doran Cray Architects for the rationale behind the scheme design.

The proposal has been designed with consideration for the indicative route of future distributor road through the central portion of the lands as outlined in the Cornamaddy Area Action Plan 2005. The site layout has been designed to facilitate the future development of this road, and it is proposed that a section of this distributor road will be constructed as part of the subject proposal.

We submit that appropriate residential open space areas have been provided on appropriately zoned Open Space lands within the development redline boundary. The quantity of open space is detailed in the Landscape Drawing Pack prepared by Cunnane Stratton Reynolds submitted as part of the application pack, which we refer the Planning Authority to for more information.

All house types proposed have been designed to comply with the Building Regulations Energy Performance standards and have been designed with the potential for future adaptability if the homeowner so wishes.

We refer to the Architectural Design Statement and Sustainability Report prepared by Doran Cray Architects and Morley Walsh respectively, submitted herewith for details.

### 3.4.6 Plot Ratio

The Athlone Town Development Plan outlines the following Indicative plot ratio standards in Chapter 12:

Area Location	Indicative Plot Ratio
Town Centre/ Brownfield	1.0 – 2.0
Inner Suburban	0.5 -1.0
Outer Suburban Close Proximity to Public Transport	0.35 – 0.5
Outer Suburban Remote from Public Transport	0.25 – 0.35

The subject site can be described as ‘Outer Suburban Close Proximity to Public Transport. We note that the Town Development Plan provides that the Indicative Plot Ratio for development on lands considered as Outer Suburban Close Proximity to Public Transport is listed as 0.35-0.5.

The overall development within the redline boundary of 177 no. units as proposed on a net site area of 5.27 ha provides a plot ratio of 22 % (gross site area of 7.31ha) or 30% (net site area of 5.27ha).

This is considered appropriate in this case given its general compliance to the suggested indicative plot ratios, residential zoning objective for the site and the specific objectives for new residential development to be located on the Cornamaddy lands as outlined in the Cornamaddy Area Action Plan 2005 and the Athlone Town Development plan 2014 – 2020.

### 3.4.7 Dwelling Mix and Sizes

Chapter 3 of the Athlone Town Plan 2014-2020 outlines the aim for the provision of housing in Athlone as follows:

*‘To facilitate the provision of high-quality residential development in sustainable communities and provide an appropriate mix of house sizes, types and tenures in order to meet the different needs of the people of Athlone’.*

We submit that the proposed development offers a high quality of architectural design and provides a wide range of house types and sizes to cater for the different needs of people in Athlone. The overall breakdown of unit mix provided is as follows:

#### Houses:

House Type B – 4 bed Detached (148 sq.m) – 3 no. units  
House Type B1 – 4 Bed Semi Detached (148 sq.m) – 4 no. units  
House Type B2 – 4 Bed Detached (148 sq.m) – 2 no. units  
House Type C – 3 Bed Semi Detached – (99 sq.m) – 2 no. units  
House Type D – 3 Bed Semi Detached (91 sq.m) – 7 no. units  
House Type D2 – 3 Bed Semi Detached (91 sq.m) – 6 no. units  
House Type D3 – 3 Bed Semi Detached (91 sq.m) 3 no. units  
House Type E – 2 Bed Terraced (74 sq.m) – 48 no. units  
House Type E1 – 2 Bed Semi Detached (74 sq.m) – 8 no. units  
House Type E2 – 2 Bed Semi Detached (74 sq.m) – 5 no. units  
House Type E3 – 2 Bed Terraced (74 sq.m) – 4 no. units  
House Type F – 3 Bed Semi Detached (101 sq.m) – 5 no. units  
House Type F1 – 3 Bed Semi Detached (101 sq.m) – 9 no. units  
House Type F2 – 3 Bed Semi Detached (101 sq.m) – 33 no. units  
House Type F3 – 3 Bed Terraced (101 sq.m) – 4 no. units  
House Type F4 – 3 Bed Semi Detached (101 sq.m) – 2 no. units

#### Apartments

Maisonette –

Maisonette Type P1 1 Bed – (56 sq.m) – 12 no. units  
Maisonette Type P2 1 Bed (62 sq.m) – 12 no. units

#### Duplexes –

Duplex Type G1 3 Bed (115 sq.m) – 4 no. units  
Duplex Type G2 3 Bed (115 sq.m) – 2 no. units  
Duplex Type G3 3 Bed (115 sq.m) – 2 no. units

It is evident from the above that the residential mix proposed is appropriate for the site and provides for an extensive mix of unit types.

### 3.4.8 Privacy

Section 12.9.8 of the Athlone Town Plan 2014 – 2020 outlines the Standards for Privacy and Enclosure that are required for new developments.

The plan states that:

*'In order to achieve adequate privacy and open areas between houses in new residential development the normal minimum rear garden space shall be not less than 11m in depth. This should be measured to the rearmost wall of the house and should not extend less than the full width of the house. As it is appreciated that this standard may not be readily complied with in all occasions, discretion may be employed where a side garden of equal or greater dimensions can be substituted for rear garden space and where the building design provides for the achievement of privacy. Consideration may be given to further reduction if the site is infill, is less than 10m deep and design is of a high standard.'*

*'Where a front boundary wall or fencing is provided, the design and materials shall be such as to provide a pleasing design feature to the overall housing layout.'*

*'Rear boundary walls or fences shall be constructed to a height of not more than 2m. Permanent screening of a similar height should also be provided between the gardens of adjoining houses for a minimum distance of 2.5m behind the rear of the house.'*

We refer the Planning Authority to boundary treatment drawings prepared and by Cunnane Stratton Reynolds and the Architectural Drawings and Design Statement prepared by Doran Cray Architects submitted as part of this application pack, which clearly details that all proposals for boundary treatment are in fully compliance with the above requirements.

### 3.4.9 Residential Open Space

The following policies relating to the provision of Public and Private Open Space are detailed in section 3.13 of the Athlone Town Development Plan are considered relevant to the subject application:

- **Policy P-POS1** - To ensure that the provision of public and private open space for new residential development is of a high standard, overlooked and integral to the overall development. Narrow tracts of land or 'left over areas' will not be included within open space provision.
- **Policy P-POS2** - To require a detailed landscaping plan with all new housing developments by a suitably qualified professional. The landscaping design shall include a survey of the existing natural features on the site and indicate those to be retained.

We submit that the proposal offers satisfactory levels of passive surveillance from the new residential units over all areas of open space provided. No 'left over areas' have been included within the open space areas provided, with the majority of the open space proposed being provided on lands zoned for Open Space provision on zoning maps included in the Athlone Town Development Plan 2014 – 2020 and the Cornamaddy Area Action Plan 2005.

Section 12.9.11 details the standard of private open space provision required for new residential houses as follows:



Accommodation Size	Min. Private Open Area
1-2 bedrooms	48 sq.m
3-4-5 bedrooms	60-75 sq.m

We submit that the proposed development complies with the standards outlined in the plan, providing a minimum of 48 sq.m for the 2 bed houses and a minimum of 60 sq.m for the 3 and 4 bed houses.

Section 12.9.12 of the Athlone Town Plan 2014-2020 outlines specific standards for the provision of public open space. It is stated that:

*‘Open space in housing estate areas shall normally be based on a standard of 15% minimum of gross site area’*

There is also 0.82ha of public open space provided within the net development area, which totals 16% of the total developable site area. This total area is comprised of 6 smaller pocket parks, dispersed throughout the scheme. Communal open space is provided to the duplex units to the south east of the site, in accordance with the standards outlined in the apartment guidelines.

### 3.4.10 Roads

Section 12.9.18 outlines the relevant standard for car parking in Athlone. The plan states that:

*Car parking for detached and semi-detached housing should be within the house site. Car parking for apartments and terraced housing should be in informal groups overlooked by housing units. The visual impact of large areas of car parking should be reduced by the judicious use of screen planting, low walls and the use of textured or coloured paving for parking bays.*

The proposed scheme has carefully considered the car parking standards outlined in the Athlone Town Plan 2014-2020 and offers 1-2 no. car parking spaces in curtilage of all houses proposed.

Standards for Roads Design and Layout in Residential Schemes are outlined in section 12.9.19 and state that:

*‘Significant development proposals affecting National roads must be accompanied by traffic and transport assessments (TTA) and/or road safety audits and refer to the National Road Authority’s (NRA) Design Manual for Roads and Bridge and to the Traffic Management Guidelines prepared by the then Department of Transport and the Department of the Environment and Local Government together with the Dublin Transportation Authority’.*

*‘Development proposals which may necessitate changes to road and/or junction layout in order to address capacity and road safety concerns arising from significant additional trips/travel generated by the proposed development should be accompanied by a Traffic and Transport Assessment (TTA). Applicants of such developments are referred to the Traffic Management Guidelines and the Traffic and Transport Assessment (TTA) Guidelines (2007) published by the NRA’*

We refer the planning Authority to the Traffic and Transport Assessment prepared by RoadPlan submitted as part of this application which concludes that the existing N55/ R916/ L8048 roundabout to the east of the development site

will continue to operate within its capacity, with small queues and delays predicted during heaving traffic AM and PM peak hours, with this operational capacity predicted to remain consistent up to 2039, 15 years after the opening of the development.

The report also concludes that there is adequate car parking provided across the development site to facilitate any demand that will arise from residents of the new residential development.

We note that the application proposes to construct a section of the distributor road envisioned to run through central portion of the Cornamaddy lands from the N55 to the east of the site through to the Cornamagh Lands west of the site. The importance of the provision of such distributor roads is noted in section 6.17 of the Athlone Town Development Plan which states that:

*‘The Councils shall seek to provide new distributor roads to permit new development to take place where the need for such roads is identified in Action Area Plans, to provide links serving the transport nodes and in the promotion of economic activity’.*

#### **3.4.10 Part V Requirements**

A total of 19 no. units are designated for Part V use, which equates to 10% of the total development, complying with the Part V requirements. We refer to the Part V Drawings, Schedule of Accommodation and the Architects Design Statement prepared by Doran Cray Architects submitted as part of this pre-application LRD meeting request pack which identifies the location and specifications of the Part V units on the site.

## 4 CONSIDERATION OF ALTERNATIVES

The requirement to consider alternatives within an EIAR is set out in Annex IV (2) of the EIA Directive (2014/52/EU) and in Schedule 6 of the Planning and Development Regulations, 2001, as amended, which state:

*“A description of the reasonable alternatives studied by the person or persons who prepared the EIAR, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the proposed development on the environment.”*

The Schedule 6(2)(b) of the Regulations implement this requirement by requiring the following information:

(b) “a description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the person or persons who prepared the EIAR, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects;”

Reasonable alternatives may include project design proposals, location, size and scale, which are relevant to the proposed development and its specific characteristics. The Regulations require that an indication of the main reasons for selecting the preferred option, including a comparison of the environmental effects to be presented in the EIAR.

The Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (2018) – states:

*“The Directive requires that information provided by the developer in an EIAR shall include a description of the reasonable alternatives studied by the developer. These are reasonable alternatives which are relevant to the project and its specific characteristics. The developer must also indicate the main reasons for the option chosen taking into account the effects of the project on the environment.”*

*“Reasonable alternatives may relate to matters such as project design, technology, location, size and scale. The type of alternatives will depend on the nature of the project proposed and the characteristics of the receiving environment. For example, some projects may be site specific so the consideration of alternative sites may not be relevant. It is generally sufficient for the developer to provide a broad description of each main alternative studied and the key environmental issues associated with each. A ‘mini- EIA’ is not required for each alternative studied.”*

As such, the consideration and presentation of the reasonable alternatives studied by the project design team is an important requirement of the EIA process.

This chapter provides an outline of the main alternatives examined during the design phase. It sets out the main reasons for choosing the development as proposed, taking into account and providing a comparison on the environmental effects.

This chapter assesses the evolution of development and the alternatives examined by the Applicant relating to the location, size and scale and project design and technology of the Proposed Development. This section provides a full

justification for the proposed development and provides a comparison of the environmental effects of each alternative option.

The main alternatives examined throughout the design process are set out as follows:

- Alternative Locations
- Alternative Designs and Layouts
- Alternative Processes

The design of the proposed development was subject to a number of design alterations. Every effort was made, during the design evolution, to ensure that the development was sympathetic to the site conditions and contours, ecology and receiving environment.

#### 4.1 Alternative Locations

As noted in Section 4.13 of the 2018 Guidelines “*some projects may be site specific so the consideration of alternative sites may not be relevant*”.

We refer to the guidelines on Information to be contained in Environmental Impact Assessment Reports (EPA 2022), which states that in some instances alternative locations may not be applicable or available for a specific project which is identified for a specific location.

No alternative locations for the proposed development were considered in this case. The subject lands are appropriately zoned for residential development and the provision of public open space.

The subject lands and wider lands in the applicant’s landholding have been previously included within the Cornamaddy Action Area Plan 2005, which included a detailed strategy outlining how the Cornamaddy lands could be appropriately developed as a new residential neighbourhood north of Athlone Town Centre. Despite the publication of this action area plan for the lands, no development on the subject lands has taken place.

Since the Cornamaddy Action Area Plan, the site has remained appropriately zoned within relevant statutory planning documents, most recently the Athlone Town Development Plan 2014-2020.

The applicant now endeavours to fulfil this longstanding objective to develop the Cornamaddy Lands as a new residential neighbourhood. The subject development represents Phase 4 of development on the applicant’s landholding. To date the applicant and design team have lodged Phase 1, Phase 2, Phase 3 and Phase 5 on the lands as follows:

**Phase 1: WMCC Ref. 22/253** – Permission granted for the construction of 75 no. residential units comprising: 51 no. 2 storey semi-detached and terraced houses (consisting 4 no. 2 bed houses and 47 no. 3 bed houses, ranging in size from c.78 sq.m – 120 sq.m each), and 24 no. 3 storey apartment/duplex units (consisting 12 no. 2 bed apartments and 12 no. 3 bed duplexes, ranging in size from 84sq.m to 121 sq.m each).

**Phase 2: WMCC Ref. 22/340** - Application lodged to Westmeath County Council for the construction of a two Storey childcare facility, including classrooms, reception, kitchen, associated staff areas and office, toilets, storage, plant rooms, circulation areas and photovoltaic panels at roof level (c.668sqm total gross floor area). This application is currently live, at Further Information Stage.

**Phase 3: WMCC Ref. 22/577** – Application lodged for development of the southern portion of the applicants lands by amending the permission granted by Westmeath County Council under Ref. 147103. The application for 70 no. units and retained element of the permission granted under WMCC Reg. 147103 will provide 157 no. units total on the southern portion of the Cornamaddy lands. The subject application also proposes a section of the envisaged distributor road through the central portion of the Cornamaddy lands. This application is currently live with Westmeath County Council at Further Information Stage. Significant Further Information and Clarification of Further Information have been lodged to the Local Authority in respect of this application. A decision is due from the Local Authority imminently.

**Phase 3: WMCC Ref. 22/577** – Application lodged for development of the southern portion of the applicants lands by amending the permission granted by Westmeath County Council under Ref. 147103. The application for 70 no. units and retained element of the permission granted under WMCC Reg. 147103 will provide 157 no. units total on the southern portion of the Cornamaddy lands. The subject application also proposes a section of the envisaged distributor road through the central portion of the Cornamaddy lands. This application is currently live with Westmeath County Council at Further Information Stage. Significant Further Information and Clarification of Further Information have been lodged to the Local Authority in respect of this application. A decision is due from the Local Authority imminently.

**Phase 5: WMCC Ref. 2360047** – Permission granted for modifications to the permitted application WMCC Ref. 14/4103 and concurrent application 22/577 for the removal of a c. 260 sq.m creche facility, minor changes to road and landscaping layouts and the provision of 6 no. additional houses.

The now proposed Phase 4 application will provide 177 new residential units and will represent the last application for development on the applicant's landholding at Cornamaddy, realising the proposed masterplan drawing as presented through the applicants previous development lodgements on the site. A copy of the overall development masterplan for the lands is included within the architectural drawing pack prepared by Doran Cray Architects now lodged to Westmeath County Council as part of the subject development.

Given the sites appropriate zoning for residential development and the applicants previous experience with developing successful residential schemes in the county, the subject site was considered an ideal location by the applicant for the development of a new residential scheme.

Having regard to the nature and design of the development, it is considered that the proposed development is an effective and appropriate use of the subject site.

It is noted that extensive preliminary studies were conducted on the site prior to the preparation of a full planning application pack to ensure the site suitability for residential development as part of the due diligence process. This included the following assessments:

- Topographical Surveys
- Preliminary Ecological Assessments
- Preliminary Flood Risk Assessments
- Archaeological and Geophysical Surveys
- Test fits of early design iterations of the scheme

The development of the Cornamaddy lands will provide much needed residential accommodation in Westmeath, and as such, no alternative locations for the proposed development were considered in this instance.

## 4.2 Alternative Designs

A number of Alternative Designs for the scheme were undertaken by the project Architects, Doran Cray, prior to the arrival at the final project design as now submitted to the Planning Authority.

The final design of the scheme has evolved as part of a multi-disciplinary process with input from all EIAR team members.

The design of the now proposed 177 no. units has also been guided by the need for the development to function as part of the wider overall development on the subject lands.

It is considered that the development represents 'Phase 4' of a multi-phase approach to development on the Cornamaddy lands.

The evolution of the scheme to its final frozen design is presented below, as previously presented to Westmeath County Council at Section 247 and Section 32B pre planning stages of the LRD process. It is considered that the 'Chosen Design Option' presented below has now addressed all comments from the Westmeath County Council Planners and represents the most sustainable and appropriate form of development for the subject lands, in line with Local, Regional and National Policies and Objectives.

### Option 1

Option 1 represents the initial design concept for the scheme worked up by the project Architects, Doran Cray and presented to Westmeath County Council at Section 247 pre planning stage.

The initial design concept considered of 174 no. units total with a unit mix as follows:

- 12 no. 2 bed houses
- 128 no. 3 bed houses
- 18 no. 4 bed houses
- 8 no. 2 bed duplex apartment units
- 8 no. 3 bed duplex apartment units

The initial concept site plan is shown below on figure 4.1 for comparative purposes:





*Figure 4.1 –Option 1 Initial site concept design*

Feedback from the Planning Authority and the applicants' responses to each comment are outlined below. Comments from the Planning Authority were addressed in an updated version of the development, which was then submitted to the Planning Authority at LRD Meeting Stage.

The primary comments received by the planning authority at this stage were as follows:

- Principle of Development was considered acceptable.
- Roads should be revised to better comply with DMURS standards, Westmeath County Council noted that roads should be designed to avoid long straight sections through residential areas.
- The scheme design should be revised to avoid a rigid development pattern.
- The open spaces provided should be rearranged to provide more meaningful residential open space, small greens as residential open space should be avoided where possible.
- Usable kickabout spaces should be explored and incorporated into the proposed layout.
- Gables facing open space areas should be re-examined.

It is submitted that the primary concerns as listed by the Planning Authority, and all other minor comments were addressed in the scheme then presented to Westmeath County Council at Section 32B LRD meeting stage.

### **Option 2**

Option 2 presented a more advanced scheme design which was presented to the Planning Authority at Section 32B LRD Meeting Stage. Design Option 2 was informed by the comments presented to the design team regarding the Option 1 development at Section 247 pre planning meeting stage, listed above:

The option 2 site layout is shown on figure 4.2 below:



Figure 4.2 – Option 2 Site Layout

Construction of 177 no. residential units ranging from 2-3 storeys comprising 145 no. houses and 36 no. maisonette and duplex apartments consisting:

- 68 no. 2 bed terraced houses (c.74sqm each);
  - 74 no. 3 bed semi-detached and terraced houses (c.91-101 sqm each);
  - 8 no. 4 bed detached and semi-detached houses (c.150sqm each);
  - 24 no. 1 bed maisonette apartments (c.56-62sqm each);
  - 6 no. 2 bed duplex apartments (c.78-81sqm each);
  - 6 no. 3 bed duplex apartments (c.134sqm each).
- All associated private garden/balconies.
  - All pedestrian and vehicular access roads and footpaths including a section of the planned east/west distributor road connecting to a section of the distributor road permitted under WMCC Reg. Refs 14/7103/ ABP Ref. PL25.244826 and 22/253 and proposed under concurrent application WMCC Reg. Ref. 22/577 to the south east of the site.
  - All associated site development works, services provision, drainage works, zoned open space/linear park (c.1.09sqm), 6 no. residential public open space (c.0.75ha in total), landscaping, communal open space serving the duplex apartments (c.0.04ha), landscaping, boundary treatment works, public lighting, associated esb substation cabinets, bin stores and car and bicycle parking provision.
  - This development will form part of a larger phase of permitted and proposed development.
  - Minor modifications to the internal access road layout and open space permitted under WMCC Ref. 22/253 and minor modifications to a section of the distributor road proposed under concurrent application WMCC Ref. 22/577.

This option 2 design whilst still concept, offered a more comprehensive picture of how this phase of the development on the overall Cornamaddy lands could be completed in line with the other proposed and granted phases of development on the Cornamaddy Lands proposed by the Applicant, to align with the masterplan for the Cornamaddy area, and to consolidate the development of the applicants Landholding at Cornamaddy as an entire new residential neighbourhood to the northeast of Athlone Town.

The proposal from this phase was subject to design input from all wider design team members and the applicant, and roads layouts, landscaping and further changes to the architect's layout were implemented. This scheme was then presented to Westmeath County Council at Section 32B LRD Meeting Stage.

Westmeath County Council Assessed the submitted scheme and issued an LRD Opinion Report, which outlined that the proposed scheme constituted a reasonable basis on which to make an application for a Large-Scale Residential Development. There were a number of comments made by the Westmeath County Council Planning Department and other relevant departments. All items are now addressed by Option 3 – Chosen Design Option.

Key points made by Westmeath County Council in the LRD Meeting and LRD Opinion Report were as follows:

- Proposals to ensure potential conflict associated with creche car parking/setdown area and apartment car parking serving duplex units to be addressed.
- Having regard to extent of development within the overall landholding an active play area such as an Astro turf or basketball court etc would be welcomed within this phase.
- Proposals to provide greater streetscape and active frontage addressing the distributor road by way of fronting units onto this road and omission of gables and garden boundary walls.
- Proposals to provide active frontage addressing open space tract of land to north of site and thereby improve passive surveillance of this area.

It is submitted that the above key points raised by Westmeath County Council in relation to the Option 2 scheme design along with all other items included within the issued LRD Opinion Report have now been addressed within the Option 3 – Chosen Options design option below.

### **Option 3 – Chosen Option**

Option 3 represents the now submitted final design of the scheme. The now submitted final design has been subject to an extensive design process and is now considered the most viable design option for the lands on individual merit and in combination with all other lodged developments and future developments on the subject lands.

The chosen design option site layout is shown on figure 4.3 below:



Figure 4.3 – Option 3 – Chosen Design Option Site Layout

The development will comprise of a residential development and public open space comprising the following:

The development will comprise of a residential development and public open space comprising the following: Construction of 177 no. residential units on a gross site area of 7.31 ha ranging in height from 2-3 storeys comprising detached, semi-detached, and terraced houses, maisonettes and 3 storey duplex apartments. 65 no. 2 bed houses, 71 no. 3 bed houses and 9 no. 4 bed houses will be provided. 24 no. 1 bed maisonette apartment units and 8 no. 3 storey duplex apartment units will be provided.

All associated private open space in the form of gardens/terraces. All pedestrian and vehicular access roads and footpaths including a section of the planned east/west distributor road connecting to a section of the distributor road permitted under WMCC Reg. Refs 14/7103/ ABP Ref. PL25.244826 and 22/253 and proposed under concurrent application WMCC Reg. Ref. 22/577 to the south east of the site. The proposed development includes amendments to permissions granted within the applicants landholding at Cornamaddy as follows: Minor modifications to the internal access road layout and open space permitted under WMCC Ref. 22/253 and minor modifications to a section of the distributor road proposed under concurrent application WMCC Ref. 22/577. Minor modifications to the road permitted for access to the creche facility granted under WMCC Reg. Ref. 22/340 to provide turning heads and access to parking associated with the proposed duplex units. Minor modifications to the rear private gardens of units no's. 061, 062 and 063 permitted under WMCC Ref. 22/253 to provide additional private open space. All associated site development works, services provision, drainage works, zoned open space/linear park (c.1.09ha), residential public open space areas (c.0.82ha in total), landscaping, communal open space serving the duplex apartments (c.0.02ha), landscaping, boundary treatment works, public lighting, associated esb substation cabinets, bin stores and car and bicycle parking provision. This development will form part of a larger phase of permitted and proposed development. This planning application is accompanied by an Environmental Impact Assessment Report and Natura Impact Statement. The application is available for public viewing at the following website: [www.cornamaddyIrd.ie](http://www.cornamaddyIrd.ie)

It is submitted that the Chosen Design Option now addresses all comments received from Westmeath County Council at LRD Meeting Stage. The primary comments received from Westmeath County Council surrounding the scheme design have been addressed as follows:

- Streetscape has been amended onto the distributor road to present a more active frontage through the central area of the Cornamaddy lands.
- Units have been re-orientated to front the distributor road.
- Units have been reorientated to front the zoned public open space areas to the northwest of the lands.
- Cycle and pedestrian connections have been enhanced through the site to provide better connections to the existing esker to the south of the site.

It is now submitted that the scheme lodged to Westmeath County Council forming this LRD application pack represents the most efficient and sustainable land use for the development site in line with comments from Westmeath County Council and Plans and Policies at a National, Regional and Local level.

### 4.3 Do nothing Alternative

The site is zoned for the provision of residential development and open space as per the Athlone Town Development Plan 2014-2020 which provides the most recent planning context for the subject site. The site was also previously included within the Cornamaddy Action Area Plan 2005 which set out a detailed strategy for how the lands could be appropriately developed as a residential offering. This shows that the site has been zoned for residential led development for c. 20 years despite no development taking place on the vast majority of the lands now within the applicant's landholding at Cornamaddy.

This application represents development on the final portion of lands within the applicant's landholding at Cornamaddy. The surrounding lands have permission for residential led development and a creche facility granted under WMCC Reg Refs. 147103, 22253, 22/340 and 23/60047. There is also a live application due for decision under Reg Ref. 22/577. The subject development will consolidate development on the lands.

As there have been no alternative locations considered for the development as per the reasons outlined in section above, it is considered that the 'Do Nothing' Alternative of leaving the development site as greenfield lands would be contrary to Westmeath County Councils development objectives for the subject site and leave an undeveloped portion of the overall Cornamaddy lands, most of which have the benefit of extant permissions that will be constructed.

### 4.4 Alternative Processes

Alternative processes are not considered relevant to this Environmental Impact Assessment Report given the nature of the proposed development.

### 4.5 Environmental Impacts of the Design Evolution

It is considered that the above evolution of the scheme from option 1 through to option 2 and the chosen option 3 were not driven by environmental factors but



rather by design choices implemented by the design team. The existing esker area within the site redline is appropriately zoned for open space and has been appropriately treated throughout the design iterations.

The design team has endeavoured to ensure that the proposal presents the most sustainable design option for the site from the initial outset of the design of the scheme.

An appropriate assessment screening report was prepared for the subject site which concluded that there was the possibility that the development would give rise to significant effects on the Lough Ree SAC (000400) and the Lough Ree SPA (004064). Given this, a Natura Impact statement was prepared for the proposal which concludes that beyond any reasonable scientific doubt, once appropriate mitigation measures are implemented correctly and in full, the proposed development will not result in any significant adverse impacts on the Lough Ree SAC or Lough Ree SPA.

#### *Soil & Geology:*

The design layout has attempted to take account of the topography of the site. There will be no large piling requirements on the site excavation for basement construction will not be required, the road and housing construction will largely mirror the existing topography and will not materially change the local slopes and topography. The existing esker feature in the northern portion of the site will be protected as part of this proposal and appropriate landscaping has been provided around its base.

The final design ensures that the vast majority of excavated material from surface stripping, road grading and foundation excavation will consist of naturally occurring topsoil and subsoil and will be largely reusable. The final design will have minimal impact on local geology, where possible, excavated material will be reused on site.

#### *Water & Hydrology:*

The application location on the subject lands or general quantity of units proposed has not been subject to major variations throughout the design phases. The proposed drainage layout has remained generally consistent throughout the evolution of the proposed scheme, with advanced civils drawings only prepared when the architectural design of the Chosen Option 3 was confirmed. For this reason, it is considered that the impact of the proposed development on water and hydrology through the design phases has not varied.

#### *Air & Climate:*

Operational traffic emissions associated with the proposed development are predicted to have an negligible impact on air quality. The operational phase impact to air quality is long-term, localised, negative and imperceptible. Operational phase CO<sub>2</sub> emissions as a result of the traffic associated with the proposed development was carried out to determine the impact to climate. It was found that emissions of CO<sub>2</sub> are predicted to be imperceptible and will be significantly below the EU 2030 GHG target. The operational phase impact to climate is long-term, negative, and imperceptible.

#### *Noise & Vibration:*

The design evolution has at all times taken account of the potential impact on adjoining landowners and properties. While the internal layout has changed through the various designs, the separation distance has remained the same and therefore any potential impact has not changed through the design evolution.

#### *Landscape & Visual Impact*



As outlined above, the design evolution has taken key ecological factors into account in preparation of the proposed final scheme. It is acknowledged that due to the existing greenfield nature of the site, and the emerging urban form, initially the development may create some negative visual impacts. However, the extent of these impacts to human beings, and most importantly to the existing ecology, water and hydrology of the area have been minimised through the design and layout proposed herein.

*Transport & Access:*

The design evolution of the proposed development site provides a benefit to potential future vehicle users of the site. Designing the internal road network to form clusters rather than long expanses of road both internally and around the development, will create a safer environment for a residential area which will encourage slower vehicle speeds and heighten safety awareness for residents.

*Material Assets:*

It is considered that the overall quantum and location of development on the subject lands has not varied greatly throughout the project design stages. The development lands are greenfield and have not been in agricultural use in recent years. It is considered that as the quantum of development has remained at a similar scale throughout the various design iterations that the impacts on planting, natural resources, water services, transport, tourism, municipal waste, and electricity supply would remain the same regardless of the chosen design option. An examination of the impact of the scheme on material assets is provided in Chapter 15.

*Archaeology, Architecture & Cultural Heritage*

It is noted that an Archaeological Impact Assessment for the entirety of the applicant's landholding was conducted. It was found that the proposed development would have no impact on Archaeological or cultural heritage sites surrounding the site. As the general location of the units for this phase remained consistent throughout the various design iterations of the scheme, it is considered that should any of the options designs been chosen, the resultant no impact on archaeological or cultural heritage features on or surrounding the site has remained consistent throughout the design phases.

## 5 POPULATION AND HUMAN HEALTH

### 5.1 Introduction

This chapter has been produced to assess the likely impacts associated with Human Health for the proposed development. In Accordance with the Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA 2022), Draft Advice Notes for Preparing Environmental Impact Statements (EPA 2015) and European Commission Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (EU 2017). This chapter considers the “existence, activities and health of people”, with respect to “topics which are manifested in the environment such as employment and housing areas, amenities, extended infrastructure or resource utilisation and associated emissions”.

Human beings and their well-being are a central consideration in assessing the environment. Any likely change in environmental conditions, which will impact the quality of life for human beings, must therefore be comprehensively addressed.

Impacts upon humans may derive from any number of the environmental parameters discussed throughout this EIAR. Ultimately, all development impacts upon the environment to some extent and upon human beings and their quality of life. Direct effects relate to matters such as water and air quality, noise, and landscape change. Indirect effects relate to matters such as flora and fauna.

This section of the Environmental Impact Assessment Report focuses upon the human environment proximate to the proposed development in terms of population profile; employment; land use and social patterns; human health and traffic congestion.

Impact on humans arising from other issues such as natural hazards, soils, geology and hydrogeology, water, air quality, noise, vibration traffic and landscape are assessed in the following EIAR chapters:

- Chapter 6 – Land, Soils, Geology and Hydrogeology
- Chapter 7- Hydrology
- Chapter 10 – Noise and Vibration
- Chapter 11 – Landscape Visual Impact Assessment
- Chapter 13 – Traffic and Transport

### 5.2 Methodology

In accordance with the EPA Guidelines (EPA 2022) this chapter has considered that:

*“In an EIAR, the assessment of impacts on population and human health should refer to the assessment of those factors under which human health effects might occur, as addressed elsewhere in the EIAR e.g under the environmental factors of air, water, soil, etc. The Advice Notes provide further discussion of how this can be addressed”.*

A per Article 3 of the Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment as amended by Directive 2014/52/EU:

1. The environmental impact shall identify, describe and assess in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of a project on the following factors:
  - i. Population and Human Health

- ii. Biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC
  - iii. Land, soil, water, air and climate
  - iv. Material assets, cultural heritage, and the landscape
  - v. The interactions referred to in the factors referred to in points (i) to iv)
- 2. The effects referred to in paragraph 1 on the factors set out therein include the expected effects deriving from the vulnerability of the project to risks of major accidents and/ or disasters that are relevant to the project concerned.

The 2017 publication by the European Commission (EC), *Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report*, considered that:

*Human Health is a very broad factor that would be highly Project dependant. The notion of human health should be considered in the context of other factors in Article 3(1) of the EIA directive and thus environmentally related health issues (such as health effects caused by the release of toxic substances to the environment, health risks arising from major hazards associated with the project, effects caused by changes in disease vectors caused by the project, changes in living conditions, effects on vulnerable groups, exposure to traffic noise and pollutants) are obvious aspects to study. In addition, these would concern the commissioning, operation, and decommissioning of a project in relation to workers on the Project and surrounding population’.*

This chapter follows these EC guidelines and will examine the health effects relevant to the proposed development as they relate to a relevant, defined study area. The effects of the proposed development on the population and human health are analysed in compliance with the requirements of the EPA guidelines.

### 5.3 Assessment of Significance & Sensitivity

The assessment of significance is a professional appraisal based on the sensitivity of the receptor and the magnitude of impact of any potential effect. The sensitivity of individuals in an area will vary on a case-by-case basis and must be assessed accordingly. It would be unrepresentative to classify an entire population as ‘low sensitivity’ so for this assessment it is assumed that the receiving population is of a consistent high sensitivity to effectively properly assess the impact of the development on human health and population, using a precautionary principle.

### 5.3 Population

#### 5.3.1 Receiving Environment

This section describes the receiving environment in terms of existing context, character, significance, and sensitivity which forms the baseline for further assessment.

##### Population Trends for the Local Area

The Central Statistics Office (CSO) provides data on population and socio-economic aspects of the population at a State, County and Electoral District level. The subject site falls within the ‘Moydrum’ Electoral Division (ED) and within the administrative area of Westmeath County Council. The most recent census of population was undertaken by the CSO in 2022.

It was considered that a catchment area of 4km was appropriate to encapsulate the relevant population surrounding the site. This radius was decided due to the distance of the subject site to Lough Ree to the North, and the rural areas featuring small populations to the west, south and east outside the immediate environs on Athlone Town.

Demographic Trends for the defined catchment areas were reviewed based on the Census 2022 data for the Dublin County area and Small Area Population Statistics (SAPs) for the District Electoral Divisions (DEDs) of Moydrum (Subject site location), Glassan, Athlone East Rural, Athlone East Urban and Athlone West Urban.

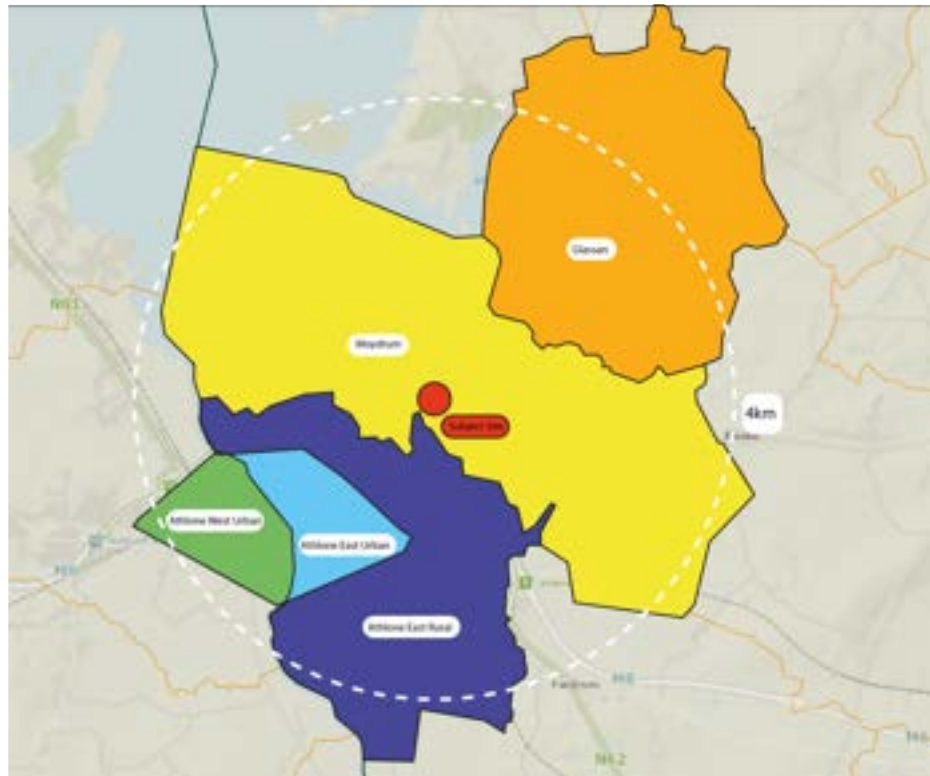


Figure 5.1 - Electoral Division map of subject area

CSO population statistics for the electoral division in which the subject site is located and other surrounding electoral divisions relevant to the subject site are summarised below. The population of the subject electoral division and surrounding electoral divisions in 2011 and 2022, the actual change in population and percentage change in population are highlighted in table 5.1 below.

DED	2011	2022	Actual Change	% Change
Moydrum	2922	3155	233	8.3%
Glassan	846	922	76	8.9%
Athlone East Rural	756	802	460	6%
Athlone East Urban	438	481	429	9.7%

Athlone West Urban	3260	3400	95	4.3%
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Table 5.1 - Population evolution in both Electoral District Areas (Source: CSO 2016)

The official census data for 2022 indicates a 8.3% (233 person) increase in the electoral division of Moydrum, where the subject site is located, between the years of 2016-2022.

The overall change in population in the examined Electoral Divisions of Moydrum, Glassan, Athlone East Rural, Athlone East Urban and Athlone West Urban between the years of 2016 to 2022 was an increase of 1341 persons or 7%.

With a consistently rising demand for housing in Westmeath County, population figures are envisaged to increase across most DEDs within the county in the next decade.

Appendix 1 of the Westmeath County Development Plan 2021-2027 outlines that an increase of population of 10,483 is predicted for County Westmeath between the years of 2021 and 2027.

The 2016 Census of population showed that the State population experienced a growth rate of 3.7% from 2011 to 2016. Between the period from 2016 -2022 the State population experienced a total growth rate of 8.1% over this 6 year period.

There remains strong population growth and housing demand throughout the country. The examined Electoral Divisions within Athlone have consistently shown population growth and housing demand.

#### Age Profile

A review of the Moydrum, Glassan, Athlone East Urban, Athlone East Rural and Athlone West Urban age profiles confirmed that communities in the electoral division in which the subject site is located and surrounding electoral divisions have an age profile that is generally weighted towards a younger population group. This can be attributed to the growing trend of new residential development in the Athlone area which gives younger people an opportunity to purchase a home at lower prices than Irelands larger cities, and the location of the Technological University of the Shannon within Athlone, which attracts younger people studying to the town. The young population located in Athlone has made it a key growth centre for continued residential development given its central location in Ireland and benefit of having a university.

The most prevalent age profiles for each of the electoral divisions examined as part of this population review is outlined as follows:

- Moydrum – 40 – 44
- Glassan – 60 – 64
- Athlone East Rural – 20 – 24
- Athlone East Urban – 35- 39
- Athlone West Urban – 30 - 34

It is noted that the Glassan electoral division represents an outlier in terms of the general age profile prevalent in the electoral divisions surrounding the subject site. This can be attributed to its more rural location outside of Athlone, low total population figure, and prevalence of single dwellings. It is noted that it is likely that young people from the Glassan area would move into Athlone Town or other nearby larger settlements for convenience purposes (proximity to services, schools, colleges, career opportunities etc).

Population pyramids representing the percentage of population per age bracket as per the 2022 Census are presented below for the convenience of the Planning Authority:



Figure 5.2 - Electoral Division 'Moydrum' population profile by sex and age group (Source: CSO 2022)



Figure 5.3 - Electoral Division 'Glassan' population profile by sex and age group (Source: CSO 2022)





Figure 5.4 - Electoral Division 'Athlone East Urban' population profile by sex and age group (Source: CSO 2022)



Figure 5.5- Electoral Division 'Athlone East Urban' population profile by sex and age group (Source: CSO 2022)



Figure 5.6 - Electoral Division 'Athlone East Urban' population profile by sex and age group (Source: CSO 2022)

#### Accommodation – Household Size

In accordance with CSO 2022 figures, the average household size in Ireland is 2.74, which has decreased from 2.75 in 2016, but increased from the 2011 figure of 2.73. Household size in Ireland State wide has stayed consistent throughout the 2011, 2016 and 2022 Census periods. From examining the 5-no. surrounding electoral divisions to the subject site, it is concluded that the average household size in the areas surrounding the subject lands is 2.63, falling slightly below the national average.

The predominant household size in the Moydrum Area, where the subject site is located, was 2 person, accounting for 30% of the households in the electoral division.

The predominant household size in the Glassan, Athlone East Urban and Athlone East Rural was also 2 persons, whilst the predominant household size in the Athlone West Urban electoral division was found to be 1 person.

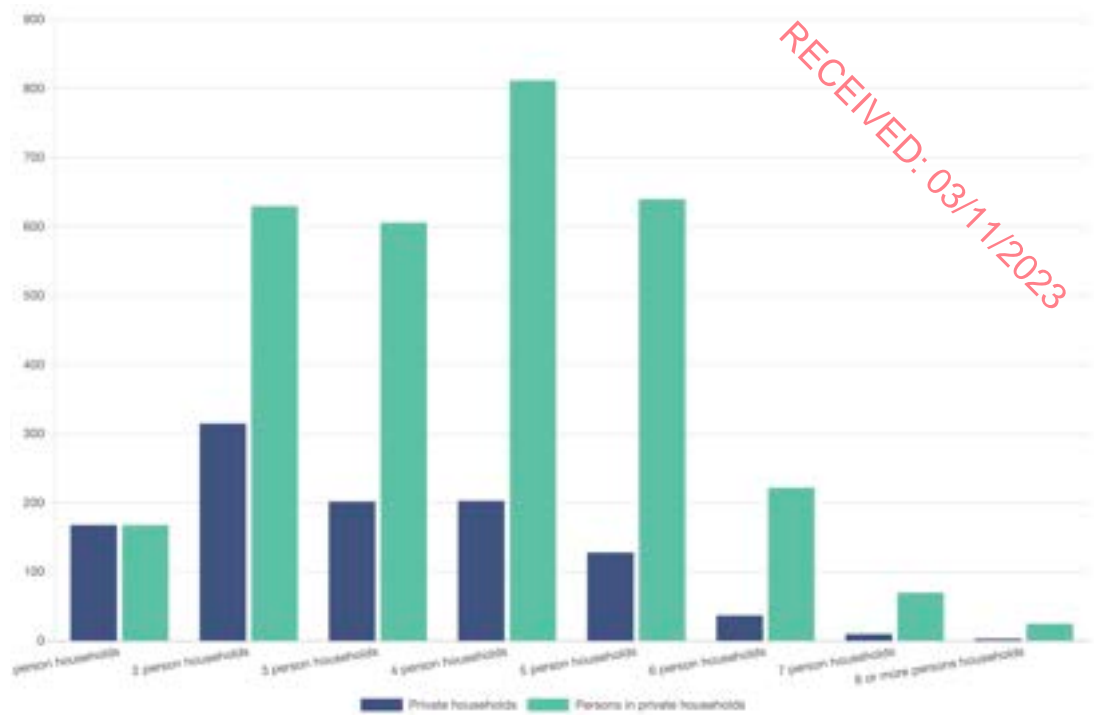


Figure 5.7 – Household sizes in the ‘Moydrum’ ED CSO 2022

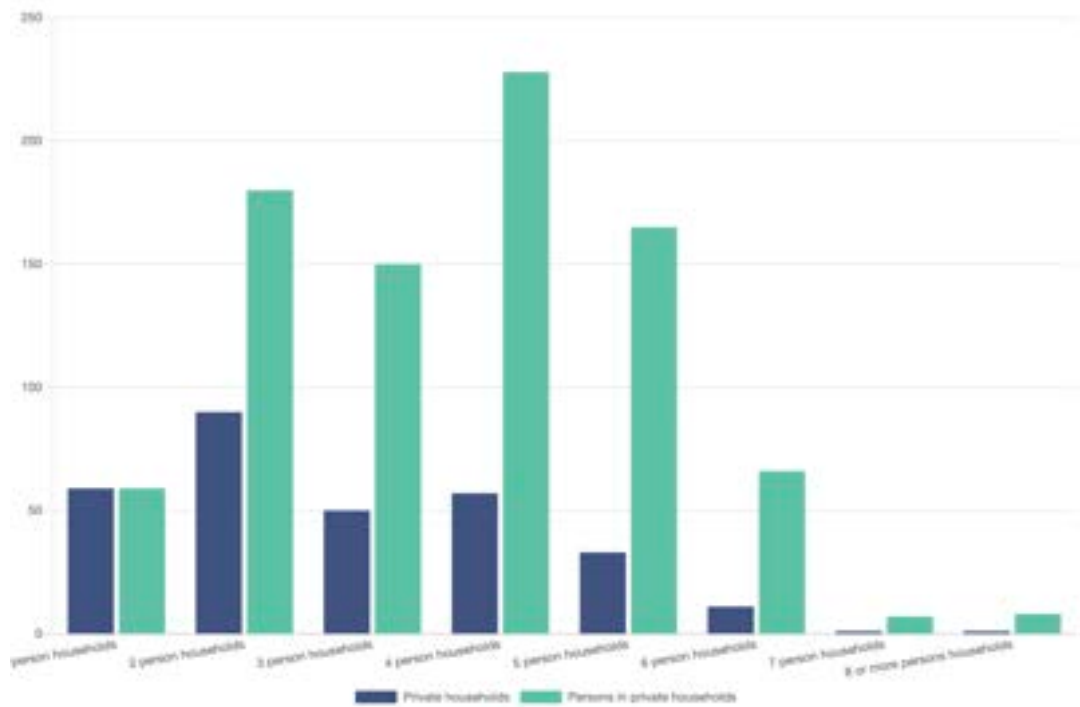


Figure 5.8 - Household sizes in the ‘Glassan’ ED CSO 2022

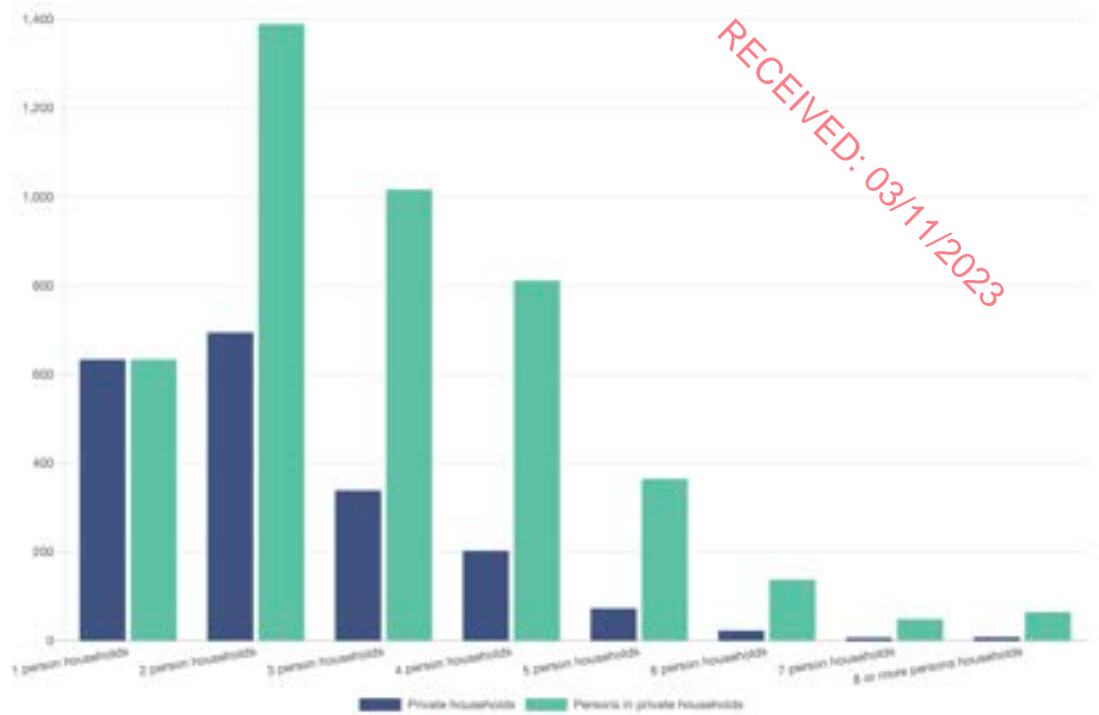


Figure 5.9 - Household sizes in the 'Athlone East Urban' ED CSO 2022

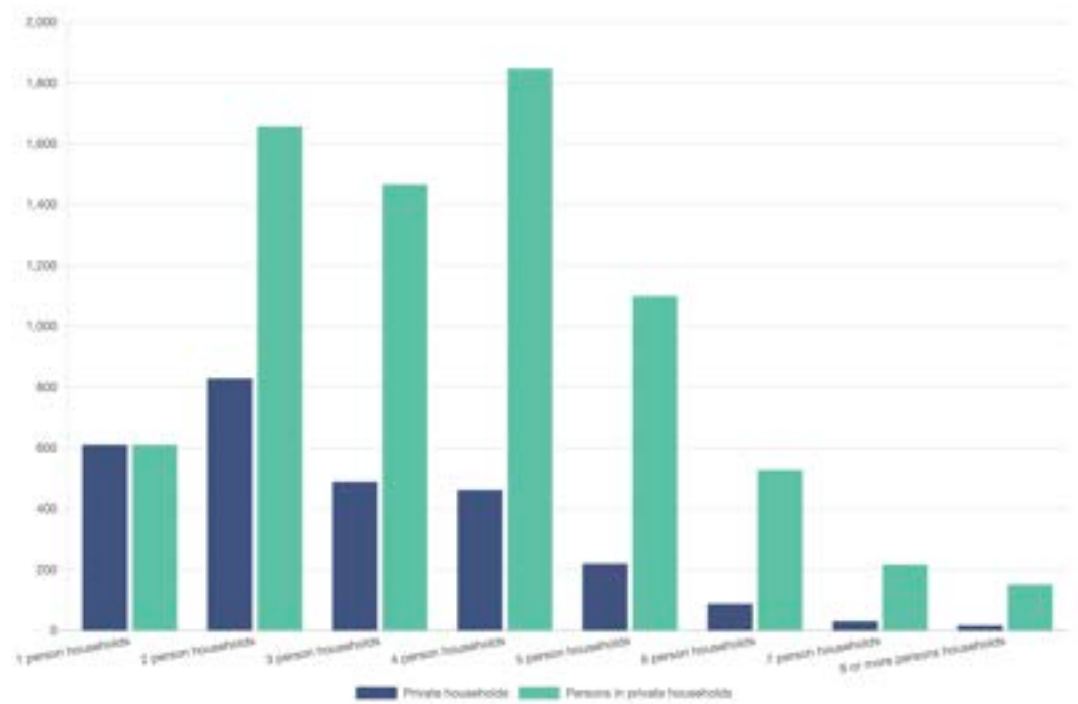


Figure 5.10 - Household sizes in the 'Athlone East Rural' ED CSO 2022

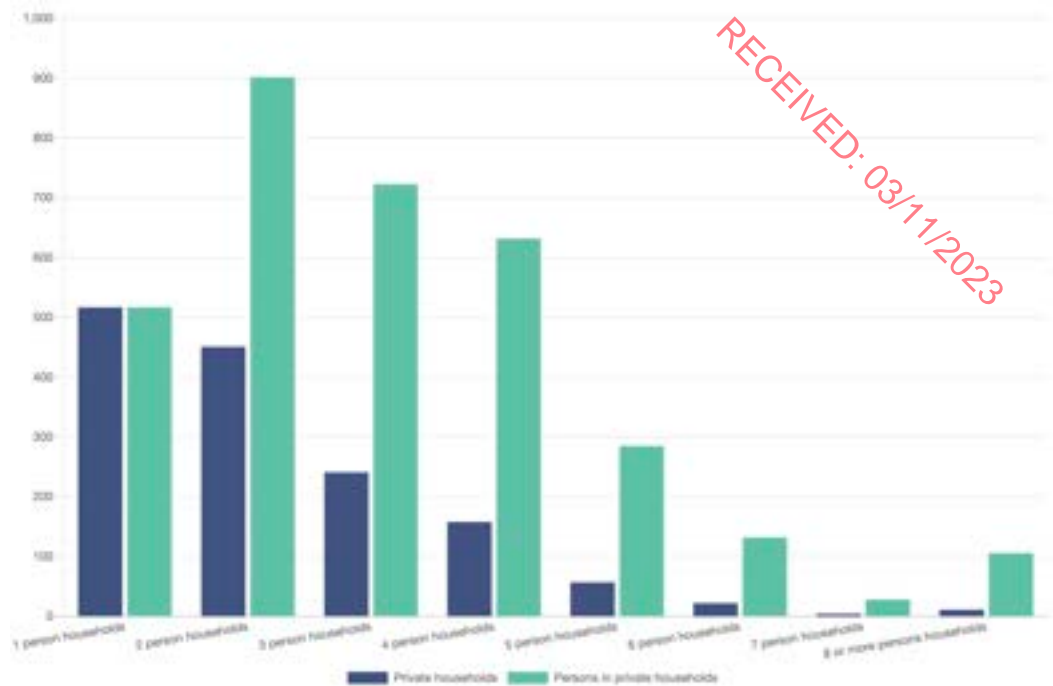


Figure 5.11 - Household sizes in the 'Athlone West Urban' ED CSO 2022

From the above analysis of Household Size across the Moydrum, Glassan, Athlone East Urban, Athlone East Rural and Athlone West Urban electoral divisions, it is noted that the largest cohort of people per household across the 5 examined electoral divisions is 2, making up 31.5% of the total households. It is noted that single person and three person households are also prevalent within the electoral divisions examined.

From the above data, the average number of people per household across each of the examined electoral divisions was calculated by dividing the total population of each electoral division by the total number of occupied households in each. That withstanding, the average number of people per household across the electoral divisions was calculated as follows:

- Moydrum: **2.97**
- Glassan: **2.86**
- Athlone East Urban: **2.26**
- Athlone East Rural: **2.76**
- Athlone East Urban: **2.28**

The above average household sizes per electoral divisions can be calculated in combination to present an average household size across the 5-no. examined electoral divisions of **2.63**.

Whilst we acknowledge the above figures, which clearly state that nearly one third of the households in the examined electoral divisions surrounding the subject site comprises of 2 person households, we will apply the average household size of 2.63 across the 5-no. examined electoral divisions within this report as an average household size projected for the subject proposal.

It can therefore be predicted that the proposed development of 177 no. units is expected to generate a population of c. 466 persons based on these numbers.

It is noted that the subject development represents phase 5 of an overall development on the Cornamaddy lands within the applicant's landholding. The subject development consists of 177 no units comprising houses, maisonette apartment and duplexes.

The northern portion of the applicant's landholding also has the benefit of a permission granted under WMCC Ref. 22/253 for 75 no. units in the northeastern portion of the applicants lands.

It is submitted that the total quantum of development on the subject lands under the control of the applicant should all applications applied for by Marina Quarter be granted and constructed on the subject lands including the subject development would be 422 units.

For an overall development of c. 422 units on the Cornamaddy lands it is envisaged that a population of c. 1110 will be generated, subject to the construction of extant permissions and granting and construction of all applications currently live in the planning system.

The key points to note are as follows:

- The total number of persons in the Moydrum, Glassan, Athlone East Urban, Athlone East Rural and Athlone West Urban is 20311 as per the CSO Census 2022
- The average household size across the 5 examined electoral divisions is 2.63.
- Nearly a third of the local community comprises 2 - person households
- It is expected that the subject proposal of 177 no. units will generate a population of c. 466 no. persons.
- It is predicted that the subject proposal in combination with extant permissions on the applicant's landholding and applications live in the planning system will result in a total development quantum of 422 no. units on the lands, generating a population of 1110 persons.

We confirm that the above statistics area applied throughout this chapter to allow for conclusions be drawn.

### **5.3.2 Characteristics of the Proposal**

The proposed development provides 177 no. units. Of the 177 no. units to be provided the following unit mix is noted: 65 no. 2 bed houses, 71 no. 3 bed houses and 9 no. 4 bed houses will be provided. 24 no. 1 bed maisonette apartment units and 8 no. 3 storey duplex apartment units will be provided.

The unit number and mix is commensurate to the permitted childcare facility and residential units planned for the Cornamaddy area by the applicant under permitted and concurrent applications know as phases 1, 2, 3 and 5.

### **5.3.3 Potential Impact of the Proposal**

#### **Construction Phase**

The construction phase has no potential impact on the existing population of the area, given that it will be a finite process and it is expected that the workforce



will travel from its existing place of residence rather than staying in temporary accommodation in the area. The impact on the local community is considered elsewhere in Section 5.5 of this Environmental Impact Assessment Report under 'Land Use and Social Patterns'.

#### **Operational Phase**

The now proposed development of 177 no. units is predicted to increase the existing population by c. 466 no. people. The overall development on the lands of 422 units is expected to increase the existing population by c. 1110 no. people.

It is expected that the development will have a permanent positive impact on the demography and economic future of the area, and its ability to support related infrastructure and services.

#### **Do-Nothing Impact**

It is anticipated that the 'do-nothing' approach would result in the stagnation of development in the area. The overall development lands at Cornamaddy have been earmarked for residential development for circa 20 years and are currently zoned for the provision of new residential development and open space provision as per the Athlone Town Development Plan 2014-2020, which offers the most recent statutory zoning context for the site.

It is considered that the that planned development of residential dwellings and open space at Cornamaddy is of paramount importance, thus, to adopt the 'do-nothing' approach would adversely affect these objectives.

### **5.3.4 Remedial and Reductive Measures**

#### **Construction Phase**

The construction phase of the proposed development is unlikely to generate any significant adverse impact on the demography of the area and is more likely to have a positive economic impact as any construction workers on site will likely be in Athlone on a temporary basis, spend money within the local community and then leave Athlone when the construction phase has been completed. As such, no remedial or reductive measures are considered necessary. Any impacts on the community in the area are considered elsewhere in Section 5.5 of this Environmental Impact Assessment Report.

#### **Operational Phase**

No remedial or reductive measures are considered necessary during the operational phase. The proposed development will provide additional housing in a sustainable manner.

### **5.3.5 Predicted Impact of the Proposal**

#### **Construction Phase**

It is not envisaged that any increase in population will occur during the construction phase. The proposed development is likely to generate additional income for existing shops and services.

#### **Operational Phase**

As outlined previously, the proposed development will result in an increase in population of c. 466 no. persons and should the entirety of the lands be developed it is considered that a population increase of c. 1110 no. persons will occur. This represents a beneficial impact for the area within the examined electoral districts and is entirely compatible with the residential policies and objectives of Westmeath County Council as outlined in the Athlone Town Development Plan 2014-2020.

**Worst Case Impact**

The failure of the proposed development to proceed will not lead to any adverse impacts on the existing population of the area. However, it would impede the planned growth in the area per the relevant statutory national and local planning documents.

**5.4 Employment and Land Use****5.4.1 Receiving Environment**Employment

Based on standard International Labour Organisation (ILO) criteria, an estimated 2,554,600 persons were in employment in Q2 2022, up 8.7% (+205,500) from 2,349,100 in Q2 2021.

The increase of 205,500 (+8.7%) in employment is composed of increases of 97,000 (+7.7%) for males and 108,500 (+10.0%) for females in the year to Q2 2022.

The number of people who were in employment but were absent from work during the reference week (i.e. temporarily absent from work for reasons such as holidays, sick leave or family leave) was 187,200 or 7.3% of those employed, compared to 220,900 or 9.4% of those employed in Q2 2021.

This resulted in an increase of 9.4% or 7.1 million hours worked per week from 75.9 million hours in Q2 2021 to 83.0 million hours in Q2 2022.



Figure 5.5: Employment Rate in Ireland 1998 (Q2) – 2022 (Q2)

Employment Status

The number of employees increased by 171,200 (+8.5%) in the year to Q2 2022 to 2,192,000, while the number of self-employed increased by 34,400 (+11.2%) to 341,000.

Employment increased by 205,500 in the year to Q2 2022, with 138,000 (+7.4%) more persons in full-time employment and 67,500 (+14.2%) more persons in part-time employment.

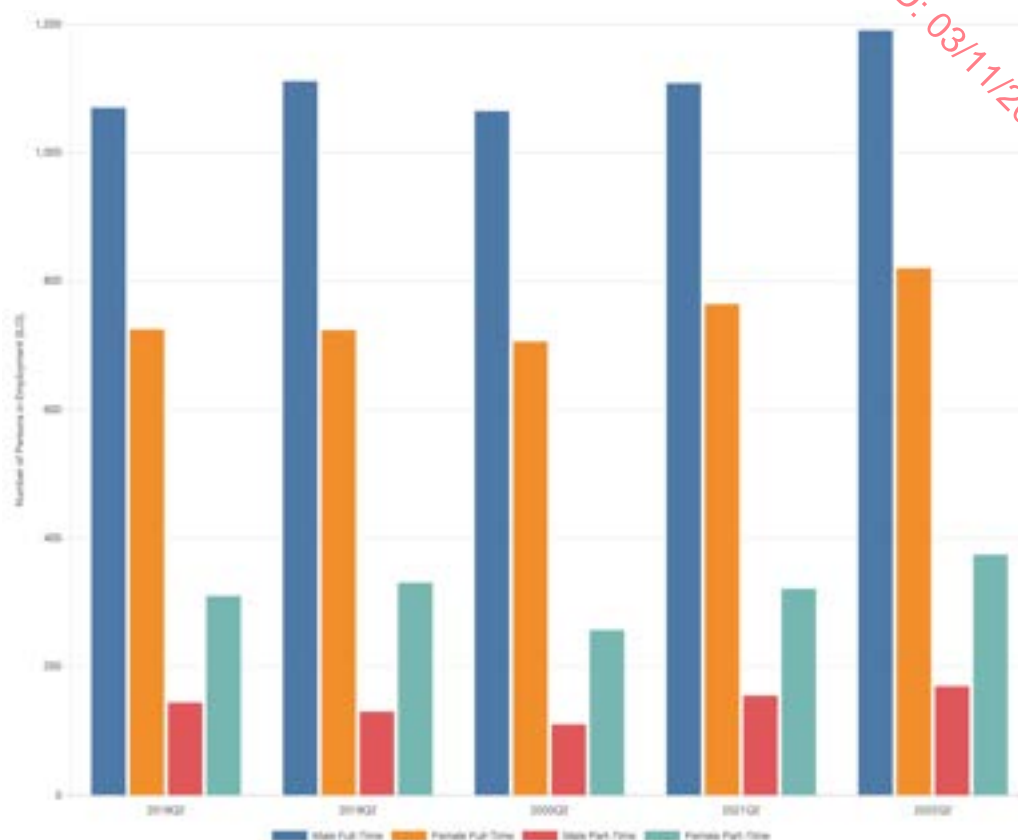


Figure 5.6: Persons aged 15 - 89 years in employment classified by sex and full-time/part-time status, Q2 2018 - Q2 2022

Overall, Employment increased by 205,500 in the year to Q2 2022, with 138,000 (+7.4%) more persons in full-time employment and 67,500 (+14.2%) more persons in part-time employment.

#### Unemployment

To establish a more balanced picture of the employment situation it is necessary to also examine trends in unemployment in Ireland over a comparable timeframe. The most pertinent figures in relation to unemployment are the Live Register figures, which are published on a national and local level. It should be noted however, that the live register lists those persons who are available for work but not currently employed. In addition, it includes part-time workers; casual workers and those in receipt of unemployment benefit or assistance. As such, it is not a true indicator of unemployment, but a useful tool by which to measure fluctuations in the local and national employment circumstances.

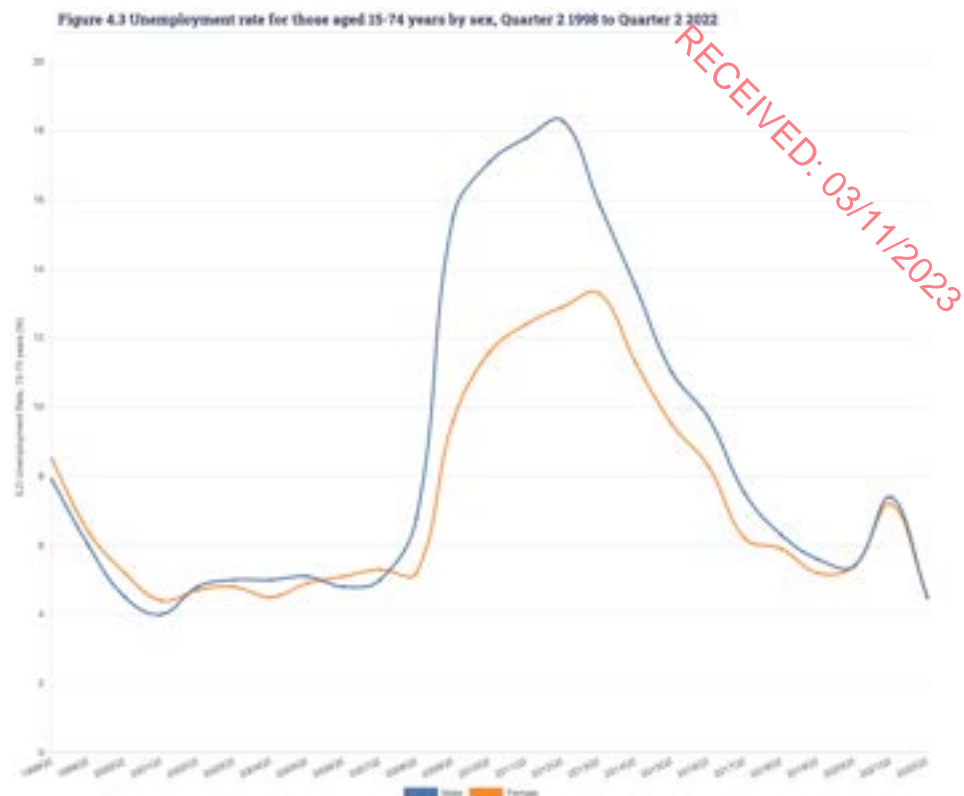


Figure 5.7: No. of Unemployed Persons aged 15-74 years classified by sex, Q2 1998 – Q2 2022

The number of persons aged 15-74 years who were unemployed decreased by 64,200 (-34.9%) to 119,900 in the year to Q2 2022, using standard International Labour Organisation (ILO) criteria. The unadjusted unemployment rate for persons aged 15-74 years decreased from 7.3% to 4.5% over the year to Q2 2022.

Unemployment decreased by 36,300 (-36.5%) for males to 63,200 in the year to Q2 2022 compared with a fall of 27,900 (-33.0%) to 56,700 for females over the same period. The unemployment rate for males was 4.5% in Q2 2022 down from 7.4% a year earlier while the corresponding rates for females were 4.5% and 7.2% respectively.

The unemployment rate for those aged 15-24 years, known as the Youth Unemployment Rate, stood at 11.4% in Q2 2022 down from 21.1% in Q2 2021.

On an annual basis, unemployment decreased in all eight NUTS 3 regions with the largest decrease occurring in the Dublin region (-18,900) followed by the South-West region (-9,500).

Just under seven in ten (69.1%) of unemployed people in Q2 2022 were in short-term unemployment (less than one year). Over the year to Q2 2022, short-term unemployment fell by 42,500 (-33.9%) to 82,800 while there was a fall of 17,700 (-35.8%) in the numbers of long-term unemployed to 31,800.

The long-term unemployment rate decreased from 2.0% in Q2 2021 to 1.2% in Q2 2022. Just over a quarter (26.5%) of unemployed persons were in long-term unemployment in Q2 2022 which is down from 26.9% a year earlier.

#### Employment - Conclusion

In accordance with Development Plan policy, there is an identified need to accommodate future generations within Athlone and the wider Westmeath area with the proper planning and development of new neighbourhoods. It envisages that a certain level of local employment will arise from the increase in population and the associated increase in employment opportunities. It is considered that the proposed development will have an increasingly positive effect on employment in the local community.

#### Land Use - Existing Retail Provision

A review of the surrounding area confirms that there is an existing convenience retail offering in the area surrounding the site. There are a number of supermarket offerings located within and on the periphery of Athlone Town to the south of the development site as follows:

- Tesco Superstore, Golden Island Shopping Centre
- Supervalu, Ballymahon Road
- Lidl, Dublin Road
- Dunnes Stores, Irishtown Athlone
- Aldi, Golden Island Shopping Centre

In addition to the above, there are a variety of local retail stores located within Athlone, notably a number specialising in Polish and Asian produce, as well as retail offerings such as Costcutter and Marks & Spencer.

#### Retail Provision – Conclusion

It is concluded that there are sufficient retail facilities in the area to cater for the proposed scheme. There is an array of supermarket and local shops in the vicinity of the proposed development that the future residents of the development will avail of.

### **5.4.2 Characteristics of the Proposal**

The new resident population will provide an increased market for the local shops and services and may result in the creation of employment opportunities to cater for this increased demand for goods and services.

### **5.4.3 Potential Impact of the Proposal**

#### ***Construction Phase***

As previously noted, the site is zoned for residential and open space uses, thus the proposal is deemed to be an acceptable form of development. Direct and indirect employment will be generated as a result of the development during the construction phase.

#### ***Operational Phase***

The increase in population that will result from the subject development and the overall development of the Cornamaddy lands has the potential to bring increased job security to existing jobs in the vicinity and will also help to stimulate the local economy by creating an increased demand for services which will lead to job creation.

#### ***Do-Nothing Impact***

In this instance a 'do-nothing' impact would result in the loss of considerable direct and indirect economic and social benefits.

#### 5.4.4 Remedial and Reductive Measures

The proposed development will be entirely beneficial in employment terms, and no remedial or reductive measures are considered necessary.

#### 5.4.5 Predicted Impact of the Proposal

##### **Construction Phase**

The proposed development will provide important construction and related employment. In addition to the direct financial and employment benefits of the construction programme itself, it is anticipated that builders' suppliers and other related services would benefit significantly during the construction period.

Overall, the construction programme of the proposed development will be of significant benefit to the local and wider economy, due to the income and increased expenditure that will result.

##### **Operational Phase**

When the residential dwellings of the subject development scheme are inhabited, there will be considerable scope for the contracting and purchasing of local goods, supplies and services in the area. This multiplier effect can be expected to generate and support additional employment and expenditure in the local economy to the benefit of local businesses.

##### **Worst Case Impact**

As the proposal would have no profound or irreversible adverse consequences in relation to employment, a 'worst case' impact is not applicable in this instance.

### 5.5 Land Use and Social Patterns

#### 5.5.1 Receiving Environment - Land Use

An analysis of the existing community facilities within the area surrounding the overall development lands at Cornamaddy, Athlone is included within the supporting Community and Social Infrastructure Audit document, which should be read in conjunction with this EIAR.

##### Educational Facilities Summary

It is noted that there are a number of extant permissions for residential development on lands adjacent to the subject development. These permissions are as follows:

- **WMCC Reg Ref. 14/7103** – The construction of 98 no. new dwellings to include 11 no. 4/5 bedroom detached houses, 28 no. 4/5 bed semi-detached houses, 8 no. 3 bedroom detached houses, 34 no. 3 bedroom semi-detached houses, 8 no. 2/3 bedroom terraced houses, 3 no. 2 bedroom houses and 6 no. 2-bedroom bungalow houses. The development to include the provision of all associated site development works including road networks, services, landscaping and boundary treatments at Drumaconn, Cornamaddy, Athlone, Co. Westmeath.
- **WMCC Reg Ref. 17/7224** – The Development of 7 no new dwellings to include 3 no 5-bedroom detached houses and 2 no 4-bedroom detached houses with optional fifth bedroom/study and 2 no 4-bedroom semi-detached houses with optional fifth bedroom/study and all associated site development works including road networks, services, landscaping,



and boundary treatments at Drumaconn, Cornamaddy, Athlone, Co. Westmeath.

- **WMCC Reg Ref. 22/253** – Construction of 75 no. residential units comprising: 51 no. 2 storey semi-detached and terraced houses (consisting 4 no. 2 bed houses and 47 no. 3 bed houses, ranging in size from c.78 sq.m – 120 sq.m each), and 24 no. 3 storey apartment/duplex units (consisting 12 no. 2 bed apartments and 12 no. 3 bed duplexes, ranging in size from 84sq.m to 121 sq.m each) at Cornamaddy, Athlone, Co. Westmeath.
- **WMCC Reg Ref. 236/0047** – The development will consist of modifications to the permitted application WMCC Reg. Ref. 14/7103/ ABP Ref. PL25.244826 and concurrent application WMCC Reg. Ref. 22/577 to include the following:
  - Removal of the permitted creche c.260sqm and associated parking granted under WMCC Reg Ref. 14/7103/ ABP Ref. PL25.244826. The recently permitted creche granted under WMCC Ref. 22/340 will regularise childcare provision on site. The remaining area will form part of the public open space associated with the wider development at Cornamaddy (c.710sqm). Associated minor landscape revisions to the concurrent application WMCC Reg. Ref. 22/577;
  - Provision of 6 no. additional houses.

The applicant also currently has an application live with Westmeath County Council, awaiting decision due 31<sup>st</sup> of October 2023 as follows:

- **WMCC Reg. Ref. 22577** Application lodged to Westmeath County Council for amendments to permitted application WMCC Reg. Ref. 14/7103 ABP Ref. PL25.244826 for removal of 38 no. permitted unconstructed units to be replaced by 70 no. new houses.

It is noted that there will be a primary/secondary place demand arising from the above mentioned permissions and therefore this demand has been accounted for, and calculated as follows:

**Number of Units X Average Household Size in Surrounding Electoral Divisions X 19% (percentage of population aged 4-19 in surrounding electoral divisions as per Census 2022)**

The total schools demand that will arise from these permissions is as follows:

- WMCC Reg Ref. 14/7103 =  $87 \times 2.63 = 229$  total population  $\times 19\% = 44$  no. children between 4-19.
- WMCC Reg Ref. 17/7224 =  $7 \times 2.63 = 18$  total population  $\times 19\% = 3$  no. children between 4-19.
- WMCC Reg Ref. 22/253 =  $75 \times 2.63 = 198$  total population  $\times 19\% = 38$  no. children between 4-19.
- WMCC Reg Ref. 23/60047 =  $6 \times 2.63 = 16$  total population  $\times 19\% = 3$  no. children between 4-19.
- WMCC Reg Ref. 22/577 =  $70 \times 2.63 = 184$  total population  $\times 19\% = 35$  no. children between 4-19.

These 4 no. extant/ live permissions are therefore predicted to generate a demand for 123 no. school places in primary and secondary schools.

The subject proposal for 177 no. units will generate the following demand for school places for children aged 4-19:

- $177 \times 2.63 = 466$  total population  $\times 19\% = 89$  no. children between 4-19.

Therefore the total schools places demand arising from the proposed and permitted developments on the overall lands is as follows:

- **$422 \times 2.63 = 1110$  total population  $\times 19\% = 211$  no. children between 4-19.**

It is noted that Census 2022 has not yet published population statistics by individual ages for Westmeath, and only grouped age cohorts are available for children as follows:

- 0-4, 5-9, 10-14, 15-19

This means that the percentage of children aged 5-12 and 13-19 or primary and secondary school going age cannot be determined accurately from the Census 2022 data. Individual age cohorts for Electoral Divisions within Westmeath are available as they relate to the 2016 Census and so the same percentages of Children within each age cohort as presented in 2016 has been assumed for the 2022 Census. Therefore the following percentages have been applied for primary/secondary school going ages, inclusive of age 4 as this individual age cohort information was available as part of published Census 2016 data:

- 41% of children aged 4-12
- 59% of children aged 13-19

It is predicted that the demand for school places for primary and secondary schools arising from the proposed development in combination with the extant/proposed developments WMCC refs 14/7103, 17/7224 and 22/253, 22/577 and 23/60047 are as follows:

- Primary School: 87 no. spaces
- Secondary School: 124 no. spaces

It is considered that there is potential for educational/ community and institutional zoned lands to be expanded to facilitate the provision of future school facilities within a future Athlone Town Plan, as the current plan was originally intended to govern the development of Athlone and its environs from 2014-2020. A new plan should cater for the needs of all age groups in a growing population at Athlone and its environs.

#### Childcare Facilities

The applicant has been granted permission under WMCC Reg Ref. 22/340 for a dedicated creche facility to cater for the childcare needs arising from the overall proposed development within the applicants landholding on the Cornamaddy lands.

It is noted that the following facilities are also located within the vicinity of the overall development lands:

- Busy Kids Creche
- Chatterboxes Childcare
- Chestnut Hill Montessori
- Clonbrusk Childcare Centre
- Clonros
- Glassons Pre School
- Grovelands Childcare Limited
- Jolly Mariner Childcare
- Little Acorns Montessori

- Little Scholars
- Na Fea Montessori Pre School and Homework Club
- Realta Gael Montessori School
- Regina Bushell T/A Grovelands Childcare
- Sarsfield Pre School
- Scallywags Childcare Centre
- Treasure Island Early Years Services

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It is apparent from our review of childcare facilities, that there is an appropriate provision within the surrounding area to serve the proposed development. It is considered that the crèche within the applicant's landholding granted under WMCC Ref. 22/340 will cater for any demand for childcare that will arise from development on the subject lands.

#### Further Education

A review of the surrounding area has confirmed the following provision of facilities:

#### Further and adult education centres

- Technological University of the Shannon: Midlands Midwest Athlone Campus

#### Further Education Summary

There is one third level institute within 3km of the subject site. TUS: Midlands Midwest Athlone Campus is Irelands third Technological University, forming after a merge of the Limerick Institute of Technology and Athlone Institute of Technology and beginning operations in 2021.

The location of Athlone on the Galway to Dublin rail line means that 3<sup>rd</sup> level educational facilities in Dublin and Galway are easily accessible if commuting.

It is apparent from our review of further education facilities, that there is an appropriate provision within the surrounding area to serve the proposed development. It is our considered view that there is no requirement arising from the current proposal for the provision of additional facilities within the immediate context.

We trust that this will be satisfactory to the Planning Authority.

#### Retail Facilities

A review of the surrounding area has confirmed the following provision of retail:

- Arcadia Retail Park
- Athlone Town Centre
- Golden Island Shopping Centre
- Athlone Town Main Street

#### Retail Summary

There is a strong offering of retail outlets within 3Km subject site.

There are 3 no. shopping centres located within 3km of the proposed development (Arcadia Retail Park, Athlone Town Centre, and Golden Island Shopping Centre) that offer convenience stores, clothing and speciality stores as well as services such as hairdressers, barbers and beauty salons. This is coupled with the main street retail offering through the centre of Athlone Town Main Street which also provides a similar commercial offering to the centres listed above.

It is considered that from the above retail facilities listed there is an appropriate provision of retail facilities within the surrounding area to provide for the proposed development. It is our considered view that there is no requirement arising from the current proposal for the provision of additional facilities within the immediate context.

### **Community Facilities**

A review of the surrounding area has confirmed the following provision of facilities:

#### **Youth Clubs**

- Gateway Youth Project
- Athlone Youth Resource Centre
- Youth Work Ireland Midlands
- St Marys Hall (Temporarily Closed)

#### **Libraries**

- Athlone Library
- AIT Library

#### **Places of Worship**

- Kingdom of Jehovahs Witnesses
- Corpus Christie Catholic Church
- River of Life Athlone Le Ceile Catholic Church
- Our Lady Queen of Peace Church
- Cherith Athlone Baptist Church
- Athlone Methodist Church
- Church of Saints Peter and Paul
- Redemption Baptist Church

#### **Community Centres**

- Brawney Community Centre
- St Kierans Community Centre
- Athlone Community Training Centre

### Theatre

- Dean Crowe Theatre
- Athlone Little Theatre
- Tonnta Street Theatre

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### Community and Social Facilities Summary

It is apparent from our review of community and social facilities, that there is an appropriate provision within the surrounding area to serve the proposed development. It is our considered view that there is no requirement arising from the current proposal for the provision of additional facilities within the immediate context.

### Sports Clubs

A review of the surrounding area has confirmed the following provision of facilities:

#### Gyms

- Athlone Regional Sports Centre
- JG Elite Gym
- AIT Sport
- Sheraton Fitness Athlone
- Smart Fitness Athlone
- Cross Fit Croi Athlone

#### Outdoor Clubs

- Southern Gaels GAA
- AC Celtic FC
- Willow Park FC
- St Mels Football Club
- Athlone Town FC
- Athlone RFC
- Buccaneers Rugby Football Club
- Custome Pitch and Putt
- Guinness Rugby Club

#### Indoor Clubs

- Hiver Muay Thai
- Na Fianna Martial Arts and Fitness Centre
- Athlone County Boxing Board

### Sports Centres

- Athlone Regional Sports Centre
- Westmeath Golf Academy Ireland

### Sports Club Summary

It is apparent from our review of the sports clubs, that there is an appropriate provision within the surrounding area to serve the proposed development. It is our considered view that there is no requirement arising from the current proposal for the provision of additional facilities within the immediate context.

### Public Parks

A review of the surrounding area has confirmed the following provision of facilities:

#### Parks

- Garrycastle Park
- Burgess Pa
- Keane Park

### Parks Summary

It is apparent from our review of parks, that there is an appropriate provision within the surrounding area to serve the proposed development. It is our considered view that there is no requirement arising from the current proposal for the provision of additional facilities within the immediate context. The Subject proposal also provides a large quantity of new landscaped parkland on appropriately zoned lands.

### Health Care

A review of the surrounding area has confirmed the following provision of facilities:

#### Medical Centres

- Newtown Medical Centre
- Ceile Medical
- Renew Health
- Little Court Medical Centre
- Medel Healthcare
- Clonbrusk Primary Care Centre

### Pharmacy

- Bretts Allcare Pharmacy
- Pure Pharmacy

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- Cooneys Pharmacy
- McGorisks Pharmacy Clonbrusk
- Whytes Pharmacy
- Boots
- McSharrys Pharmacy
- Concannons Total Health Pharmacy
- Mulhollands

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#### Health Care Summary

It is apparent from our review of health care facilities, that there is an appropriate provision within the surrounding area to serve the proposed development

It is our considered view that there is no requirement arising from the current proposal for the provision of additional facilities within the immediate context.

#### Nursing Homes

- Stella Maris Nursing Home
- Retreat Nursing Home
- Sonas Nursing Home Athlone

It is apparent from our review of Nursing homes within 3km of the Subject site that there is an appropriate provision within the surrounding area to serve the proposed development. It is our considered view that there is no requirement arising from the current proposal for the provision of additional facilities within the immediate context.

### **5.5.2 Characteristics of the Proposal**

The proposed development provides 177 no. units. Of the 177 no. units to be provided the following unit mix is noted: 24 no. 1 bed units (14%), 65 no. 2 bed units (37%), 79 no. 3 bed units (44%) and 9 no. 4 beds (5%).

The proposed mix of units is suitably balanced and provides a mix in line with surrounding local demand, and demand associated with developments of this scale. The unit number and mix is commensurate to the permitted childcare facility and residential units planned for the Cornamaddy area by the applicant under permitted and concurrent applications known as phases 1, 2, 3 and 5. The subject development represents the last phase of development lodged to Westmeath County Council as part of an overall development on the Cornamaddy lands of 422 no. units.

### **5.5.3 Potential Impact of the Proposal**

#### **Construction Phase**

The scale of the development will inevitably lead to noticeable impacts during the construction phase. These can largely be summarized as:

- Temporary increase in vehicular traffic
- Temporary increase in noise; dirt; and dust generation

- Temporary increase in employment opportunities

It is expected that short-term adverse impacts will be experienced mainly by the resident and working populations and to a lesser extent by the visiting/tourist community. The adverse impacts being considered here would generally be of a short-term nuisance nature and as such would not affect quality of life for existing residents in the long term.

#### **Operational Phase**

A proposal of this nature at the subject site would have the following potential impacts during its operational phase:

- Increase the population of the area
- Increase demand for local resources
- Increase support and demand for local businesses and services
- Increase level of local traffic
- Change the character and appearance of the subject site
- Increase critical mass capable of supporting increased public transport options

The existing and future community would experience these impacts in several ways. The growth in population of the neighbourhood may exert pressure on existing residential facilities ranging from public service facilities, community and commercial uses and schools. The existing local business community would be expected to receive increased patronage.

The community may experience a change in mobility consequent to increased congestion of the road network or actual physical development.

An alteration to the actual physical environment of the neighbourhood may affect the spatial perceptions of the community living in this area. However, it should also be noted that the increased population resultant from the proposed development will help underpin the viability of existing community, social and recreational facilities as the existing receiving community ages. The proposed development will provide new community, thus adding to the vitality of the existing community.

An increase in the residential and working population would ultimately increase the critical mass of the area and therefore provide a significant support base for the introduction of public transport systems over the longer term.

#### **Do-Nothing Impact**

A do-nothing scenario in this case would result in the perceptions of the community remaining unchanged.

### **5.5.4 Remedial and Reductive Measures**

#### **Construction Phase**

Possible adverse impacts arising from the construction phase will be mitigated by various strategies. Dust and dirt will be minimised by wheel washing of heavy vehicles and dust will be managed by spraying stockpiles when conditions are dry. It is usual to restrict construction-working hours, including construction traffic, to minimise the impact on nearby noise sensitive locations. The community will be unavoidably aware of the construction phase while it is in progress, but it is expected that any inconvenience will be minimised by the standard building controls.

### **Operational Phase**

The population increase arising from the subject proposal accords with the zoning of the site, the objectives of the Athlone Town Development Plan 2014-2020 and the relevant local and national statutory planning and guideline documents. Furthermore, it will add to the sustainability of local businesses and services. As such, no remedial measures are required.

## **5.5.5 Predicted Impact of the Proposal**

### **Construction Phase**

It is likely that any impacts during the construction phase of the subject development proposal will be temporary, mainly affecting the residential community and to a lesser extent, the working and visiting communities of the area. However, with due regard for the remedial and reductive measures proposed during the construction period, the impact of the proposed development on communities in the area will not be significant and any impact will only be short term.

### **Operational Phase**

An increase in demand for local goods and services is likely to occur as a result of the development of residential dwellings. It is expected that the character of the local area would change, resulting in the creation a new vibrant neighbourhood, contributing to the Athlone Town living environment.

### **Worst Case Impact**

The subject proposal will not produce any unacceptable, or irreversible changes in the local community. A worst-case scenario is thus not applicable in this instance.

## **5.6 Health and Safety**

### **Construction Phase**

Dust generated during the construction phase of the project will potentially impact the air quality within the immediate surrounds of the subject site. The most significant impacts are associated with excavation and construction traffic, both of which are dependent upon weather conditions.

A project-specific 'Construction and Environmental Management Plan' (CEMP) will be established and maintained by the contractor. The CEMP will also include a Waste Management Plan, prepared in accordance with the Department of Environment, Community and Local Government guidelines.

No lasting impacts are expected, and temporary impacts will be effectively managed through mitigation measures, in accordance with the CEMP, which will include a specific Dust Minimisation Plan.

### **Operational Phase**

As the proposed development includes part construction of the envisaged Distributor Road through the lands, a significant human asset, upon completion there will be significant improvements to traffic and access conditions to the North of Athlone. The full completion of this road will be subject to a separate future planning application. In addition to the above, the proposal will provide additional material assets, including SuDS water infrastructure.

## 5.7 Traffic Congestion

### **Construction Phase**

The residual impacts of the construction phase are a negative temporary impact upon the road network. It is envisaged that a construction management plan be put in place between the contractor and Westmeath County Council prior to work commencing.

This will assist with ensuring construction vehicles do not impact on the morning and evening peak periods on the local road network. The residual impacts of the operational phase on traffic will result in a negligible impact upon the surrounding road network. The development flows will not have a material impact upon the operation of the nearby junctions.

### **Operational Phase**

New pedestrian and cycle infrastructure is proposed within the development to promote sustainable travel to and from the site.

## 5.8 Interactions

A comprehensive analysis of all identified inter-related potential likely and significant impacts are addressed in specific, subject-based chapters within this EIAR. Overall, the comprehensive environmental assessments undertaken show that the proposed development will not result in any significant adverse effects upon the environment. Mitigation measures are proposed to avoid, remedy, or reduce identified impacts where necessary.

## 5.9 Monitoring

Measures to avoid negative impacts on population and human health are largely integrated into the overall design of the proposed development. Compliance with the design and layout of the proposal applied for will be a condition of the development if granted. Monitoring will be managed via the Building Regulations certification process and by the specific conditions outlined in any grant of permission. Monitoring for compliance with health and safety requirements will be undertaken by the project supervisor for the construction process.

## 6 LAND , SOILS AND GEOLOGY

### 6.1 Introduction

This chapter of the EIAR was prepared to assess the potential significant effects of the Proposed Development on the receiving land, soils, and geology on lands at Cornamaddy, Athlone, Co. Westmeath (hereafter referred to as the Site) and sets out any required mitigation measures where appropriate.

The principal objectives of this chapter are to identify:

- Land, soils, and geological characteristics of the Site;
- Potential impacts that the proposed development may have on land, soils and geology including geological heritage assessments including “worst case” scenario assessment;
- Potential constraints that these features may place on the proposed development;
- Required mitigation measures which may be necessary to prevent or minimise any adverse impacts related to the proposed development; and
- Evaluate the significance of any residual impacts.

#### 6.1.1 Quality Assurance and Competence

This chapter of the EIAR was authored by Gareth Carroll BA BAI MEnvSc, a Principal Consultant of Enviroguide Consulting with over 10 years’ experience of preparing environmental and hydrogeological and assessments of brownfield and greenfield sites for a range of project types and geological site settings.

#### 6.1.2 Description of the Proposed Development

The Proposed Development will comprise the Phase 4 construction of a residential development at Cornamaddy, Athlone, Co. Westmeath.

The full description of the Proposed Development is outlined in Chapter 2 - Description of the Proposed Development of this EIAR. The site layout for the Proposed Development is presented in Figure 6-1.

It is noted that the Proposed Development forms part of a larger / future phase of development on the surrounding lands within the ownership of the Applicant.



Figure 6-1: Proposed Development Layout

## 6.2 Study Methodology

### 6.2.1 Regulations and Guidelines

The methodology adopted for this assessment takes cognisance of the relevant guidelines in particular, the following:

- S.I. No. 92 of 2011- European Parliament and of the Council on the assessment of the effects of certain public and private projects on the environment including amendments S.I. No. 52 of 2014.
- S.I. No. 98 of 2008- European Parliament and of the Council on waste and repealing certain Directives.
- Environmental Protection Agency, May 2022. Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, 2022)
- Institute of Geologists of Ireland Guidelines, 2002. Geology in Environmental Impact Statements, A Guide (IGI, 2002).
- Institute of Geologists of Ireland Guidelines for the Preparation of Soils, Geology and Hydrogeology Chapters of Environmental Impact Statements (IGI, 2013).
- National Roads Authority, 2009. Guidelines on Procedures for the Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes (NRA, 2009).

### 6.2.2 Phased Approach

A phased approach was adopted for this EIAR in accordance with Environmental Protection Agency (EPA) and Institute of Geologists of Ireland (IGI) guidelines as set out above and is described in the following sections.

**Element 1:** An Assessment and Impact Determination stage was carried out by Enviroguide to establish the project location, type and scale of the development, the baseline conditions, and the type of land, soils and geological environment,



to establish the activities associated with the proposed development and to undertake an assessment and impact determination.

The study area, for the purposes of assessing the baseline conditions for the Land, Soils and Geology Chapter of the EIAR, extends beyond the subject site boundaries and includes potential receptors with which there may be a pathway to/from the proposed development and receptors that may be indirectly impacted by the proposed development. The extent of the wider study area was based on the IGI, 2013 Guidelines which recommend a minimum distance of 2.0km from the subject site.

A site walkover survey to establish the environmental site setting and baseline conditions at the subject site relevant to the land, soil and geology environment was undertaken by Enviroguide Consulting on the 25<sup>th</sup> July 2023.

The Element 1 stage of the assessment was completed by Enviroguide Consulting and included the review of the following sources of information:

- Environmental Protection Agency (EPA) web mapping (EPA, 2023).
- Geological Survey Ireland (GSI) Datasets Public Viewer and Groundwater web mapping (EPA, 2023).
- National Parks and Wildlife Services (NPWS) web mapping (NPWS, 2023).
- Ordnance Survey Ireland (OSI) web mapping (OSI, 2023).
- Teagasc webmapping (Teagasc, 2023).
- Information provided by the Applicant pertaining to the design proposals for the proposed development.

**Element 2:** Involves Direct and Indirect Site Investigation and Studies stage where necessary to refine the CSM (conceptual site model) developed as part of Element 1 and evaluate the potential impacts associated with the proposed development. Site investigations (including trial pitting, borehole drilling, soil sampling and laboratory analysis and soil waste classification) were undertaken by Ground Investigations Ireland in October 2022 (GII, 2022a and GII, 2022b)). The site investigation report (GII, 2022a) and waste classification report (GII, 2022b) are included in Appendix 6.1 and Appendix 6.2 of this EIAR. The results of the site investigation were used to identify and assess the land, soils and geology at the site of the proposed development.

**Element 3:** Evaluation of Mitigation Measures, Residual Impacts and Final Impact Assessment were based on the outcome of the information gathered in Element 1 and Element 2 of the assessment. Mitigation measures to address all identified adverse impacts that were identified in Element 1 and Element 2 of the assessment were considered. These mitigation measures were then considered in the impact assessment to identify any residual impacts.

**Element 4:** Completion of the Land, Soil and Geology sections of the EIAR in this Chapter which includes all the associated figures and documents.

### 6.2.3 Description of Importance of Receiving Environment

The Transport Infrastructure Ireland (TII) criteria for rating of the importance of geological features at the subject site as documented in the National Roads Authority Guidelines (NRA, 2009), are summarised in Table 6-1.

Importance	Criteria	Typical Example
<b>Very High</b>	Attribute has a high quality, significance or value on a regional or national scale. Degree or extent of soil contamination is significant on a national or regional scale. Volume of peat and/or soft organic soil underlying route is significant on a national or regional scale.	Geological feature rare on a regional or national scale (NHA). Large existing quarry or pit. Proven economically extractable mineral resource.
<b>High</b>	Attribute has a high quality, significance or value on a local scale. Degree or extent of soil contamination is significant on a local scale. Volume of peat and/or soft organic soil underlying route is significant on a local scale.	Contaminated soil on-site with previous heavy industrial usage. Large recent landfill site for mixed wastes. Geological feature of high value on a local scale (County Geological Site). Well drained and/or high fertility soils. Moderately sized existing quarry or pit. Marginally economic extractable mineral resource.
<b>Medium</b>	Attribute has a medium quality, significance or value on a local scale. Degree or extent of soil contamination is moderate on a local scale. Volume of peat and/or soft organic soil underlying route is moderate on a local scale.	Contaminated soil on-site with previous light industrial usage. Small recent landfill site for mixed wastes. Moderately drained and/or moderate fertility soils. Small existing quarry or pit. Sub-economic extractable mineral resource.
<b>Low</b>	Attribute has a low quality, significance or value on a local scale. Degree or extent of soil contamination is minor on a local scale. Volume of peat and/or soft organic soil underlying route is small on a local scale.	Large historical and/or recent site for construction and demolition wastes. Small historical and/or recent landfill site for construction and demolition wastes. Poorly drained and/or low fertility soils. Uneconomically extractable mineral resource.

Table 6-1: Criteria for Rating Site Importance of Geological Features

#### 6.2.4 Description and Assessment of Potential Impact

Impacts will vary in quality from negative, to neutral or positive. The effects of impacts will vary in significance on the receiving environment. Effects will also vary in duration. The terminology and methodology used for assessing the

'impact' significance and the corresponding 'effect' throughout this Chapter are described in Table 6-2 as per EPA,2022 Guidelines on the information to be contained in Environmental Impact Assessment Reports.

Quality of Effects / Impacts	Definition
Negative	A change which reduces the quality of the environment
Neutral	No effects or effects that are imperceptible, within the normal bounds of variation or within the margin of forecasting error.
Positive	A change that improves the quality of the environment
Significance of Effects / Impacts	Definition
Imperceptible	An effect capable of measurement but without significant consequences.
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences.
Slight	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
Moderate	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
Significant	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.
Very Significant	An effect which, by its character, magnitude, duration or intensity significantly alters a sensitive aspect of the environment.
Profound	An effect which obliterates sensitive characteristics.
Duration of Effects / Impacts	Definition
Momentary	Effects lasting from seconds to minutes
Brief	Effects lasting less than a day
Temporary	Effects lasting one year or less
Short-term	Effects lasting one to seven years
Medium-term	Effects lasting seven to fifteen years
Long-term	Effects lasting fifteen to sixty years
Permanent	Effects lasting over sixty years
Reversible	Effects that can be undone, for example through remediation or restoration

Table 6-2: Assessment of Potential Terminology and Methodology

### 6.2.5 Type of Geological Environment

The generic type of geological environment at the site of the proposed development can be determined based on the IGI guidelines (IGI, 2013) which are provided Table 6-3.

Type	Description
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<b>Type A</b>	Passive geological/hydrogeological environments (e.g., areas of thick low permeability subsoil, area underlain by poor aquifers, recharge areas, historically stable geological environments)
<b>Type B</b>	Naturally dynamic hydrogeological environments (e.g., groundwater discharges areas, areas underlain by regionally important aquifers, nearby springs rises, areas underlain by permeable subsoils)
<b>Type C</b>	Man-made dynamic hydrogeological environments (e.g., nearby groundwater abstractions, nearby quarrying or mining activities below the water table, nearby wastewater discharges to ground, nearby geothermal systems)
<b>Type D</b>	Sensitive geological /hydrogeological environments (e.g., potentially unstable geological environments, groundwater source protections zones, karst)
<b>Type E</b>	Groundwater dependent eco systems (e.g., wetlands, nearby rivers with high groundwater component of baseflow),

Table 0-3: Geological Environment Type

## 6.3 The Existing and Receiving Environment (Baseline Situation)

### 6.3.1 Site Location, Description and Surrounding Land Use

The Site is located in Cornamaddy, Athlone, Co. Westmeath and comprises 7.31 hectares (Ha) of undeveloped lands. It is noted that the Proposed Development will form part of the larger phase of permitted and Proposed Development on the 20.5Ha surrounding lands within the ownership of the Applicant. The Site of the Proposed Development will be accessed via the road permitted under Planning Ref. No. 22/253 in conjunction with the section of road permitted under Planning Ref. No. 14/7103.

The Site, which forms part of a larger / future phase of development on the surrounding lands within the ownership of the Applicant, is divided into two areas as described below:

- The larger area comprises open grassland with hedgerows and trees along the northern and western boundaries; and
- The smaller area, which is located adjacent to the north of the existing road leading to the larger area, also comprises open grassland with a row of trees adjacent to the southern boundary and along the northern boundary.

The larger area of the Site is bound to the south by open grasslands within the ownership of the Applicant which have been granted planning permission for the construction of a residential development (WMCC Planning Ref. 22/253), to the east by lands which are also within the ownership of the Applicant and are currently under construction as a residential development (WMCC Planning Ref. 22/577), to the west and north by open grasslands and a pitch and putt course.

The smaller area of the Site is bound to the north by open grasslands surrounding a detached dwelling, to the south by the access road to the existing Drumacann residential estate, to the west by open grasslands within the ownership of the Applicant and to the east by the N55 National Road and roundabout.

The Site is within the jurisdiction of Westmeath County Council. The Site forms part of the Cornamaddy Action Area Plan 2005. The Westmeath Land Use Zoning Objective Maps indicates the Site falls within the Athlone townlands, which is listed as “subject to forthcoming Urban Area Plan”. Within the 2005 plan, the Site

of the Proposed Development is located on lands which have been allocated Zoning Objectives of “Residential (Low – Medium Density)” and “Open Space”.

The Site location is presented in Figure 6-1 and the current Site layout is presented in Figure 6-2.

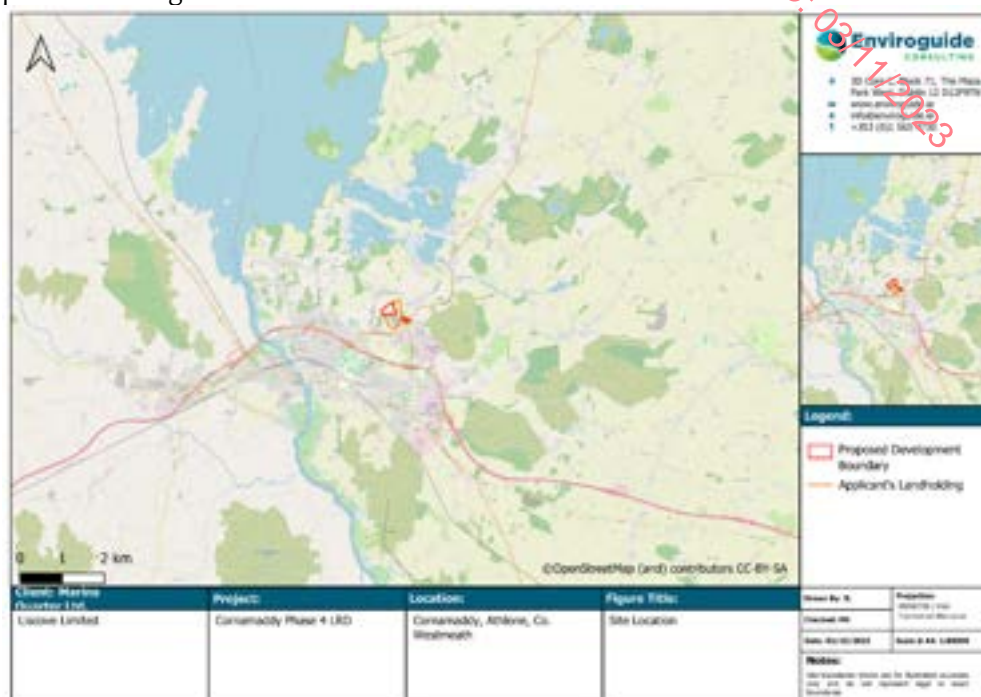


Figure 6-1: Site Location Map



Figure 6-2: Current Site Layout

### 6.3.2 Historical Land Use

Historical mapping and aerial photography available from the Ordnance Survey of Ireland website (OSI, 2023) and Google Earth (Google Earth, 2023) were reviewed and key observations on-site and off-site are summarised in Table 6-4.



Date	Information Source	Site Description
1837-1842	OSI map 6inch	<p>Onsite: Both the larger and smaller areas of the Site are shown as open fields divided by field boundaries. A drainage channel is shown along the western and northern boundaries of the larger area of the Site.</p> <p>Offsite: The surrounding lands are predominantly open fields divided by field boundaries. Forestry is present along the western boundary and to the south of the Site.</p>
1888-1913	OSI map 25inch	<p>Onsite: The Site remains undeveloped. The field boundaries throughout the larger area of the Site are now identified as drainage channels. A drainage channel is also identified along the northern boundary of the smaller area of the Site.</p> <p>Offsite: The forestry along the western boundary and to the south of the Site is no longer identified. A cemetery is identified approximately 0.07km southwest of the larger area of the Site. The drainage channel identified along the western boundary of the larger area of the Site extends south along the eastern boundary of the Cemetery. There is a gravel pit adjoining the southern boundary of the cemetery and approximately 0.33km south of the larger area of the Site. A spring is identified approximately 0.12km north of the smaller area of the Site. Cornamaddy school is identified approximately 0.06km south of the smaller area of the Site. There are a number of one-off building structures identified on the surrounding lands.</p>
1830-1930	OSI Cassini map 6inch	<p>On-site: No significant changes.</p> <p>Off-site: The gravel pit previously identified to the south of the cemetery is no longer present.</p>
1995	OSI Aerial photography	<p>Onsite: No significant changes identified.</p> <p>Offsite: There is some residential development immediately south of the smaller area of the Site. There is also significant commercial development to the south of the smaller area of the Site. There is significant residential development further southwest of the Site.</p>
2001-2005	OSI Aerial photography	<p>Onsite: No significant changes.</p> <p>Offsite: No significant changes.</p>
2006-2012	OSI Aerial photography	<p>Onsite: There are ground disturbance works identified across the smaller area of</p>



Date	Information Source	Site Description
		the Site. An access track is identified along the eastern boundary of the Site. Offsite: The residential development immediately south of the smaller area of the Site has expanded. A roadway now extends along the southern boundary of the smaller area of the Site.
2013-2018	OSI Aerial Photography	On-site: The access track previously identified along the eastern boundary of the Site is no longer identified. No other significant changes. Off-site: There is an access track located to the east of the larger area of the Site leading into a building structure (i.e., ESB Substation) located approximately 0.02km east of the Site.
2023	Google Maps Imagery	On-site: No significant changes. Off-site: No significant changes.

Table 6-4: Historical Land Use

### 6.3.3 Topography

The topographic survey of the larger area of the Site indicates that the overall topography slopes from 44.0meters above ordnance datum (mOD) at the centre to all other directions. The lowest point is located along the northern boundary at 40.0mOD. The average slope of landfall is 1 in 30 (Paul McGrail Consulting Engineers, 2023a).

The topographic survey of the smaller area of the Site indicates that the overall topography slopes to the northwest from a high of approximately 45mOD to a low of 42.5mOD.

### 6.3.4 Soils

The soils beneath the larger area of the Site have been mapped by the GSI (GSI, 2023) as follows:

- The majority of the Site is underlain by Fen peat (IFS Soil Code: FenPt); and
- The central portion and southern boundary of the Site are underlain by Lithosols, Peats (IFS Soil Code: BminSRPT) described as predominantly shallow soils derived from calcareous rock or gravels with/without peaty surface horizon. The parent material is described as Glaciofluvial sands and gravels.

The soils beneath the smaller area of the Site have been mapped by the GSI (GSI, 2023) as follows:

- Lithosols, Peats (IFS Soil Code: BminSRPT) described as predominantly shallow soils derived from calcareous rock or gravels with/without peaty surface horizon. The parent material is described as Glaciofluvial sands and gravels.

The GSI (GSI, 2023) mapped soils at the site are presented in Figure 6-4.

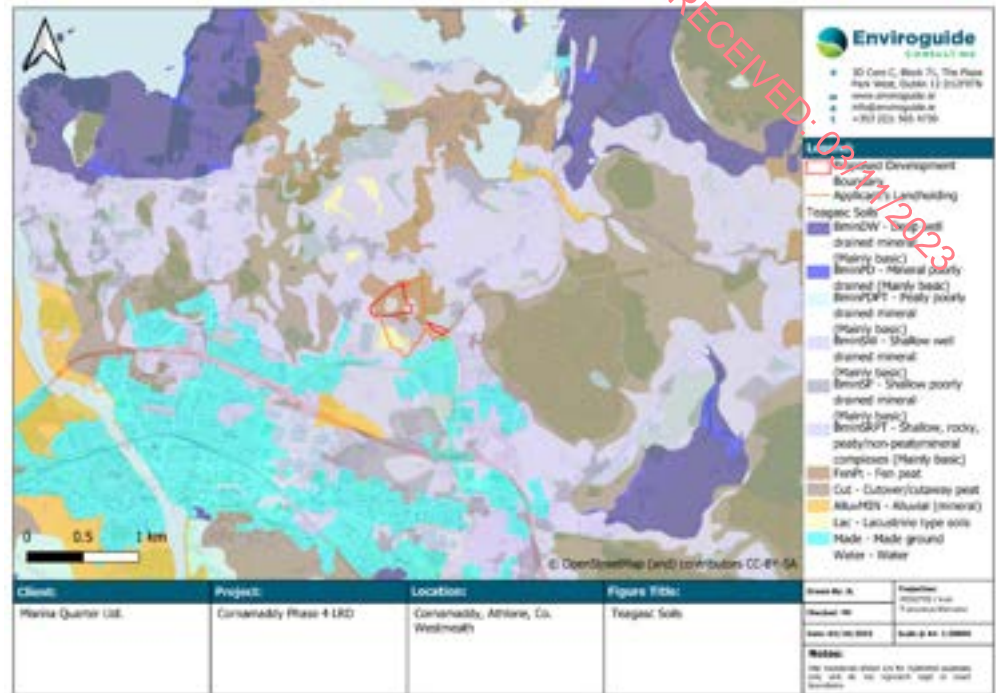


Figure 6-4: Teagasc Soils

### 6.3.5 Quaternary Geology

The quaternary sediments beneath the larger area of the Site are mapped by the GSI (GSI, 2023) as follows:

- The majority of the Site is underlain by Fen peat (FenPt);
- The central portion of the Site is underlain by gravels derived from Limestones (GLs); and
- The southern boundary of the Site is underlain by Eskers comprised of gravels of basic reaction (BasEsk)/

The soils beneath the smaller area of the Site have been mapped by the GSI (GSI, 2023) as follows:

- Gravels derived from Limestones (GLs).

The quaternary geology at the Site is presented in Figure 6-5.

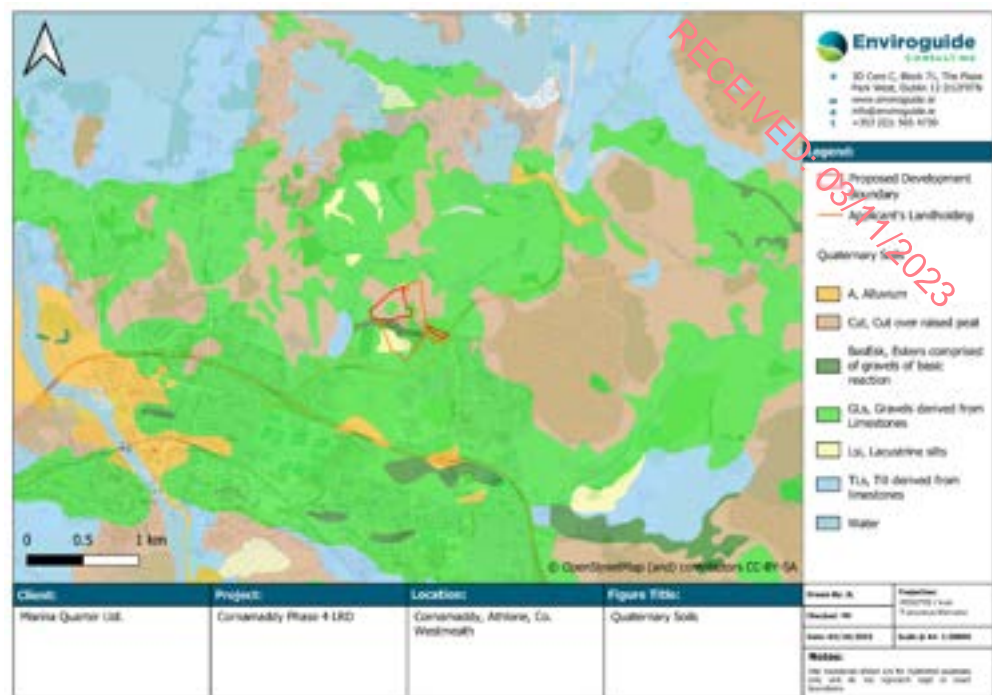


Figure 6-5: Quaternary Sediments

### 6.3.6 Quaternary Geomorphology

There is a deglacial landform, hummocky sand and gravel, mapped within the central portion, in the southeast corner and along the western boundary of the larger area of the Site and across the entire smaller area of the Site. There is also a meltwater landform, an esker ridge classified as a long bead subglacial tunnel fill mapped by the GSI (GSI, 2023) along the southern boundary of the larger area of the Site.

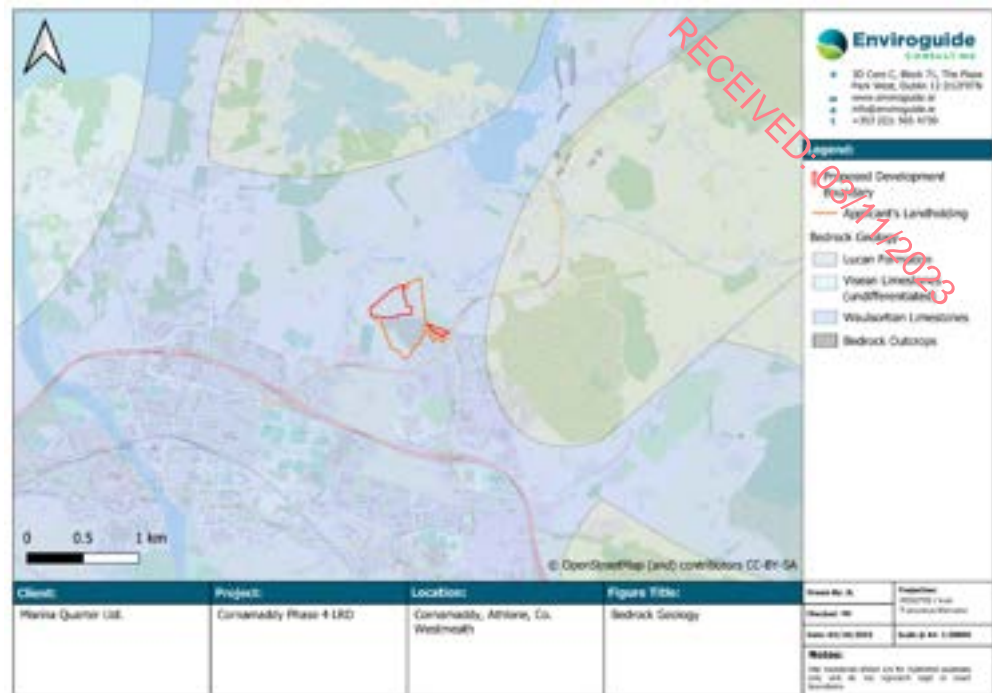
### 6.3.7 Bedrock Geology

The bedrock beneath the Site is mapped by the GSI (GSI, 2023) as the Waulsortian Limestones (Stratigraphic Code: WA, New Code: CDWAUL) which is comprised of massive, un-bedded lime-mudstone. The Waulsortian limestones are over 1200m thick in the Shannon Estuary area but more typically 300-500m thick.

The Lucan Formation (Stratigraphic code: LU, New Code: CDLUCN) which is comprised of dark limestone and shale is mapped by the GSI (GSI, 2023) approximately 0.32km east and 1.12km north of the Site.

There are no bedrock outcrops mapped within the Site or within a 2km radius of the Site.

The GSI bedrock geology map is presented in Figure 6-6.



**Figure 0-1: Bedrock Geology Map**

### 6.3.8 Site Investigation Results

The soils and geology encountered during the site investigation (GII, 2022a) are available in Appendix 6.1 of this EIAR, and are summarised as follows:

- Topsoil (engineer's description) was encountered in many of the site investigation locations and was present to a maximum depth of 0.40 meters below ground level (mbGL);
- Peat was encountered from ground level at most site investigation locations from depths ranging between 0.20mbGL to 4.60mbGL and was generally described as dark brown slightly gravelly clayey pseudo fibrous PEAT. It is noted that the results of the dynamic probes indicate the peat or very soft cohesive deposits may extend to depths of over 6.00mbGL (GII, 2022a);
- Made Ground was encountered to depths ranging from 0.50m to 1.20m BGL at site investigation locations TP-01 and TP-02 in the smaller area of the Site and at TP-11 and TP-12 in the southern portion of the larger area of the Site. The made ground deposits were described generally as 'greyish brown / brown slightly sandy gravelly silty Clay with occasional cobbles and boulders' and contained rare fragments of plastic. It is noted that TP-01 located in the southern area of the Site had the most anthropogenic material with occasional fragments of metal, timber, concrete, and steel also noted;
- The Peat and Made Ground deposits were observed to be underlain by grey / grey mottled brown slightly sandy slightly gravelly silty CLAY or Grey slightly sandy slightly gravelly clayey SILT with occasional to many cobbles and boulders to a maximum depth and final extent of investigation at 3.4mbGL (TP-06);
- Grey slightly sandy slightly clayey slightly silty subangular to subrounded fine to coarse GRAVEL with many cobbles or grey / greyish brown slightly gravelly clayey silty fine to coarse SAND was encountered below the Clay / Silt unit at site investigation locations TP-

- 09, TP-11, TP18 and TP-19 from 2.3mbGL to a maximum depth and the final extent of investigation at 2.8mbGL (TP-09); and
- Bedrock was not encountered during the site investigation which extended to a maximum depth of 3.4mbGL.

Groundwater was encountered at thirteen (13No.) of the nineteen (19No.) site investigation locations at depths ranging between 0.5mbGL and 3.0mbGL. It is noted that groundwater was not encountered at site investigation locations TP-01, TP-10, TP-12, TP-14, TP-15 and TP-18 (refer to Chapter 7 for further information on groundwater).

#### 6.3.8.1 Soil Analytical Results

Soil analytical data for soil samples collected across the Site are provided in the in the site investigation report (GII, 2022a) and waste classification report (GII, 2022b) available in Appendix 6.1 and Appendix 6.2 of this EIAR.

As documented in the in the site investigation report (GII, 2022a) , a total of twelve (12No.) soil samples collected were analysed for a suite of parameters suitable to determine the suitability of soils for disposal to a landfill.

Based on the soil and soil leachate analysis results, all twelve (12No.) samples were classified as non-hazardous using HazWasteOnline™ software and meet the meet the waste acceptance criteria (WAC) for non-hazardous landfills as stipulated in the European Landfill Directive (Council Directive 1999/31/EC of 26 April 1999). Eight (8No.) of the twelve (12No.) samples also meet the waste acceptance criteria (WAC) for inert landfill.

Based on a review of the results, there is little evidence of significant anthropogenic contamination in sampled soils:

- The reported concentration of benzene, toluene, ethylbenzene, m/p-xylene and o-xylene (BTEX) were less than the laboratory Limit of Detection (LOD) at all sample locations;
- The reported concentrations of Polycyclic Aromatic Hydrocarbons (PAHs) were less than the laboratory LOD at all sample locations;
- The reported concentration of Polychlorinated Biphenyl (PCBs) were less than the laboratory LOD at all sample locations;
- Low levels of mineral oil were reported at one (1No.) sample location (TP-07 (1.1-2.3)) with a concentration of 221mg/kg. The reported concentrations of mineral oil at remaining sample locations were below the LOD;
- Low levels of Total Petroleum Hydrocarbons (TPH) were reported at one (1No.) sample location (TP-07 (1.1-2.3)) with a concentration of 316mg/kg. The reported concentrations of TPH at remaining sample locations were reported below the LOD; and
- Asbestos in all twelve (12No.) samples were reported as No Asbestos Detected (NAD).

The reported analytical results indicate that the soil is generally free from anthropogenic contamination and the trace Mineral Oil / TPH result reported for one sample is not indicative of heavily contaminated soil and would not be considered to pose an environmental risk. All TPH results are below published soil Generic Assessment Criteria (GAC) for human health risk assessment (LQM/CIEH, 2015; CL:AIRE, 2014, CL:AIRE 2010) and soil at the Site would therefore not pose any risk to human health for future occupants of the Site.



### 6.3.9 Geochemical Domain

The GSI along with the EPA have developed geochemically appropriate levels (GALs) for soil recovery facilities across Ireland specifically in relation to metals and metalloids in uncontaminated soil and stone (GSI, 2023). There are a total of seven defined domains across the country. The GSI (GSI, 2023) defined Geochemical Domains map indicates that the Site of the Proposed Development is located within Domain 2 which is characterised as “carboniferous limestone, shale and related rocks”.

A summary of the metals values for Domain 2 are presented below in Table 6-5.

Element	Units	Value
Arsenic	mg/kg	24.9
Cadmium	mg/kg	3.28
Chromium	mg/kg	50.3
Copper	mg/kg	63.5
Mercury	mg/kg	0.36
Nickel	mg/kg	61.9
Lead	mg/kg	86.1
Zinc	mg/kg	197

Table 6-5: Geochemically Appropriate Levels for Domain 2

### 6.3.10 Radon

The Proposed Development Site is mapped by the EPA (EPA, 2022) as being in an area where “about 1 in 10 homes in this area is likely to have high radon levels”.

The EPA cite the reference level for radon as 200 Bq/m<sup>3</sup> and a High Radon Area where more than 10% of homes may have more than the reference level of radioactivity. As up to 10% of the houses in the area are mapped by the EPA as being over this reference level it indicates that the Site is not considered a High Radon Area however, it is noted that a high radon level can be found in any home, in any part of the country.

### 6.3.11 Geohazards

The GSI (GSI, 2023) records for karst features indicate there is a cave located approximately 2.0km northwest of the Site. The karst feature is mapped within the Lucan Formation.

The GSI (GSI, 2023) indicates that the Site is located within an area of ‘Low’ or ‘inferred Low’ on the landslide susceptibility classification map. There are no recorded landslides within a 2.0km radius of the Site.

In Ireland, seismic activity is recorded by the Irish National Seismic Network operated by Dublin Institute for Advanced Studies (DIAS) which has been recording seismic events in Ireland since 1978. There are six permanent broadband seismic recording stations in Ireland operated by DIAS. Records since 2010 show that the majority of recorded seismic events were associated with quarry blasts and no recent events have been recorded within 2.0km of the Site.



### 6.3.12 Geological Heritage Sites

A review of the GSI Geological Heritage Database (GSI, 2023) indicates two geological heritage Sites located within 2.0km radius of the Site as summarised in Table 6-6 and shown in Figure 6-7.

Site Name	Site Code	Location	Distance from Site (km)	Geological Importance
Tullin Mushroom Rock	WH027	Northwest	1.3	An isolated, single, undercut limestone mushroom rock, situated in woodland

Table 6-6: Geological Heritage Sites

As mentioned in Section 6.3.6, an esker ridge classified as a long bead subglacial tunnel fill, is mapped by the GSI (GSI, 2023) along the southern boundary of the larger area of the Site. The esker is not mapped or listed in the GSI Geological Heritage Database and not included in the Geological Heritage of County Westmeath audit report in 2019 (GSI, 2019). The document provides a note on Esker Conservation in County Westmeath noting that ‘many of the best examples of eskers in County Westmeath have been extensively quarried, to such an extent that little of them actually remain anymore....it is imperative that a balance is found between geological heritage conservation and aggregate extraction in the future to ensure that the best examples of our eskers are protected’. It is noted that the esker identified along the southern boundary of the larger area of the Site will not be excavated as part of the Proposed Development.

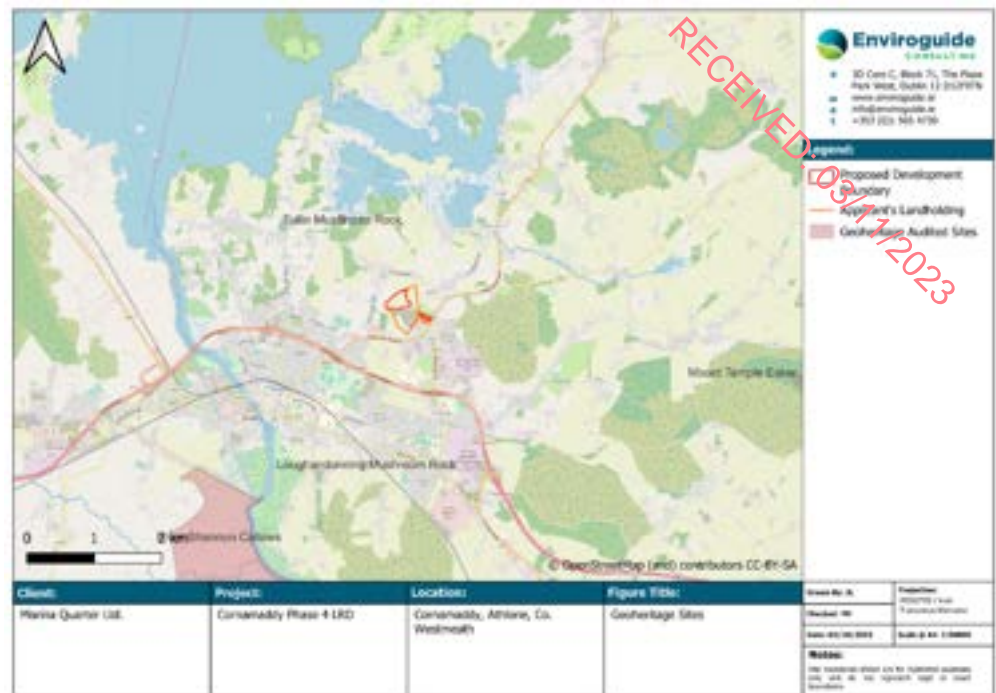


Figure 6-7: Geological Heritage Sites

### 6.3.13 Economic Geology

The granular and crushed rock potential mapped by the GIS (GSI, 2023) beneath the larger area of the Site is summarised as follows:

- The lands beneath the majority of the Site have no mapped granular aggregate potential;
- The lands beneath the central portion and the southern boundary of the Site have a 'moderate' granular aggregate potential;
- The lands beneath the Western and eastern boundaries of the Site have a 'very high' granular aggregate potential; and
- The lands beneath the entire Site have a 'low' potential for crushed rock aggregate.

The granular and crushed rock potential mapped by the GIS (GSI, 2023) beneath the smaller area of the Site is summarised as follows:

- The lands beneath the Site have a 'very high' granular aggregate potential; and
- The lands beneath the entire Site have a 'low' potential for crushed rock aggregate.

The granular aggregate potential map is presented in Figure 6-8.

There are a number of historical pits and quarries mapped by the GSI (GSI, 2023) located within a 2km radius of the Site which are listed below in Table 6-7. There are no historical pits and quarries within the Site boundary and the closest is a historic pit located approximately 0.33km south of the Site.

Name/Type	Status/ Age	Distance from Proposed Development(km)	Location from Site
Pit	Historic	1.17	East
Pit	Historic	1.26	East
Quarry	Historic	1.96	Northeast
Pit	Historic	1.2	Northeast
Pit	Historic	0.33	South
Quarry	Historic	1.26	West
Pit	Historic	1.94	Southwest
Pit	Historic	1.95	Southwest
Pit	Historic	1.70	Southwest
Pit	Historic	1.78	Southwest
Pit	Historic	1.71	Southwest
Pit	Historic	1.73	South
Pit	Historic	1.62	South

Table 6-7: Pits and Quarries within a 2km radius of Site

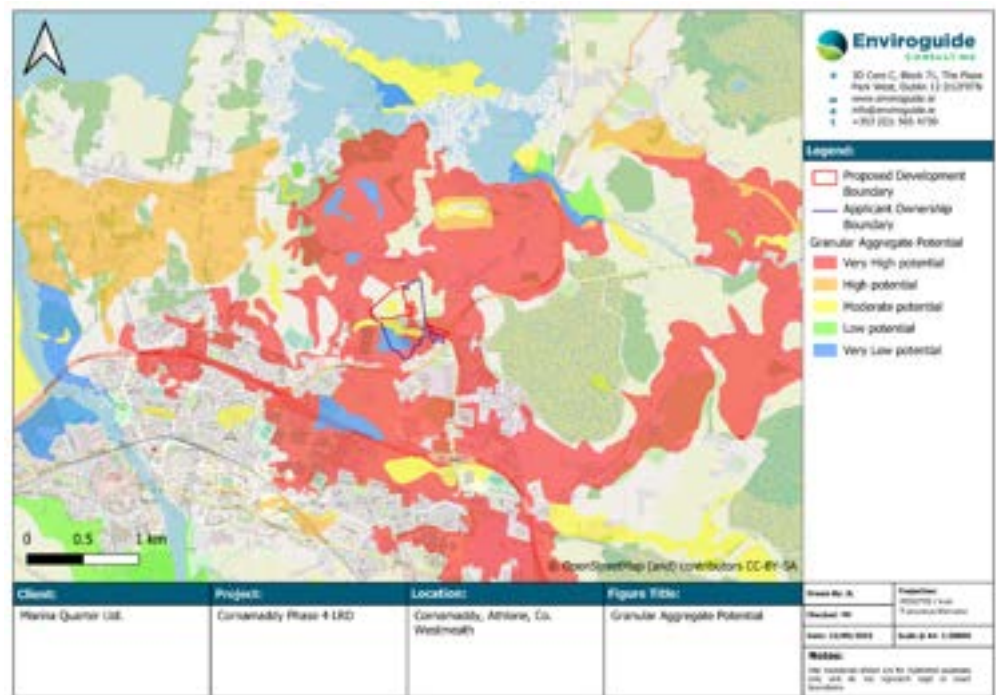


Figure 0-8: Granular Aggregate Potential

#### 6.3.14 Importance of the Receiving Environment

In accordance with the criteria in Table 6-1, the soil and geology underlying the Proposed Development Site is rated as an attribute of ‘medium’ as the gravels beneath the Site are a sub-economical extractable mineral resource.

Based on IGI, generic types of geological environment (Table 6-3), the Site is considered to include a sensitive geological environment (presence of esker along the southern boundary of the larger area of the Site) (Type D).

## 6.4 Characteristics of the Proposed Development

The characteristics of the Proposed Development are set out in detail in Chapter 2 of this EIAR. The following components are of particular relevance with respect to land, soils and geology.

### 6.4.1 Construction Phase

The construction Phase of the Proposed Development will require:

- Foundation solutions will be designed to suit the ground conditions and will include raft, pad, strip or piled foundations.
- Excavation of soil and subsoil to reduce levels for the construction of building foundations, surface water and foul water drainage, roads, car parking areas and all ancillary works. Preliminary cut and fill analysis outlined in the Construction Waste Management Plan (Paul Mc Grail, 2023b) indicates the following approximate volumes will be excavated during construction:
  - Topsoil – 14,600m<sup>3</sup>
  - Sub grade material – 26,198m<sup>3</sup>
- There will be no requirement for the excavation of bedrock during the Construction Phase of the Proposed Development.
- Temporary stockpiling of excavated material pending re-use onsite.
- Excavated material that cannot be reused onsite will be removed by authorised permitted (NWCPO) hauliers and consigned for reuse at other local development sites, recovery and disposal will be considered as a final option only.
- The Proposed Development will include the importation of aggregates for the construction of roads and other infrastructure.
- The esker identified along the southern boundary of the larger area of the Site be retained on Site during Construction and Operation Phase of the Proposed Development.

### 6.4.1 Operational Phase

During the Operational Phase, the Proposed Development will be accessed via the road permitted under Planning Ref. No. 22/253 in conjunction with the section of road permitted under Planning Ref. No. 14/7103.

The Operational Phase of the Proposed Development consists of the typical activities in a residential development and with the exception localised gardening works by residents, there will be no bulk excavation of soils or bedrock or infilling of waste.

There will be no requirement for bulk storage of petroleum hydrocarbons-based fuels during the Operational Phase as the main operating system for heating will be air to water heat pump and further details are provided in Chapter 14 of this EIAR.

With the exception of rainfall on landscaped areas of the Proposed Development Site and small quantities of rainfall to Sustainable Drainage System (SuDS) features, there will be no discharges to ground during the Operational Phase of the Proposed Development.

## 6.5 Potential Impact of the Proposed Development

The procedure for determination of potential impacts on the receiving land, soils and geology is to identify potential receptors within the Site boundary and

surrounding environment and use the information gathered during the desk study and Site walkover to assess the degree to which these receptors will be impacted upon in the absence of mitigation.

The potential impacts associated with the Construction phase and Operation phase of the Proposed Development are summarised below.

#### **6.5.1 Construction Phase**

##### **6.5.1.1 Land Take and Land-use**

The Proposed development, which forms part of a phase of permitted and proposed development on the surrounding 20.5Ha lands within the ownership of the Applicant, will require land take of 7.31Ha and will change from undeveloped land to residential land use. The change in land use is in accordance with the zoning objectives as set out in the Cornamaddy Action Area Plan – 2005 (WMCC, 2005). There will be an unavoidable land take with loss of undeveloped lands and soil with a ‘negative’ ‘moderate’ and ‘permanent’ impact taking account of the surrounding land and zoning objectives.

##### **6.5.1.2 Excavation and Removal of Soil and Subsoil**

There will be unavoidable loss of in-situ soils and subsoils from the Site during the construction of the Proposed Development.

The soils underlying the Proposed Development are considered to be of ‘medium’ importance. The construction of the Proposed Development will require excavation of approximately 14,600m<sup>3</sup> topsoil and 26,198m<sup>3</sup> sub grade material for the construction of building foundations, surface water and foul water drainage, roads, car parking areas and all ancillary works. Where possible, it is intended to retain and re-use the excavated soil and subsoil on the subject site for engineering fill and landscaping. However, it is anticipated that surplus material will require removal offsite. Accordingly, there will be a ‘negative’, ‘slight’ and ‘permanent’ impact at the Site of the Proposed Development.

Any material not suitable for re-use onsite will be removed offsite in accordance with the procedures outlined in the CWMP (Paul Mc Grail, 2023b) and all applicable statutory requirements. This may include where suitable, removal as by-products that meet the legislative requirements of Article 27 of the European Communities (Waste Directive) Regulations, 2011. The potential impact with removal offsite of surplus soil and other material as wastes is assessed in Chapter 13 of this EIAR.

##### **6.5.1.3 Soil Quality and Contamination**

The Site currently comprises undeveloped lands. The previous site investigation report (GII, 2022) has identified localised areas of made ground across the Site. There will be a requirement for the excavation and removal of soil including made ground with some localised soils impacted with low levels of anthropogenic contamination (i.e., petroleum hydrocarbons – refer to Section 6.3.8.1) and permanent removal off-site that will result in a ‘positive’, ‘slight’ and ‘permanent’ impact on the quality of shallow soils underlying the Site. It is noted that the excavation and re-use of soil onsite will be subject to control procedures which will include soil quality testing to ensure suitability for use onsite and in accordance with engineering and environmental specification for the Proposed Development. It is noted that based on available soil analytical data (GII, 2022) there is no identified environmental or human health risk associated with the existing soil condition at the Site for the proposed residential use.

There is a potential risk associated with the use of cementitious materials during construction of building foundations, utility infrastructure and other in ground works at the Site. It is considered that this may result in a 'negative', 'moderate' and 'long-term' impact on existing quality of soil within a localised area underlying the Site.

The potential accidental release of deleterious materials including fuels and other materials being used onsite, through the failure of secondary containment or a materials' handling accident on the Proposed Development could potentially result in a 'negative', 'moderate to significant', 'long-term' impact on the receiving soil and geology depending on the nature of the incident.

#### **6.5.1.4 Soil Structure**

The excavation and re-use of soil at the Site will result in the exposure of the materials to various elements including weather and construction traffic. The temporary stockpiling of soils and subsoils pending reuse onsite will have a potential 'negative', 'slight' and 'long term' impact' on the natural strength of the materials.

#### **6.5.1.5 Geological heritage**

There is an esker identified along the southern boundary of the larger area of the Site. However, there is no proposal for excavation of the esker, which will be retained onsite. Thus, the impact of the Proposed Development on the Geological heritage will be "neutral" "imperceptible" and "Long-term".

#### **6.5.1.6 Importation of Aggregates**

The Proposed Development will require the importation of aggregates for the construction of roads and utility infrastructure. The potential impacts may include loss of attribute and changes in the geological regime at the source site. It is anticipated that the required aggregates identified for importation onsite will be 'indirect' and have a 'indirect', 'neutral,' 'imperceptible' and 'permanent' impact on the source site taking account of the fact that the statutory consent process would have required the necessary environmental impacts to be assessed and mitigated as appropriate at the source site.

In the unlikely event that aggregate materials are sourced from unlicensed or unauthorised sources, it may result in the importation of contaminated materials, uncertified materials, or material not suitable for use at the Proposed Development. In the unlikely event of the importation of contaminated materials onsite, there would be a 'negative', 'moderate to significant' and 'long term' impact on the receiving lands, soil and geology at the Proposed Development.

#### **6.5.2 Operational Phase**

During the operational phase of the Proposed Development there is a limited potential for any direct adverse impact on the receiving land, soil and geological environment at the site taking account of the design for the Proposed Development.

The design and construction of the proposed development in accordance with current Building Regulations will ensure that the site will be suitable for use for operational phase as a residential development taking account of the geological site setting.



The site has not been identified as being located within a high radon area. However, standard design measures including appropriate radon membranes will be incorporated into the design of building in accordance with relevant Building Regulations.

### 6.5.3 Potential Cumulative Impacts

Cumulative Impacts can be defined as “impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project”. Effects which are caused by the interaction of effects, or by associated or off-site projects, are classed as indirect effects. Cumulative effects are often indirect, arising from the accumulation of different effects that are individually minor. Such effects are not caused or controlled by the project developer.

As part of this assessment, other offsite developments and proposed offsite developments were reviewed and considered for possible cumulative effects with the Proposed Development. Table 6-8 details the projects which are existing, proposed and granted planning permissions on record in the surrounding area.

PLANNING REFERENCE	PLANNING AUTHORITY	STATUS	LOCATION
2360074	Westmeath County Council	Decision Pending	0.1km East
<p>Planning permission was sought for a development consisting of a 10-year permission for the provision of a total of 332no. residential units along with provision of a crèche. Particulars of the development comprise as follows: (a) Site excavation works to facilitate the proposed development to include excavation and general site preparation works. (b) The provision of a total of 172no. 2storey residential dwellings which will consist of 152no. 3 bed units and 20no. 4 bed units. (c) The provision of a total of 160no. apartments/duplex units consisting of 36no.1 bed units, 99no.2bed units and 25no. 3bed units. The apartment blocks range in height from 2 storey to 4 storey and the duplex blocks range from 2 storey to 3 storey in height. (d) Provision of a 2 storey creche. (e) Provision of associated car parking at surface level via a combination of in-curtilage parking for dwellings and via on-street parking for the creche, duplexes and apartment units. (f) Provision of electric vehicle charge points with associated site infrastructure ducting to provide charge points for residents throughout the site. (g) Provision of associated bicycle storage facilities at surface level throughout the site and bin storage facilities. (h) The provision of a new link road via adjacent lands to the west to provide for vehicular, pedestrian and cyclist access. (i)The provision of internal culverts and associated bridges along with a realignment of a section of an existing drainage channel within the site to facilitate internal access roads along with associated crossing points across the drainage channel (to facilitate pedestrian, cyclist and vehicular crossing points). (j)The creation of a pedestrian footpath alongside the local road which will connect to the existing footpath aligning the N55 National road; (k)Provision of associated open space areas, residential communal open space areas to include formal play areas along with all hard and soft landscape works for private gardens and amenity spaces along with public lighting, planting and boundary treatments to include boundary walls, railings &amp; fencing; (l)Provision of 2no. ESB substations. (m)Internal site works and attenuation systems. (n)All ancillary site development/construction works to facilitate foul, water and service networks for connection to the existing foul, water and ESB networks.</p>			
2360047	Westmeath County Council	Granted Conditional	Directly South of the

PLANNING REFERENCE	PLANNING AUTHORITY	STATUS	LOCATION
			<b>Proposed Development</b>
<p>Planning permission was sought for a development at a site of total c.1.13ha on lands located at Cornamaddy, Athlone, Co. Westmeath. The site is generally bounded to the west by greenfield lands and Cornamagh Cemetery, to the north by greenfield lands, to the south by greenfield lands and the Ballymahon Road (N55) and to the east by the existing Drumaconn housing estate. The development will consist of modifications to the permitted application WMCC Reg. Ref. 14/7103/ ABP Ref. PL25.244826 and concurrent application WMCC Reg. Ref. 22/577 to include the following: Removal of the permitted creche c.260sqm and associated parking granted under WMCC Reg Ref. 14/7103/ ABP Ref. PL25.244826. The recently permitted creche granted under WMCC Reg. Ref. 22/340 will regularize childcare provision on site. The remaining area will form part of the public open space associated with the wider development at Cornamaddy (c.710sqm). Associated minor landscape revisions to the concurrent application WMCC Reg. Ref. 22/577; Provision of 6 no. additional houses comprising 4 no. Type A1 4-5 bed 2-3 storey semi-detached units (c.166sqm area each) and 2 no. Type B 3 bed 2 storey semi-detached units (c.113sqm area each). All with associated rear gardens and 2 no. parking spaces per unit. No new house types are proposed under this application; Relocation and minor alterations including changes to the floor levels, house plots and associated gardens and boundary treatments of the remaining units comprising 4 no. Type A1 4-5 bed 2-3 storey semi-detached units (c.166sqm area each), 2 no. Type B 3 bed 2 storey semi-detached units (c.113sqm area each), 1 no. Type D 5 bed 2-3 storey detached unit (c. 215sqm area) and 2 no. Type E1 3 bed 2 storey semi-detached units (c.112sqm area each) permitted under WMCC Reg. Ref. 14/7103/ ABP Ref. PL25.244826. No changes to the permitted floor area of these units; Minor modifications to the concurrent application WMCC Reg. Ref. 22/577 to include reconfiguration and relocation of the main access roads south of the planned distributor road. Readjustment of the internal shared access road parallel to the distributor road permitted under WMCC Reg. Ref. 14/7103/ ABP Ref. PL25.244826; All associated site development works, services provision, connection to water services and connection to the section of the distributor road proposed under WMCC Reg. Ref. 22/577, public open space (c.600sqm), landscaping, boundary treatment works and car parking provision.</p>			
<b>22577</b>	<b>Westmeath County Council</b>	<b>Decision pending</b>	<b>Directly south of Proposed Development</b>
<p>A 5 year permission was sought for a development at a site of total c.10.87 ha on lands located at Cornamaddy, Athlone, Co. Westmeath. The site is generally bounded to the west by greenfield lands and Cornamagh Cemetery, to the north by greenfield lands, to the south by greenfield lands and the Ballymahon Road (N55) and to the east by the existing Drumaconn housing estate. The development will comprise of a residential development and public open space comprising the following: Amendments to permitted application WMCC Reg Ref. 14/7103 ABP Ref. PL25.244826 for the removal of 38 no. permitted units (not constructed) to be replaced by: Construction of 70 no. residential units comprising: 4 no. 2 bed terraced houses (c.78 sq.m each), 60 no. 3 bed semidetached (c. 96-116 sq.m each) and 6 no. 4 bed semidetached houses (c. 147 sq.m each) with associated private gardens. The creche facility, public open spaces, landscaping, roads layouts, car parking, boundary treatment works, public lighting and all associated site works associated with the 87 no. remaining units retained as permitted under WMCC Reg Ref. 14/7103 ABP Ref. PL25.244826 will remain unchanged. All pedestrian and vehicular access roads and footpaths including a section of the planned east/west distributor road connecting to a sections of the distributor road permitted under WMCC Reg. Refs 14/7103 ABP Ref. PL25.244826 and 22/253 to the east of the site. All associated site development works, services provision, drainage works, public open space (c.1.03ha), landscaping, boundary treatment works, public lighting, associated ESB substation cabinets, bin stores, car and bicycle parking provision.</p>			

PLANNING REFERENCE	PLANNING AUTHORITY	STATUS	LOCATION
22253	Westmeath County Council	Granted – Conditional	Directly east of Proposed Development
<p>Planning permission was sought for a development consisting of the following: Construction of 75 no. residential units comprising: 51 no. 2 storey semi-detached and terraced houses (consisting 4 no. 2 bed houses and 47 no. 3 bed houses, ranging in size from c.78 sq.m – 120 sq.m each), and 24 no. 3 storey apartment/duplex units (consisting 12 no. 2 bed apartments and 12 no. 3 bed duplexes, ranging in size from 84sq.m to 121 sq.m each), with associated private gardens and east/west facing terraces; All pedestrian and vehicular access roads and footpaths including a section of the planned east/west distributor road connecting to a section of the distributor road permitted under WMCC Reg. Ref. 14/7103/ ABP Ref. PL25.244826 to the south east of the site. All associated site development works, services provision, drainage works, residential open space (c.o.28ha) and public open space (c.o.82ha), landscaping, boundary treatment works, public lighting, 1 no. ESB substation cabinets, bin stores, car and bicycle parking provision; Provision of a new detention basin on the eastern portion of the site designed to cater for the proposed development, in lieu of the drainage works permitted under WMCC Reg. Ref. 14/7103 / ABP Ref. PL 25.244826.</p>			
22340	Westmeath County Council	Granted – Conditional	Within redline boundary
<p>Planning permission was sought for a development consisting of the following: Construction of a two Storey childcare facility, including classrooms, reception, kitchen, associated staff areas and office, toilets, storage, plant rooms, circulation areas and photovoltaic panels at roof level (c.668sqm total gross floor area); The proposed facility includes a secure outdoor play area(c. 595 sqm), 18 no. car parking spaces and 20 no. bicycle parking spaces; Existing vehicular access onto the existing link road and provision of an internal access road, footpaths and 2 no. pedestrian access points; All associated site development works, service provision, drainage works, landscape and boundary treatment works and public lighting.</p>			
177224	Westmeath County Council	Granted – Conditional	Approx. 20m south of Proposed Development
<p>Planning permission was sought for the development of 7 no new dwellings to include 3 no 5 bedroom detached houses and 2 no 4 bedroom detached houses with optional fifth bedroom/study and 2 no 4 bedroom semidetached houses with optional fifth bedroom/study and all associated site development works including road networks, services, landscaping, and boundary treatments.</p>			
147103	Westmeath County Council	Granted – Conditional	Approx. 15m south of Proposed Development
<p>Planning permission was sought for the construction of 98 no. new dwellings to include 11 no. 4/5 bedroom detached houses, 28 no. 4/5 bed semi-detached houses, 8 no. 3 bedroom detached houses, 34 no. 3 bedroom semi-detached houses, 8 no. 2/3 bedroom terraced houses, 3 no. 2 bedroom houses and 6 no. 2-bedroom bungalow houses. The development includes the provision of all associated site development works including road networks, services, landscaping and boundary treatments.</p>			

Table 6-8: Relevant Planning Applications in vicinity of Site

Excavated soil and subsoil during the Construction Phase of the Proposed Development could potentially be directed to the same receiving waste facilities for recovery / disposal as excavated materials from other developments detailed in Table 6-8 and within the wider Athlone area. All surplus soils and subsoils from the Site will be removed offsite in accordance with the CWMP (Paul Mc Grail Consulting Engineers, 2023b) and all statutory legislation. Accordingly, it is considered that any cumulative impact on lands, soils and geology associated with the Proposed Development will be 'neutral', 'imperceptible' and 'permanent'.

There are no other cumulative impacts on land, soil or geology associated with the Construction Phase and Operational Phase of the Proposed Development.

#### 6.5.4 “Do Nothing” Impact

The 'Do Nothing' scenario assesses the potential impact on the receiving land, soils, and geological environment if the Proposed Development did not proceed.

It is considered that there would be no change or resulting impact on the nature of the Site with respect to land, soil and geology at the Site which would remain as undeveloped lands.

However, the land-use is zoned as 'Residential (Low – Medium Density)' and 'Open Space' in accordance with the Cornamaddy Action Area Plan 2005 (WMCC, 2005). As such is reasonable to assume another similar development proposed for the lands could be brought forward for the Site. This would require a separate assessment or EIAR applicable to the relevant scheme design.

### 6.6 Avoidance, Remedial & Mitigation Measures

The mitigation measures as outlined below, will ensure that there will be no significant impact on the receiving land, soil and geology.

#### 6.6.1 Construction Phase

The Construction Environmental Management Plan (CEMP) (Paul Mc Grail Consulting Engineers Limited, 2023c) has been prepared as part of the planning application. Following appointment, the contractor will be required to further develop the CEMP to provide detailed construction phasing and methods to manage and prevent any potential emissions to ground with regard to the relevant industry standards including:

- Construction Industry Research and Information Association (2015) Environmental good practice on site guide (CIRIA -C741).
- Construction Industry Research and Information Association, 2001. Control of Water Pollution from Construction Sites. Guidance for Consultants and Contractors (CIRIA – C532).

The CWMP (Paul Mc Grail Consulting Engineers Limited, 2023b) includes estimated quantities of different types of waste associated with works and re-use (on-site and offsite), to be recycled (on-site and off-site) and to be removed from the Site for appropriate disposal.

The CEMP and CWMP will be implemented for the duration of the Construction Phase, covering construction and waste management activities that will take place during the Construction Phase of the Proposed Development.

#### 6.6.1.1 Export of Soil

All surplus materials and any waste will be removed off-site in accordance with the waste classification report (GII, 2022b), requirements outlined in the CEMP (Paul Mc Grail Consulting Engineers Limited, 2023c) and will be managed in accordance with all legal obligations. It will be the contractor's responsibility to either; obtain a waste collection permit or, to engage specialist waste service contractors who will possess the requisite authorisations, for the collection and movement of waste off-site.

The re-use of soil and subsoil offsite will be undertaken in accordance with all statutory requirements and obligations including where appropriate re-use as by-product in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011 (SI No. 126 of 2011) as amended.

Any surplus material not suitable for re-use as a by-product and other waste materials arising from the Construction Phase will be removed offsite by an authorised contractor and sent to the appropriately authorised (licensed/permitted) receiving waste facilities. As only authorised facilities will be used, the potential impacts at any authorised receiving facility sites will have been adequately assessed and mitigated as part of the statutory consent procedures.

Any waste soils will be transported under a valid waste collection permit issued under the Waste Management (Collection Permit) Regulations 2007, as amended and will be delivered to an appropriately authorised waste management facility. Materials and waste will be documented prior to leaving the site. All information will be entered into a waste management register kept on the site.

Vehicles transporting material with potential for dust emissions to an off-site location shall be enclosed or covered with a tarpaulin at all times to restrict the escape of dust.

Public roads outside the Site will be regularly inspected for cleanliness and cleaned as necessary. The main contractor will carry out road sweeping operations, employing a suction sweeper or similar appropriate method, to remove any project related dirt and/or material deposited on the road by construction/ delivery vehicles. As outlined in the CEMP (Paul Mc Grail Consulting Engineers Limited, 2023c), the provision of wheel cleaning facilities will be made available on-site where it is deemed necessary or if space constraints do not permit this, the provision of power washing facilities for lorry wheels prior to egress off the site onto the public road in order to maintain the road in a clean condition.

#### 6.6.1.2 Import of Aggregates

Contract and procurement procedures will ensure that all imported aggregates and materials required for the construction of the Proposed Development will be sourced from reputable suppliers operating in a sustainable manner and in accordance with industry conformity/compliance standards and statutory obligations. The importation of aggregates and materials will be subject to management and control procedures which will include testing for contaminants, invasive species and other anthropogenic inclusions and assessment of the suitability for use in accordance with engineering and environmental specifications for the Proposed Development. Therefore, any unsuitable material will be identified prior to unloading / placement onsite.

### 6.6.1.3 Management and Control of Soils and Stockpiles

Segregation and storage of soils for re-use on-site or removal off-site and waste for disposal off-site will be segregated and temporarily stored on-site pending removal or for reuse on-site in accordance with the CWMP (Paul Mc Grail Consulting Engineers Limited, 2023b).

Where possible, stockpiling of soils and subsoils onsite will be avoided. However, in the event that stockpiling is required, stockpiled materials, pending reuse on-site, will be located away from the location of any sensitive receptors (watercourses and drains). In accordance with Inland Fisheries Ireland guidelines, stockpiles will not be allowed within 30m of the open water where sufficient working areas are available within the Site boundary.

The re-use of suitable cut material on-site for the Proposed Development (i.e., landscaping, raising levels or engineering fill) will be undertaken in accordance with the engineered design of the Proposed Development. Surplus or unsuitable soils will be removed offsite.

Soils for re-use on Site will be stabilised and protected from erosion while planting becomes established (Paul Mc Grail Consulting Engineers Limited, 2023c). Subsoils which have been compacted during construction will be broken up prior to re-application of topsoil to reinstate natural infiltration performance of the ground.

Surplus material, not suitable for reuse onsite, will be segregated, and stockpiled appropriately for removal offsite. For any excavated material identified for removal offsite, while assessment and approval of acceptance at a destination re-use, recovery site or waste facility is pending, excavated soil for recovery/disposal shall be stockpiled as follows:

- A suitable temporary storage area shall be identified and designated;
- All stockpiles shall be assigned a stockpile number;
- Material identified for reuse on site, off site and waste materials will be individually segregated and all segregation, storage & stockpiling locations will be clearly delineated on the Site drawings.
- Soil stockpiles will be covered to prevent run-off from the stockpiled material generation and/or the generation of dust;
- Material identified for reuse on site, off site and waste materials will be individually segregated;
- Any waste that will be temporarily stored / stockpiled will be stored on impermeable surface high-grade polythene sheeting, hardstand areas or skips to prevent cross-contamination of the soil below or cross contamination with soil;
- Regular watering will take place to ensure the moisture content is high enough to increase the stability of the soil and thus suppress dust; and
- Stockpiles will be a minimum of 30m from drains

Any waste generated from construction activities, including concrete, asphalt and soil stockpiles, will be stored on-site in such a manner as to:

- Prevent environmental pollution (bundled and/or covered storage, minimise noise generation and implement dust/odour control measures, as may be required).
- Maximise waste segregation to minimise potential cross contamination of waste streams and facilitate subsequent re-use, recycling and recovery; and



- Prevent hazards to site workers and the general public during construction phase (largely noise, vibration and dust).

#### **6.6.1.4 Airborne Dust**

Excavated soils will be carefully managed and maintained in order to minimise potential impact on soil quality and soil structure. Handling of soils will be undertaken in accordance with documented procedures that will be set out in order to protect ground and minimise airborne dust. As outlined in the CEMP (Paul Mc Grail Consulting Engineers Limited, 2023c), the measures required to prevent airborne dust emissions and associated nuisance arising from site work will be in place including covering waste sips, scaffold netting, use of water to suppress dust, provision of hard stand access for truck and vehicles. Transportation of materials that may be dusty will be sheeted down to prevent any escape of materials. Stockpiles will be covered to prevent windblown dust. Potential impacts and avoidance and mitigation measures associated with generation of dust are addressed in Chapter 8 of this EIAR.

#### **6.6.1.5 Concrete Works**

The cementitious grout and other concrete works during the Construction Phase, will avoid any contamination of ground through the use of appropriate design and methods implemented by the Contractor and in accordance with the CEMP (DBFL, 2023a) and relevant industry standards.

As documented in the CEMP (Paul Mc Grail Consulting Engineers Limited, 2023c), where cast-in-place concrete is required (i.e., building foundations), all work must be carried out in dry conditions and be effectively isolated from any groundwater.

All ready-mixed concrete will be delivered to the site by truck. Wash down and wash out of concrete trucks will take place within a dedicated bunded concrete washout area which will be created to avoid any accidental discharge from the proposed development site (Paul Mc Grail Consulting Engineers Limited, 2023c). The concrete washout area will then be emptied into a skip for appropriate compliant removal off-site in accordance with all relevant waste management legislation. Any excess concrete is not to be disposed of onsite.

A suitable risk assessment for wet concreting shall be completed prior to works being carried out. Pumped concrete will be monitored to ensure there is no accidental discharge (Paul Mc Grail Consulting Engineers Limited, 2023c).

#### **6.6.1.6 Handling of Chemicals and fuels**

Refuelling of plant during the Construction Phase will only be carried out at designated refuelling bunded area to minimise any risk of potential pollutants being discharged from the Site (Paul Mc Grail Consulting Engineers Limited, 2023c). Each station will be fully contained equipped for spill response and a specially trained and dedicated Environmental and Emergency Spill Response team will be appointed before the commencement of works onsite.

Hydrocarbons or any hazardous chemicals will be stored in specific bunded areas (Paul Mc Grail Consulting Engineers Limited, 2023c). These areas will be bunded and located away from surface water drainage and features. Bunds will have regard to Environmental Protection Agency guidelines 'Amendment to IPC Guidance Note on Storage and Transfer of Materials for Scheduled Activities' (EPA, 2013). All tank and drum storage areas will, as a minimum, be bunded to a volume not less than the greater of the following:

- 110% of the capacity of the largest tank or drum within the bunded area; or
- 25% of the total volume of substance that could be stored within the bunded area.

Emergency procedures will be developed by the appointed contractor, and spillage kits will be available on-Site (Paul Mc Grail Consulting Engineers Limited, 2023c). Construction staff will be familiar with emergency procedures in the event of accidental fuel spillages.

Only emergency breakdown maintenance will be carried out onsite. Drip trays and spill kits will be available on Site to ensure that any spills from vehicles are contained and removed offsite.

Remedial action will be immediately implemented to address any potential impacts in accordance with industry standards and legislative requirements. In the event of a leak or spill from equipment in the instance of a mechanical breakdown during operation, any contaminated soil will be removed from the Site and compliantly disposed offsite. Residual soil will be tested to validate that all potentially contaminated material has been removed. This procedure will be undertaken in accordance with industry best practice procedures and standards. These measures will ensure that there is minimal risk to soils and geology associated with the Construction Phase of the Proposed Development.

#### 6.6.1.7 Welfare Facilities

Welfare facilities have the potential, if not managed appropriately, to release organic and other contaminants to ground or surface water courses. Foul drainage from temporary welfare facilities during the Construction Phase of the Proposed Development will be discharged to temporary holding tank(s) the contents of which will periodically be tankered off site to a licensed facility. All waste from welfare facilities will be managed in accordance with the relevant statutory obligations by tankering of waste offsite by an appropriately authorised contractor.

Any connection to the public foul drainage network during the Construction Phase of the Proposed Development will be undertaken in accordance with the necessary temporary discharge licences issued by UE.

#### 6.6.2 Operational Phase

There is no requirement for mitigation measures for the Operational Phase taking account of the design measures for the Proposed Development.

#### 6.6.3 “Worst Case” Scenario

In a ‘Worst Case’ scenario the potential accidental release of hazardous material including fuels, or other hazardous materials being used on-site during the Construction Phase would present a ‘negative’, ‘moderate’ and ‘long-term’ impact on the receiving land, soils, and geology environment. However, this scenario would only occur through the failure of secondary containment or a major incident on the Site. This worst-case scenario is deemed to be unlikely to occur.

### 6.7 Residual Impacts

Residual Impacts are defined as ‘effects that are predicted to remain after all assessment and mitigation measures. They are the remaining ‘environmental

costs' of a project and are the final or intended effects of a development after mitigation measures have been applied to avoid or reduce adverse impacts.

The predicted impacts of the Construction Phase and Operational Phase of the Proposed Development are described in Table 6-9 in terms of quality, significance, extent, likelihood, and duration. The relevant mitigation measures are detailed, and the residual impacts are determined which take account of the avoidance, remedial and mitigation measures.

Overall, there is no significant residual impacts on land, soils and geology anticipated regarding this Proposed Development.

Activity	Attribute	Predicted Impact	Quality	Significance	Duration	Type	Mitigation	Residual Impact
<b>Construction Phase</b>								
Construction of the Proposed Development	Land Take and Land Use	The Proposed Development will require land take of approximately 7.31Ha and will change from undeveloped land to residential land use.	Negative	Moderate	Permanent	Direct	Unavoidable and no mitigation. The Proposed Development is in line with the zoning objectives as set out in the Cornamaddy Action Area Plan – 2005 (WMCC, 2005).	Moderate
Excavation of In-situ soils and subsoil	Soils and Subsoil	There will be an unavoidable loss of in-situ soils and subsoil from the Site to achieve the required formation levels for the Proposed Development including building foundations, roads, drainage and other infrastructure.	Negative	Slight	Permanent	Direct	None required. Where possible, it is intended to retain and re-use the excavated soil and subsoil on the subject site for engineering fill and landscaping.	Slight
Excavation of Made Ground	Soil Quality	The excavation of made ground including some soils impacted with low levels of anthropogenic contamination (i.e., petroleum hydrocarbons) and permanent removal off-site is a design requirement of the Proposed Development	Positive	Slight	Permanent	Direct	None required.	Positive
Use of Cementitious Materials.	Soils and Subsoils	Potential release of cementitious material during construction works for foundations, pavements and infrastructure to the land, soil, and geological environment.	Negative	Moderate	Long Term	Direct	All concrete work will be carried out to avoid any contamination of the receiving soil and geological environment by appropriate design and methods implemented by the Contractor and in accordance with industry standards.	Imperceptible

Activity	Attribute	Predicted Impact	Quality	Significance	Duration	Type	Mitigation	Residual Impact
Accidental Release of Deleterious Materials (e.g., Fuels or Other Hazardous Materials Being Used Onsite).	Soils, Subsoils and Bedrock	Potential (albeit low) for uncontrolled release of deleterious materials including fuels and other materials being used on-site, through the failure of secondary and tertiary containment or a materials handling accident, to the land, soil, and geological environment.	Negative	Moderate to Significant	Long Term	Direct / Worst Case	Refuelling of plant during the Construction Phase will only be carried in a designated impermeable area on-site equipped with spillage kits. Any other diesel, fuel or hydraulic oils stored on-site or within fuel containing equipment will be stored in bunded storage tanks / drip trays.	Imperceptible
Stockpiling of Excavated Soil and Subsoils	Soil Structure	The temporary stockpiling of excavated soils will result in exposure of the materials to various elements including weather.	Negative	Slight	Long-term	Direct	The segregation and stockpiling of soil and stone at the site pending reuse or removal offsite will be carefully managed and maintained in order to minimise potential impact on soil quality.	Imperceptible
Construction Activities	Geological Heritage	There will be no excavation of the esker on Site	Neutral	Imperceptible	Long Term	Direct	None	Imperceptible
Import of Aggregates	Land, Soil and Geology at the Site of the Proposed	The potential impacts may include importation of unsuitable of contaminated materials	Negative	Moderate to Significant	Long Term	Direct	Contract and procurement procedures will ensure that all imported aggregates meet with industry conformity/compliance	Imperceptible

Activity	Attribute	Predicted Impact	Quality	Significance	Duration	Type	Mitigation	Residual Impact
	Development						standards and statutory obligations	
Import of Aggregates	Land, Soil and Geology at the Source Site	The potential impacts may include loss of attribute and changes in the geological regime at the source Site	Neutral	Imperceptible	Permanent	Indirect	Only certified materials from authorised sources will be used.	Imperceptible
<b>Operational Phase</b>								
There will be no direct or indirect impact on the receiving land, soils and geological environment associated with the Operational Phase of the Proposed Development.								

Table 6-9: Residual Impacts



## **6.8 Monitoring**

### **6.8.1 Construction Phase**

During the Construction Phase of the Proposed Development the following monitoring measures will be considered:

- Routine monitoring and inspections during refuelling, concrete works to ensure no impacts and compliance with avoidance, remedial and mitigation measures;
- Materials management and waste audits will be carried out at regular intervals to monitor the following:
  - Management of soils on-site and for removal offsite.
  - Record keeping.
  - Traceability of all materials, surplus soil and other waste removed from the site; and
  - Ensure records are maintained of material acceptance at the end destination.

### **6.8.1 Operational Phase**

There are no monitoring requirements specifically in relation to land, soil and geology during the Operational Phase of the Proposed Development.

## **6.9 Interactions**

### **6.9.1 Population and Human Health**

An assessment of the potential impact of the Proposed Development on human health is included in Chapter 4 of this EIAR. There is a potential risk of dust generated from excavation and stockpiling of soil during the Construction Phase of the Proposed Development posing a human health risk in the absence of standard avoidance and mitigation measures which will be implemented to be protective of human health.

Appropriate industry standard and health and safety legislative requirements will be implemented during the Construction Phase of the Proposed Development that will be protective of site workers.

### **6.9.2 Hydrology**

An assessment of the potential impact of the Proposed Development on the hydrological and hydrogeological environment is included in Chapter 7 of this EIAR. In the absence of avoidance, remedial and mitigation measures, there is a potential for sediment from excavated soils entering runoff and discharging into the local drainage channels during the Construction Phase. Procedures for the protection of receiving water environment are set out Chapter 7 of this EIAR.

### **6.9.3 Material Assets – Waste and Traffic**

An assessment of the potential impact of the Proposed Development on the Material Assets (Traffic and Transportation) and Material Assets (Waste) and are included in Chapter 12 and Chapter 13 of this EIAR respectively.

Where possible, it is intended to retain and re-use the excavated soil and subsoil on the subject site for engineering fill and landscaping. However, it is anticipated that approximately 14,600m<sup>3</sup> topsoil and 26,198m<sup>3</sup> sub grade material will

require removal offsite. There is also a requirement to import aggregates during the construction of the Proposed Development.

#### **6.9.4 Biodiversity**

An assessment of the potential impacts of the Proposed Development on the Biodiversity of the Site, with emphasis on habitats, flora and fauna which may be impacted as a result of the excavation and importation of materials to the Site are included in Chapter 5 of this EIAR. It also provides an assessment of the impacts of the Proposed Development on habitats and species, particularly those protected by national and international legislation or considered to be of particular conservation importance and proposes measures for the mitigation of these impacts.

#### **6.9.5 Landscape and Visual**

During the construction phase the Site landscape will undergo a change from undeveloped lands to residential with landscaping. An assessment of the potential impact of the Proposed Development on the receiving landscape is included in Chapter 10 of this EIAR.

#### **6.9.6 Air Quality and Climate**

The excavation of soils across the Site and the temporary stockpiling of soils pending reuse or removal offsite has the potential to generate nuisance impacts (i.e., dust) during the Construction Phase of the Proposed Development. An assessment of the potential impact of the Proposed Development on air quality and climate is included in Chapter 8 of this EIAR.

#### **6.10 Difficulties Encountered When Compiling**

No difficulties were encountered in the preparation of this Chapter of the EIAR.

#### **6.11 References**

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## 7.1 Introduction

This chapter of the EIAR comprises an assessment of the likely significant effects of the proposed development with respect to hydrology (surface water and groundwater). The proposed development is situated in Athlone, Co. Westmeath, on a 7.31 ha site. The proposed development will consist of 177 no. residential units in a variety of types. The site is generally bounded by surrounding greenfield lands to the immediate north, east, south and west, to the south-west by an existing cemetery and a Pitch and Putt Club bordering the site to the north-west. The proposed duplexes are located to the southeast of the Applicant's overall handholding adjoining the permitted creche (WMCC Ref. 22/340) near the N55 Roundabout. The site is also bounded by a number of extant permissions (currently granted, at further information stage or under construction) within the same overall development to the east and south, i.e., Phase 1 (reg ref. 22/253), Phase 2 (reg ref. 22/340), Phase 3 (reg ref. 22/577 – amendments to WMCC reg. ref. 14/7103) and Phase 5 (reg ref. 23/60047).

This chapter was prepared by David Casey BSc MSc MCIWEM and Conor O'Neill BA MSc of JBA Consulting Engineers & Scientists Ltd (JBA).

### 7.1.1 Assessment Methodology

The methodology used in this assessment follows current Irish guidance as outlined in:

- OPW / DoECLG planning guidance, "The Planning System and Flood Risk Management (2011);
- Environmental Protection Agency (EPA) (2022) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports;
- Department of Housing, Planning and Local Government (DHPLG) (2018) Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment.
- National Roads Authority (NRA), 2008. Guidelines on Procedures for Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes.
- Institute of Geologists of Ireland (2013) Guidelines for the Preparation of Soils, Geology and Hydrogeology Chapters of Environmental Impact Statements.
- Environmental Impact Assessment of Projects – Guidance on the preparation of the Environmental Impact Assessment Report (Directive 2011/92/EU) as amended by 2014/52/EU), European Union 2017.
- S.I No. 296 of 2018 European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018.

In assessing likely potential and predicted effects, account is taken of both the importance of the attributes, the sensitivity of the environment and the predicted scale and duration of the likely effects.

In accordance with guidance outlined in the EPA EIA Guidelines (2022), the following terms are used in the assessment of effects:

- Quality of an effect is described as either Positive, Neutral or Negative.
- Significance of an effect is described as either Imperceptible, Slight, Moderate, Insignificant, Significant, or Profound.

- Duration of an effect is described as either Temporary, Short-term, Medium-term, Long-term, or Permanent.

### 7.1.2 Site Visit

A site walkover survey was conducted by JBA on 25<sup>th</sup> January 2022. The purpose of this visit was to visually assess the site, noting any likely constraints. The findings of this site visit, including photographs taken at the site, have been used in the preparation of this chapter.

The site is mainly greenfield, composed of grassland and hedgerows. There were no obvious potential sources of contamination seen on site. The topography appears to be relatively flat with some undulations within the site. There is a generally fall to the north. Ground permeability appears to be poor, however the drainage channels were predominantly dry during the site visit.

Figure 7.1 shows the site conditions, with drainage ditches at the northern end of the site, and along the southern boundary.



### 7.1.3 Sources of Information

This assessment was considered in the context of the available baseline information, potential effect, and other available relevant information. In collating this information, the following sources of information and references were consulted:

- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022)
- EPA Catchments website ([www.catchments.ie](http://www.catchments.ie)) (EPA, 2021), including the 3<sup>rd</sup> Cycle Draft Upper Shannon (Lough Ree) Catchment Report (HA 26E)
- GSI Map viewer
- OSI.ie – 6” & 25” maps
- Aerial Mapping
- Westmeath County Development Plan 2021-2027
- Site drawings and proposed layout drawings.

### 7.1.4 Governing Legislation

The EU has set out requirements for Environmental Impact Assessments under the EIA Directive 2011/92/EU (as amended by Directive 2014/52/EU). The principal piece of legislation under which an EIAR may be undertaken for developments in Ireland is the Planning and Development Acts, 2000-2021 as amended. Further regulations are explained in the Planning and Development Regulations and European Communities (Environmental Impact Assessment) Regulations.

The legislation relevant to surface water is listed below. This legislation was consulted during the preparation of this assessment, and the limits contained within them will be used for the purposes of monitoring during construction of the proposed development.

- Water Framework Directive (2000/60/EC);
- Groundwater Directive (2006/118/EC);
- European Communities Environmental Objectives (Surface Waters) Regulations, 2009 (S.I. No. 272 of 2009);
- European Communities Environmental Objectives (Groundwater) Regulations, 2010 (S.I. No. 9 of 2010);
- European Communities (Technical Specifications for the Chemical Analysis and Monitoring of Water Status) Regulations, 2011 (S.I. No. 489 of 2011);
- Salmonid Regulations (S.I. No. 293 of 1988);
- Habitats Directive (92/43/EEC).



## 7.2 Subject Site Characteristics

The subject site is identified in Figure 7-2 below.



Figure 0-1 Application Site Area

### 7.2.1 Surface Water

#### 7.2.1.1 Hydrological Environment

The site is situated within the Upper Shannon (26E) WFD catchment. The catchment is 582km<sup>2</sup> in area. The site lies within the Shannon[Upper]\_SC\_090 sub-catchment. The streams on site drain towards Lough Ree, one of the three major lakes on the River Shannon. From here, the River Shannon flows through Athlone and continues south, eventually meeting the sea at the Shannon Estuary, between Limerick and Clare.

Immediately east of the site is the Breensford\_SC\_010 sub-catchment, part of the Upper Shannon (26E) catchment. South of the site is the Upper Shannon (26G) catchment.

The sub-catchments are further divided into river sub-basins. River sub-basins act as the management and reporting units for the Water Framework Directive. The proposed development is located within SHANNON (Upper)\_110 sub-basin. This sub-basin is composed of separate short watercourses which feed into Lough Ree. Pressures acting on the SHANNON (Upper)\_110 sub-basin include agriculture, hydromorphology, and atmospheric pressures (EPA, 2023).

#### 7.2.1.2 Watercourses

A tributary of the River Shannon (SHANNON (Upper)\_110) is adjacent to the northern boundary of the site, from there flowing north towards Balaghkeeran Bay, and eventually to Lough Ree. Lough Ree is one of the three largest lakes on the River Shannon.

The Shannon is not listed as a salmonid waterbody on the Salmonid Regulations. Lough Ree does not hold freshwater pearl mussel.

There is a network of drains through the site. These are shown in Figure 7-3, as noted during the site walkover. On the site walkover, the drains appeared to be dry, with water only visible at two locations.

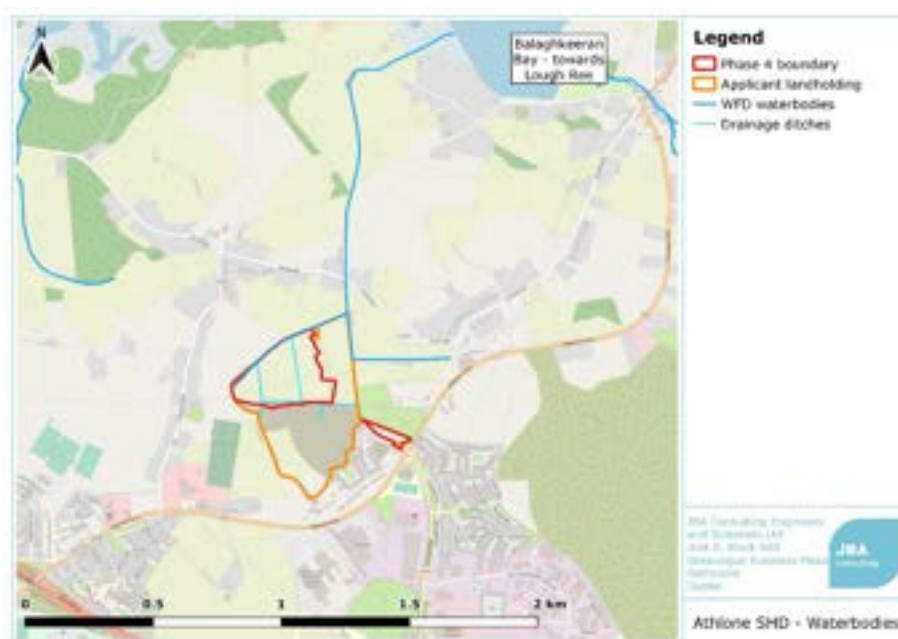


Figure 0-2 Waterbodies in the site and surrounding area

#### 7.2.1.3 EPA Q Rating

The EPA's biological river water quality classification is based on macroinvertebrate biological sampling at water monitoring stations. There are no EPA water monitoring stations on the SHANNON (Upper)\_110.

#### 7.2.1.4 Meteorological Data

Rainfall data, extracted from the Met Éireann 1981-2010 Annual Average Rainfall Grid, has been consulted. The 30-year annual average rainfall is based on a 1 x 1km grid, collated from stations around the country.

The annual average over that period in the vicinity of the scheme is between 910-923mm.

#### 7.2.1.5 Flood Risk

There are a number of drainage channels within the site boundary that discharge to a stream at the site's north and north-eastern boundary. This stream flows in a northern direction towards Balaghkeeran Bay.

A review of the historic flood information confirms that there has been no identified flood risk information within or surrounding the site. The site walkover also did not identify any signs of inundation onsite.

The CFRAM (Catchment Flood Risk Assessment and Management) study has outlined the predicted risk for fluvial and coastal flooding scenarios. The 0.1%, 1% and 10% AEP (Annual Exceedance Probability) scenarios for the vicinity of the site are shown in Figure 7-4. The site is not indicated as being at risk of flooding for any of the three AEP scenarios.

The stream at the site boundary has not been included within the CFRAM programme. Review of the stream confirms that is a small waterbody with a minor catchment at the site, and therefore presents a limited flood risk to the site.

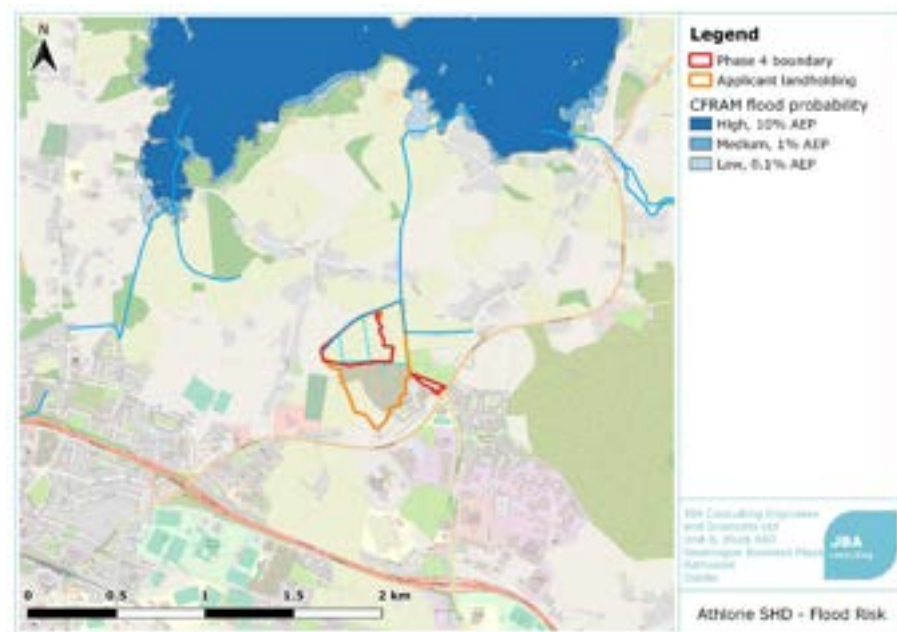


Figure 7-4 CFRAM Flood Zones in the vicinity

#### 7.2.1.6 Designated Sites

Several sites designated under the EU Habitats and Birds Directives, known collectively as Natura 2000 sites, as well as those sites protected under the Wildlife Act (National Heritage Areas), are located within 5km of the proposed development.

Lough Ree SAC is approximately 1.3km downstream of the site. This site contains a high number of habitats and species listed on Annexes I and II of the E.U. Habitats Directive, including the priority habitats orchid-rich calcareous grassland, active raised bog, limestone pavement, and alluvial woodland.

Lough Ree SPA is also approximately 1.3km downstream. The site is of ornithological importance for wintering and breeding birds, including the Annex I species Whooper Swan, Golden Plover, and Common Tern.

Lough Ree pNHA is also approximately 1.3km downstream, with the same site boundaries as Lough Ree SAC.

Middle Shannon Callows SPA and River Shannon Callows SAC are within 5km of the site, but approximately 12km downstream.

River Shannon Callows pNHA, with the same site boundaries as River Shannon Callows SAC, is also within 5km of the site, and approximately 12km downstream.

Carn Park Bog SAC and Crosswood Bog SAC are within 5km of the site, but are not hydrologically connected.

Carrickynaghtan Bog NHA is also within 5km of the site, but is not hydrologically connected.

## 7.2.2 Groundwater

### 7.2.2.1 Regional Hydrogeology

The proposed site is located within the Athlone Gravels (IE\_SH\_G\_246) groundwater body. The waterbody was classified as Good status for the WFD 2016-2021 and is Not at Risk. Immediately to the south of the proposed development is the Inny (IE\_SH\_G\_110) groundwater body. This waterbody is also Good and Not at Risk status under the WFD.

There are no groundwater monitoring sites in the vicinity for Group Water Schemes, Public Water Supplies, Regional Water Supply Schemes, or Source Protection Zones, nor are there any drinking water groundwater abstraction sites.

Groundwater vulnerability at the site varies from moderate to high. Groundwater vulnerability at the site is shown in Figure 7-5. The groundwater body is subject to anthropogenic pressures.

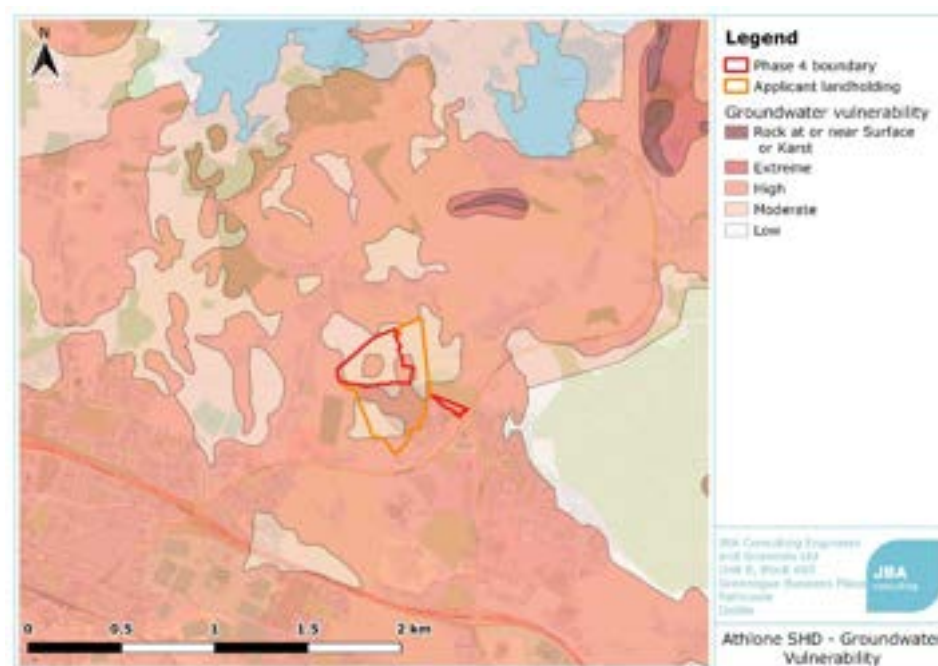


Figure 0-4. Groundwater vulnerability at the site

#### 7.2.2.2 Aquifer

There are two bedrock aquifers underlying the site, with complex boundaries. One is of local importance, bedrock which is moderately productive only in local zones, while the other is a locally important gravel aquifer.

#### 7.2.2.3 Groundwater Extractions

There are no known groundwater extractions in the immediate area surrounding the site. A review of the GSI web-portal provides information on the one groundwater extraction in the study area, shown in Table 7-2.

Abstraction ID	Abstraction type	Location accuracy (m)	Distance to site (km)	Yield (m <sup>3</sup> /day)	Use
2023NWW102	Borehole	1000	0.95 - 1.95	272.7	Agri and domestic use

Table 0-1 Groundwater extractions near the site

#### 7.2.2.4 EPA Licensed Facilities and Waste Facilities

There are no waste facilities, landfills, or former landfills listed by the EPA in the immediate vicinity of the proposed development, nor any integrated Pollution Prevention Control (IPCC), Integrated Pollution Control (IPC), or Industrial Emissions Licensing (IEL) facilities.

#### 7.2.2.5 Esker

The southern half of the applicant's landholding contains an esker, running approximately east-west. The esker is not inside the proposed development boundary.

The esker is not listed as a Geological Heritage Site by the GSI, nor is it listed on the Schedule of County Geological Sites in the Westmeath County Development Plan 2021-2027.

### 7.3 Description of the Characteristics of the Proposed Development

#### 7.3.1

The development will consist of a residential development and public open space comprising the following:

- Construction of 177 no. residential units on a gross site area of 7.31 ha ranging in height from 2-3 storeys comprising detached, semi-detached, and terraced houses, maisonettes and 3 storey duplex apartments. 65 no. 2 bed houses, 71 no. 3 bed houses and 9 no. 4 bed houses will be provided. 24 no. 1 bed maisonette apartment units and 8 no. 3 storey duplex apartment units will be provided.
- All associated private open space in the form of gardens/terraces.
- All pedestrian and vehicular access roads and footpaths including a section of the planned east/west distributor road connecting to a section of the distributor road permitted under WMCC Reg. Refs 14/7103/ ABP Ref. PL25.244826 and 22/253 and proposed under concurrent application WMCC Reg. Ref. 22/577 to the southeast of the site.
- The proposed development includes amendments to permissions granted within the applicants landholding at Cornamaddy as follows:
  - Minor modifications to the internal access road layout and open space permitted under WMCC Ref. 22/253 and minor modifications to a section of the distributor road proposed under concurrent application WMCC Ref. 22/577.
  - Minor modifications to the road permitted for access to the creche facility granted under WMCC Reg. Ref. 22/340 to provide turning heads and access to parking associated with the proposed duplex units.
  - Minor modifications to the rear private gardens of units no's. 061, 062 and 063 permitted under WMCC Ref. 22/253 to provide additional private open space.
- All associated site development works, services provision, drainage works, zoned open space/linear park (c.1.09ha), residential public open space areas (c.0.82ha in total), landscaping, communal open space serving the duplex apartments (c.0.02ha), landscaping, boundary treatment works, public lighting, associated ESB substation cabinets, bin stores and car and bicycle parking provision.
- This development will form part of a larger phase of permitted and proposed development.

#### 7.3.2 Water Supply

The proposed watermain network has been designed to comply with Irish Water specification. Individual houses will have their own connections to the distribution main via service connections and boundary boxes. Individual service boundary boxes will be of the type to suit Irish Water and to facilitate possible future domestic meter installation.

A Pre-Connection Enquiry has been submitted to IW and the Confirmation of Feasibility has been granted. These are included in Appendix B of the Engineering Report prepared by Paul McGrail Consulting Engineers



Full details of the proposed water supply are available in the Engineering Report prepared by Paul McGrail Consulting Engineers for the proposed development

### **7.3.3 Wastewater**

The proposed foul sewer network will connect to the existing Irish Water Wastewater Network Ø450mm pipeline. The foul water drainage system for the proposed development has been designed in accordance with the Irish Water Code of Practice and will be separate to the surface water drainage system. The foul water from the development will discharge via soil vent pipes within the buildings by gravity flow before connecting into the existing separate foul sewer network within the development. The foul sewerage for each house will have a separate connection to the proposed 225mm and 150mm diameter foul sewer along the road. Wastewater will be conveyed to Athlone Wastewater Treatment Plant (WWTP), approx. 2.6km southwest of the proposed site. Athlone WWTP is a tertiary treatment plant, with a Population Equivalent (PE) capacity of 30000. The WWTP has sufficient capacity to facilitate the loading of the proposed development, according to the Irish Water letter contained in Appendix B of the Engineering Report prepared by Paul McGrail Consulting Engineers.

A Pre-Connection Enquiry has been submitted to IW and the Confirmation of Feasibility has been granted, and is shown in Appendix B of the Engineering Report prepared by Paul McGrail Consulting Engineers.

Full details of the proposed water supply are available in the Engineering Report prepared by Paul McGrail Consulting Engineers for the proposed development and included in the application.

### **7.3.4 Surface Water**

The proposed surface water network will connect to an adjacent system which is currently under construction. The proposed network was designed to comply with section C5.2 of the “Sewers for Adoption” manual, published by Water UK and referenced in the Engineering Report (Paul McGrail Consulting Engineers).

The proposed surface water network includes sustainable drainage systems (SUDS), including modular permeable paving, swales located next to roadways, bioretention systems, petrol and oil interceptors, and a hydrobrake flow control system.

Surface water runoff from the development will be attenuated to greenfield runoff (Q<sub>bar</sub>), in accordance with the recommendations of the GDSDS

Full details of the proposed water supply are available in the Engineering Report prepared by Paul McGrail Consulting Engineers for the proposed development and included in the application.

## **7.4 Predicted Impacts during the Construction and Operation Phases**

### **7.4.1 Construction Phase**

Construction activities pose a significant risk to watercourses and hydrology, particularly from contaminated surface water runoff entering nearby watercourses or groundwater bodies or changes to watercourse morphology and flow patterns. The sections below outline the potential effect during construction on water and hydrology without any mitigation. Mitigation measures are discussed in Section 7.5.



A summary of the construction process is provided as follows:

- During the construction phase, soils will be excavated and removed from the site as part of the excavation for building foundations, drainage, access roads and car parking areas,
- The construction of a Contractors Compound for the storage of cement and concrete materials, temporary storage of oils and fuels,
- Construction of the stormwater system,
- Construction of the residential units,
- Construction of the access roads and footpaths.

#### 7.4.1.1 Water Quality

During the construction phase of a development, there is potential for effect on water quality due to the numerous substances in use which act as potential pollutants. Runoff from construction areas can result in an increase in sediment loading or the suspension of solids, as well as the mobilisation and deposition of contaminants like diesel and oils.

The proposed development will involve the alteration of the existing ground level in places and associated drainage works and landscaping. Potential water pollutants arising from these operations are as follows:

- Silt and suspended solids. Sources include activities requiring excavation and stockpiling of soils and other ground material, construction of access roads or hard standing areas which require the use of aggregate, construction plant movement across disturbed soils, temporary surface water pooling in excavations, and the construction of culverts and stream realignments,
- Increased dust levels at the site. During periods of extended dry weather, dispersion of dust either for hardstanding areas or from stockpiles could, without dampening, enter nearby water courses,
- Use of concrete during construction. Raw concrete could reach a watercourse with consequence effect on pH and suspended solids levels in the receiving waterbodies. Washing out of the concrete trucks and chutes will generate a source of polluted runoff and without sufficient capture could enter a watercourse,
- Machinery on site during the construction phase may result in contamination of the surface water. The potential effect could derive from accidental spillage of fuels, oils, paints and solvents, which could impact surface water and groundwater quality if allowed to infiltrate to runoff to surface water systems and/or receiving watercourses,
- Chemicals. Sources include runoff of hydrocarbons or lubricants due to accidental spillage, refuelling, inappropriate storage, or gradual leakage from plant vehicles or at the construction compound, wastewater effluent from construction welfare facilities, and cement-based products in use during construction.

The proposed construction activities have the potential to temporarily alter water quality in the study area. This would be a significant short-term negative effect.

#### 7.4.1.2 Hydrological Effects

Construction activities can affect the hydrological regime of the site and nearby connected waterbodies.

The existing surface water hydrological regime consists of drainage channels (Figure 7.2) which take surface runoff and discharges to the tributary of the River Shannon



(SHANNON (Upper)\_110), from there flowing north towards Balaghkeeran Bay, and eventually to Lough Ree. Surface runoff also infiltrates to the ground naturally. The proposed layout of the development shows that the drainage channels will be retained during the operational phase.

The potential effect on the hydrological regime on-site during the construction phase includes changes to runoff and flow pathways. Excavation of ground to formation level, excavation of services and foundations will impact on the hydrological regime at the site. As discussed, surface water runoff with entrained suspended solid material and hydrocarbons will affect surface water quality.

The proposed construction activities have the potential to temporarily alter water quality and the hydrological regime in the study area. This would be a significant short-term negative effect.

#### 7.4.1.3 Flood Risk

Due to the location of the site, i.e., outside of the floodplain, the construction will have no effect on floodplain storage and conveyance. As construction, i.e., excavation, earthworks and construction, are limited to the site boundary, and there is no proposed works outside of that boundary, construction will not increase flood risk off site.

Exceptionally high intensity rainfall has the potential to cause localised flooding and associated damage. In addition, chemical spill has the potential to significantly affect the local drainage system and eventually the River Shannon as the receiving watercourse.

#### 7.4.1.4 Hydrogeological Effects

Excavation of soil and the groundworks will have the effect of removing the protective cover for groundwater. This will increase the vulnerability of groundwater to pollution/contamination in localised areas. This is particularly true when excavations are left open.

As stated above, machinery on site during the construction phase may result in contamination. The potential effect could derive from accidental spillage of fuels, oils, paints and solvents, which could affect groundwater quality.

Concrete operations carried out near open excavation could affect the underlying groundwater quality as concrete (specifically, the cement component) is highly alkaline.

#### 7.4.1.5 Potential Impacts

In relation to the construction phase the potential effect, without mitigation measures, on the hydrology and hydrogeology environments is considered to be **Short Term - Significant Negative**, i.e., an effect which causes noticeable negative changes in the character of the environment for a short time period.

#### 7.4.2 Operational Phase

The proposed operational stage drainage design will be similar to the existing surface drainage layout, with the drains on site to be retained. The retention of the existing hedgerows/land drains in the proposed development will help to ensure the hydrological regime remains like the existing.

The design includes on-site treatment and filtration of surface and stormwater, such as the use of green roofs, filter drains, petrol interceptors etc. The use of these methods will

ensure that the levels of hydrocarbons, suspended solids and metals discharging from the site are negligible. The proposed discharge from site is limited to the greenfield run-off rate, i.e., it replicates the existing conditions with regard to flow rates.

In the operational stage, it is proposed that following interception and attenuation, stormwater will discharge from the site to the existing stream along the northern boundary of the site. Stormwater discharges from the site will be limited to the greenfield runoff rate by a hydrobrake flow control device, as outlined in Section 2.4 of the Engineering Report prepared by Paul McGrail Consulting Engineers Ltd. Predicted increases in rainfall due to climate change have been taken into account in the drainage design.

There will be no direct discharge to groundwater post-development.

Given the drainage design, use of SuDS measures and on-site treatment methods, and expected discharge rates from the site, the potential effect on surface water and groundwater during operation is expected to be a Long Term, Imperceptible Effect, with a Neutral effect on quality i.e., an effect capable of measurement but without noticeable consequences.

#### **7.4.2.1 Do Nothing Effect**

In the event of the proposed development not being constructed, there would be no resulting effects on hydrology at the site. The hydrological regime would remain the same in the area, i.e., the Do-Nothing effect is considered to be neutral with regard to water and hydrology.

### **7.5 Mitigation Measures**

The assessment has identified the following potential effects on water. These three areas will require management and the implementation of mitigation measures throughout the construction and operational phases of the development.

- Pollution of watercourses or groundwater by chemicals
- Pollution of watercourses or groundwater by silt or suspended solids
- Changes to runoff and flow pathways.

The construction phase will pose the greatest level of risk, with the highest levels of activity on site and use of materials and plant. Issues arising during the construction phase, if left unmitigated, have the potential to continue in the operational phase.

Mitigation measures are proposed in the sections below.

#### **7.5.1 Mitigation During Construction**

A site-specific Construction Environmental Management Plan (CEMP) will be devised and implemented by the appointed contractor, to be put in use and kept up to date throughout the construction phase. The CEMP will assist the contractor in preventing, minimising, or managing environmental effects during the construction phase of the development. The CEMP will outline methods for preventing or reducing environmental effects, incorporate an Emergency Response Plan for dealing with an accidental spillage or environmental contamination, and detail training to be provided to on-site staff. The CEMP will be designed in accordance with standard best practice guidance outlined in the following:

- CIRIA – Guideline Document C532 Control of Water Pollution from Construction Sites (CIRIA, 2001);

- CIRIA – Environmental Good Practice on Site C741 (4th Edition) (CIRIA. 2015).

The CEMP will also include site-specific measures to mitigate potential effects on water and hydrology. These are outlined below.

#### 7.5.1.1 Surface Water Runoff

Surface water generated on site from rainfall will be contained locally and subsequently pumped to the local drainage network. Prior to discharge, the surface water will pass through a treatment train consisting of silt traps and hydrocarbon interceptors to remove suspended solids and hydrocarbons. Regular visual inspection of the discharged surface water and monitoring of the treatment train will be undertaken (Section 7.6). Regular sampling of the surface water discharge will be carried out by the contractor. Samples will be submitted to a laboratory for biological oxygen demand, chemical oxygen demand, suspended solids, pH, conductivity and total petroleum hydrocarbon analysis. The results will be compared with compliance levels given in the Surface Water Regulations. Exceedances in levels will be investigated and improved mitigation measures will be put in place. The success of the revised/updated mitigation measures will be validated with on-going monitoring.

Temporary storage of soil will be carefully managed to prevent any potential negative effect on the receiving hydrological environment and the material will be stored away from any existing drains within site. Movement of material will be minimised in order to reduce degradation of soil structure and generation of dust. Excavations will remain open for as little time as possible before the placement of fill. This will help to minimise potential for water ingress into excavations.

Weather conditions will be monitored when planning construction activities to minimise risk of run-off from the site and the suitable distance of topsoil piles from drainage ditches/sewerage systems will be maintained. In the event of an extended period of dry weather, stockpiles will be dampened using a water spray. The level of spraying will be sufficient to just dampen the soil to avoid dust blow, and excessive runoff will arise during this process. Site roads will also be subject to similar mitigation to avoid dust blow.

#### 7.5.1.2 Chemical Pollution

Mitigation measures for the protection of surface and groundwater quality from chemical pollution involve environmental operating plans, chemical storage, and Emergency Response Procedures.

At construction stage, the following mitigation measures are proposed:

- The contractor will construct a site compound at a location remote from any water bodies, drains, or open excavations,
- Any lubricants or hydraulic oils will be banded in bunds that can contain 110% volume of the largest container. Absorbent pig bags will be kept in the site offices. These will be disposed of correctly if used and replaced with new ones immediately. Disposal records for used adsorbent will be retained by the Site Manager,
- All materials taken on-site will be clearly labelled and stored in sealable containers,
- The diesel fuel tank will be adequately banded (110%) and the filling nozzle will be stored within the banded area. The Site Manager will as part of their daily site walkaround check the integrity of the fuel tank(s). The condition of the tanks will be recorded by the Site Manager,
- Re-fuelling of construction vehicles and the addition of hydraulic oils or lubricants to vehicles, will take place in a designated area which will be away from any existing surface water drains which could also provide pathways to the underlying geology,

- The contractor will ensure that no hazardous or noxious materials enter a watercourse or drain or open excavation. Should this situation arise emergency procedures will be activated,
- The contractor will maintain stocks of adsorbent bags and spill mats at the site. When used the adsorbent bags will be disposed of as a hazardous waste. Stocks will be immediately replenished,
- An Emergency Plan will be developed for the site and information on the Plan will be provided to contractors and sub-contractors during site induction,
- During all works the weather forecast will be monitored and a contingency plan developed to prevent damage or pollution during extreme weather. Machinery and equipment will not be left on-site during such events and will be removed beforehand,
- Trucks delivering concrete to the site will not be allowed to washout their vehicles on site. Only washing of the chute will be allowed. The washing facilities will be remote from watercourses and will be bunded by a low earthen berm and liner. Dried concrete will be removed and used as blinding on site roads,
- The Contractor will clean equipment prior to delivery to the site. The Contractor will avoid using any equipment which leaks fuel, hydraulic oil or lubricant. The Contractor will maintain equipment to ensure efficiency and to minimise emissions,
- No excavation shall take place below the water-table on the site,
- Management/Response plans will be implemented to identify mobilisation of soil particles/pollution and initiate the interception and treatment of pollution/silt runoff,
- Precast elements should be maximised to avoid wet concreting in close proximity to water.

#### 7.5.1.3 Silt and Suspended Solids

Mitigation measures for the protection of surface and groundwater quality from silt and suspended solids on site involve silt control, particularly close to drainage channels or open excavations.

At construction stage, the following mitigation measures are proposed:

- The contractor will construct a site compound at a location remote from any drains,
- All soil stockpiles shall be covered (i.e., vegetated) to minimise the risk of rain/wind erosion. Vegetation should be established as soon as possible on all exposed soils,
- During extended dry periods, soil stockpiles should be soaked periodically to minimise the risk of airborne particles entering watercourses,
- A Storm Water Management Plan should be completed to address sediment control during the construction works and address the potential risk to release of sediments and various pollutants into local watercourses,
- Management/Response plans will be implemented to identify mobilisation of soil particles/pollution and initiate the interception and treatment of pollution/silt run-off,
- Silt fencing or other appropriate measures shall be put in place downstream of exposed soils or soil stockpiles.

#### 7.5.1.4 Changes to runoff and flow pathways

Mitigation measures to minimise effects on runoff and flow pathways involve the following mitigation measures:





- The contractor will construct a site compound at a location remote from any drains,
- Vegetation should be established as soon as possible on all exposed soils.

### **7.5.2 Mitigation during Operation**

The proposed development will retain the existing drainage channels on site and incorporate SuDS features, which will help to mitigate against additional surface water runoff.

During the operational phase, regular visual inspection of the silt traps and hydrocarbon interceptors should be carried out to ensure they are operating correctly. No additional mitigation measures are required.

### **7.5.3 Predicted Effect of the Proposed Development**

#### **7.5.3.1 Construction Phase**

Following implementation of the proposed mitigation measures the residual environmental effect at the site will be minimised. The mitigation measures will ensure that no waterbodies in the site will be significantly negatively affected.

Following the implementation of the mitigation measures, the effect during the construction phase will be short-term, neutral and imperceptible.

#### **7.5.3.2 Operational Phase**

The design of the scheme has been such that there are no predicted effect on the water and hydrogeological environment during the operational phase of the development.

Overall, the effect of the proposed development will be long-term, neutral and imperceptible.

## **7.6 Monitoring**

### **7.6.1 Construction Phase**

During construction, visual and chemical monitoring of treated surface water will take place to ensure that water draining from the site is not affected by the proposed development. This will take place during the regular site audits during the construction process.

Surface water collected in sumps will be monitored prior to discharge. Samples will be taken and the pH, conductivity, chemical oxygen demand, total petroleum hydrocarbons, and suspended solids levels will be recorded. The monitoring results will be compared to the allowable limits given in the Surface Water Regulations. If the results shows an exceedance in the allowable levels, then the appointed contractor will review the mitigation measures and remedy them to lower the levels of the pollutant. A record of these upgrades/changes to the mitigation measures will be recorded.

The contractor is required to monitor the weather forecasts to inform the programming of earthworks and stockpiling of materials.



### **7.6.2 Operational Phase**

Once operational, silt traps and hydrocarbon interceptors should be visually inspected on a regular basis. Any spillages on site should be acted upon immediately. No other monitoring measures are required during the operational phase.

## **7.7 Residual Effects**

The residual effects are those which will remain after mitigation measures have been implemented.

### **7.7.1 Construction Phase**

All construction works will follow best practice guidance and will implement mitigation measures for the predicted effects. With the implementation of these measures, there will be no significant residual effect on water or hydrogeology during construction.

### **7.7.2 Operational Phase**

The operational phase is predicted to have an overall neutral long-term effect on water and hydrogeology, and there are no mitigation measures required. As such, there will be no significant residual effect on water or hydrogeology during operation.

### **7.7.3 Reinstatement**

Following the construction phase, all green space will be made good, and the ground will be revegetated.

## **7.8 In Combination Effects and Cumulative Effects**

### **7.8.1 In Combination Effects**

The EIAR must also consider in-combination effects, or the interactions between the different factors discussed.

Effects on water or hydrogeology can have further effects on biodiversity and ecology, through the mobilisation of silts, suspended solids, oils, or chemicals. On entering watercourses, these can negatively affect fish and aquatic ecology, as well as have an effect on Natura 2000 sites. These effects are further discussed in the Biodiversity chapter of this EIAR (Chapter 8), and the NIS prepared by Enviroguide Consulting.

Surface water runoff can also have an effect on soil quality in the area, with chemicals or suspended solids having an effect on soil fertility and contamination. These effects are further discussed in the Land and Soils chapter of this EIAR (Chapter 6).

### **7.8.2 Cumulative Effect**

Cumulative effects are the result of several minor effects combining to create one major effect. The assessment of cumulative effects considers existing stresses on the water environment as well as developments that are in planning or are underway.

The cumulative effect of the proposed development surface runoff to the River Shannon and Lough Ree with other developments, including other phases of this development already granted planning permission, in the area could affect water quality and flood risk upstream and downstream. As the proposed discharges from the proposed development will be limited to the existing greenfield runoff rate, and the proposed development includes SuDS measures and on-site treatment measures, the cumulative effect will not be significant. The significant pressures acting on the waterbody leading to Lough Ree are hydromorphology, agriculture, urban runoff, and other (EPA, 2023). The cumulative effects associated with hydrology will be long-term and imperceptible.

Applications for development in the vicinity of the site have been reviewed to assess their potential for cumulative effects with the proposed development. These developments are outlined in Chapter 16 - Cumulative Impacts. Planning application documents and planners reports for each of the developments within close proximity to the proposed development were reviewed and it was determined that their drainage systems have been designed in line with best practice.

All future development will need to comply with the governing development plan objectives regarding SuDS and ensuring that any development does not increase flood risk elsewhere in the catchment.

Overall, once the relevant legislation and guidelines are implemented, the cumulative effects associated with the development are long-term, with an imperceptible effect on hydrology.

## 7.9 References

EPA, 'Advice Notes on Current Practice in the Preparation of Environmental Impact Statements' (EPA, 2015)

EPA, Catchments website. Available at: <https://www.catchments.ie/> (2023)

EPA, 'Guidelines on the Information to be Contained in Environmental Assessment Report' (2022)

Westmeath County Development Plan 2021-2027

DoEHLG & OPW, Planning System and Flood Risk Management Guidelines for Planning Authorities (2009)

OPW, Shannon Catchment and Flood Risk Assessment Management (CFRAM), Flood Maps (2016)

### 8.1 Introduction

Enviroguide Consulting was commissioned by Marina Quarter Limited to prepare a Biodiversity Chapter for a Proposed Development at Cornamaddy, Athlone, Co. Westmeath.

This Biodiversity Chapter (the 'Chapter') details the Ecological Impact Assessment (EIA) in relation to the proposed development at Cornamaddy, Athlone hereafter referred to as the 'Proposed Development' or 'Site' when referring to the Phase 4 development and the 'entire applicants landholding' or 'applicant-owned land' when referring to the entire landholding at Cornamaddy.

This Chapter describes the ecology of the entire applicant's landholding, with emphasis on habitats, flora and fauna, and details the methodology of assessment used in each case. It provides an assessment of the impacts of the Proposed Development on habitats and species, particularly those protected by national and international legislation, or considered to be of conservation importance; and proposes measures for the mitigation of these impacts, where appropriate. A description of residual effects that will remain following the implementation of mitigation is also outlined in this Chapter.

The Chapter has been completed having regard to the *Guidelines for Ecological Impact Assessment in the UK and Ireland*, by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018), together with the guidance outlined in the Environmental Protection Agency (EPA) documents *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports* (May 2022) and *Advice Notes for Preparing Environmental Impact Statements* (Draft, September 2015). The value of the ecological resources, the habitats, and species present or potentially present, was determined using the ecological evaluation guidance given in the National Roads Authority's (NRA, now Transport Infrastructure Ireland) *Ecological Assessment Guidelines* (NRA, 2009).

The information provided in this EIAR chapter, accurately and comprehensively describes the baseline ecological environment, and provides an accurate prediction of the likely ecological effects of the Proposed Development.

#### 8.1.1 Author Information and Competency

Synergy Environmental Ltd., T/A Enviroguide Consulting, is a multi-disciplinary consultancy specialising in the areas of the Environment, Waste Management and Planning. All of our consultants carry scientific or engineering qualifications and have a wealth of experience working within the Environmental Consultancy sectors, having undergone extensive training and continued professional development. Enviroguide Consulting professional memberships include the Chartered Institution of Wastes Management (CIWM), the Irish Environmental Law Association and Chartered Institute of Ecology and Environmental Management (CIEEM).

All surveying and reporting has been carried out by qualified and experienced ecologists and environmental consultants. AW, professional bat Ecologist with Ash Ecology and Environmental Ltd. undertook the 2022 and 2021 on-site bat surveys. BF, professional Ecologist with Flynn Furney Environmental Consultants Ltd. undertook the on-site badger survey. ROH, Ecologist with Enviroguide Consulting, prepared this chapter and undertook the desktop research, habitat surveys, invasive species surveys, mammal surveys, 2023 bat surveys and winter bird surveys at the Site. BMCC, Graduate Ecologist and Ornithologist with Enviroguide Consulting undertook the bird scoping surveys at the Site. YM, Ecologist with Enviroguide undertook the detailed botanical survey of the esker on Site.

AW, M.Sc. MCIEEM Trading as Ash Ecology & Environmental Ltd. prepared the Bat Survey Report for the Proposed Developments. AW's qualifications include M.Sc. (Dist) in

Biodiversity and Conservation (TCD) and B.Sc. (Hons) Zoology (NUIG), a diploma in Applied Aquatic Science (GMIT) and a Certificate in Applied Biology (GMIT). AW has over 15 years of experience providing environmental consultancy and environmental assessment services. AW has written numerous Ecological Impact Assessments (EIA), Screening for Appropriate Assessment (AA) Stage I and Stage II Natura Impact Statements (NIS), chapters for EIAR, Badger Surveys, Bat Surveys, Bird and Habitat Surveys. AW is a licenced bat ecologist (example of recent licences: DER/BAT 2020 – 46 EUROPEAN, DER/BAT 2020 – 48 EUROPEAN, DER/BAT 2021 – 89 EUROPEAN, DER/BAT 2022 – 12 EUROPEAN) and a member of Bat Conservation Ireland. In addition, AW has completed several bat courses to continue her training and CPD with the most recently (May 2021) a Lantra-accredited course, developed by the Bat Conservation Trust and supported by the Arboricultural Association to access bat tree roost features. Over the past 15 years AW has completed 100s of bat surveys providing her with more than adequate experience in the profession.

BF, B.Sc., M.Sc., Member, Chartered Institute of Ecology and Environmental Management (MCIEEM), Member, Institute of Environmental Sciences (MIEnvSci) and Chartered Environmentalist (CEnv). BF has over 20 years of experience in mammal survey and mammal mitigation design. BF is a Director of the Irish Wildlife Trust and a former Director of Voluntary Service International and the Irish Environmental Network.

ROH, Project Ecologist with Enviroguide, has a M.Sc. (Hons.) in Ecological Assessment from University College Cork, and a B.Sc. (Hons.) in Environmental Science from the University of Galway. ROH has a wealth of experience in desktop research, literature scoping-review, and report writing, as well as practical field experience (Habitat surveys, invasive species surveys and bird surveys). ROH has extensive experience in compiling Biodiversity Chapters of EIARs, EIAs, AA screening and NIS reports, and in the overall assessment of potential impacts to ecological receptors from a range of developments.

BMcC is a graduate Ecologist and experienced Ornithologist with 11 years of birding experience. BMcC holds a degree in Planning and Environmental management from Technological University Dublin. BMcC is a longstanding and active member of Bird Watch Ireland and has provided Ornithology survey work for ecological consultancies, e.g., Vantage points surveys of Gulls, Terns, Raptors, Waders and Wildfowl; hinterland surveys of the above as well as riverine species; and breeding waders and country birds. BMcC is highly experienced with all survey methodologies and with surveying all species groups of Irish birds and migrants.

YM has a B.Sc. in Botany from Tokyo University of Agriculture and a M.Sc. in Botany from Hokkaido University, and has experience in desktop research, reporting and GIS mapping as well as practical field experience including flora surveys, rare and protected plant species surveys, phytosociological vegetation surveys, habitat mappings and invasive species surveys. YM has prepared several AA screening reports. YM is also a Qualifying member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

### 8.1.2 Relevant Legislation

The following guidelines were referenced in the preparation of this chapter:

- Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester, UK. CIEEM. (2018).
- Advice Notes for Preparing Environmental Impact Statements (Draft) Environmental Protection Agency. (2015).
- Guidelines on the information to be contained in Environmental Impact Assessment Reports. Published by the Environmental Protection Agency, Ireland. Environmental Protection Agency. (2022).
- Guidelines for Assessment of Ecological Impacts of National Road Schemes. National Roads Schemes (now Transport Infrastructure Ireland), Dublin. NRA. (2009).

- Guidelines on The Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads (now Transport Infrastructure Ireland), Dublin. NRA. (2010).
- Best practice guidance for habitat survey and mapping. The Heritage Council, Kilkenny. Smith, G.F., O'Donoghue, P., O'Hora, K. and Delaney, E. (2011).
- Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters. Inland Fisheries Ireland. (2016).

### 8.1.2.1 National Legislation

#### Wildlife Act 1976 and amendments

The Wildlife Act 1976 was enacted to provide protection to birds, animals, and plants in Ireland and to control activities which may have an adverse impact on the conservation of wildlife. With regard to the listed species, it is an offence to disturb, injure or damage their breeding or resting place wherever these occur without an appropriate licence from the National Parks and Wildlife Service (NPWS). This list includes all birds along with their nests and eggs. Intentional destruction of an active nest from the building stage up until the chicks have fledged is an offence. This includes the cutting of hedgerows from the 1<sup>st</sup> of March to the 31<sup>st</sup> of August. The act also provides a mechanism to give statutory protection to Natural Heritage Areas (NHAs). The Wildlife Amendment Act 2000 widened the scope of the Act to include most species, including the majority of fish and aquatic invertebrate species which were excluded from the 1976 Act.

The current list of plant species protected by Section 21 of the Wildlife Act, 1976 (and amendments) is set out in the Flora (Protection) Order, 2022 (S.I. No. 235/2022). The Flora (Protection) Order affords protection to several species of plant in Ireland, including 89 vascular plants, 40 mosses, 25 liverworts, 2 stonewort and 1 lichen. This Act makes it illegal for anyone to uproot, cut or damage any of the listed plant species and it also forbids anyone from altering, interfering, or damaging their habitats. This protection is not confined to within designated conservation sites and applies wherever the plants are found.

NHAs are designations under the Wildlife Acts to protect habitats, species, or geology of national importance. The boundaries of many of the NHAs in Ireland overlap with Special Areas of Conservation (SAC) and/or Special Protection Area (SPA) sites. Although many NHA designations are not yet fully in force under this legislation (referred to as 'proposed NHAs' or pNHAs), they are offered protection from the date they are formerly proposed for designation, under the Wildlife Amendment Act (2000).

#### EC (Birds and Natural Habitats) Regulations 2011

The EU Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive 1992) provides protection to particular species and habitats throughout Europe. The Habitats Directive has been transported into Irish law through the EC (Birds and Natural Habitats) Regulations 2011.

Annex IV of the EU Habitats Directive provides protection to a number of listed species, wherever they occur. Under Regulation 23 of the Habitats Directive, any person who, in regards to the listed species, *"Deliberately captures or kills any specimen of these species in the wild, deliberately disturbs these species particularly during the period of breeding, rearing, hibernation and migration, deliberately takes or destroys eggs from the wild or damages or destroys a breeding site or resting place of such an animal shall be guilty of an offence."*

#### Invasive Species Legislation

Certain plant species and their hybrids are listed as Invasive Alien Plant Species in Part 1 of the Third Schedule of the *European Communities (Birds and Natural Habitats) Regulations 2011* (SI 477 of 2011, as amended). In addition, soils and other material containing such invasive plant material, 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 in this legislation can result in either civil or criminal prosecution, or both, with very severe penalties accruing. Convicted parties under the Act can be fined up to €500,000.00, jailed for up to 3 years, or both.

Extracts from the relevant sections of the regulations are reproduced below.

*“49(2) Save in accordance with a licence granted [by the Department of Arts, Heritage and the Gaeltacht], any person who plants, disperses, allows or causes to disperse, spreads or otherwise causes to grow in anyplace [a restricted non-native plant], shall be guilty of an offence.*

*49(3) ... it shall be a defence to a charge of committing an offence under paragraph (1) or (2) to prove that the accused took all reasonable steps and exercised all due diligence to avoid committing the offence.*

*50(1) Save in accordance with a licence, a person shall be guilty of an offence if he or she [...] 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, or*

*(c) a vector material listed in 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.”*

### 8.1.2.1 International Legislation

#### EU Birds Directive

The Birds Directive constitutes a level of general protection for all wild birds throughout the European Union. Annex I of the Birds Directive includes a total of 194 bird species that are considered rare, vulnerable to habitat changes or in danger of extinction within the European Union. Article 4 establishes that there should be a sustainable management of hunting of listed species, and that any large scale non-selective killing of birds must be outlawed. The Directive requires the designation of Special Protection Areas (SPAs) for: listed and rare species, regularly occurring migratory species and for wetlands which attract large numbers of birds. There are 25 Annex I species that regularly occur in Ireland.

#### EU Habitats Directive

The Habitats Directive aims to protect some 220 habitats and approximately 1000 species throughout Europe. The habitats and species are listed in the Directives annexes, where Annex I covers habitats and Annex II, IV and V cover species. There are 59 Annex I habitats in Ireland and 33 Annex IV species which require strict protection wherever they occur. The Directive requires the designation of Special Areas of Conservation (SACs) for areas of habitat deemed to be of European interest. The SACs together with the SPAs from the Birds Directive form a network of protected sites called Natura 2000.

#### Water Framework Directive (WFD)

The EU WFD 2000/60/EC is an important piece of environmental legislation which aims to protect and improve water quality. It applies to rivers, lakes, groundwater, estuaries, and coastal waters. The Water Framework Directive was agreed by all individual EU member states in 2000, and its first cycle ran from 2009 – 2015. The Directive runs in 6-year cycles; the second cycle ran from 2016 – 2021, and the current (third) cycle runs from 2022-2027. The aim of the WFD is to prevent any deterioration in the existing status of water quality, including the protection of good and high-water quality status where it exists. The WFD requires member states to manage their water resources on an integrated basis to achieve at least ‘good’ ecological status, through River Basin Management Plans (RBMP), by 2027.

#### Bern and Bonn Convention

The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1982) was enacted to conserve all species and their habitats. The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention 1979, enacted 1983) was introduced to give protection to migratory species across borders in Europe.

#### Ramsar Convention



The Ramsar Convention on Wetlands is an intergovernmental treaty signed in Ramsar, Iran, in 1971. The treaty is a commitment for national action and international cooperation for the conservation of wetlands and their resources. In Ireland there are currently 45 Ramsar sites which cover a total area of 66,995 Ha.

### 8.1.3 Relevant Local Authority Development Plan/ Local Area Plan

The Site is located within the administrative area of Westmeath County Council (Westmeath CoCo). Therefore, the principal policy document guiding the future development of the Site, at present, is the Westmeath County Development Plan 2021-2027.

The Westmeath County Development Plan 2020-2027 details a number of policy objectives regarding biodiversity in the county; specifically, CPOs 2.15, 12.9, 12.13, 12.14, 12.21, 12.22, 12.23, 12.24, 12.39, and 12.40.

CPO 2.15 states:

It is a policy objective of Westmeath County Council to: *In the assessment of development proposals, to take account of transport corridors, environmental carrying capacity, availability and/or capacity to provide waste water and water supply services, potential to conflict with Water Framework Directive objectives, potential to impact on the integrity of European sites and Annex Habitats and species, features of biodiversity value including ecological networks, impact on landscape and visual characteristics, education and other socioeconomic objectives.*

CPO 12.9 states:

It is a policy objective of Westmeath County Council to: *Identify and provide appropriate buffer zones between Designated sites and local biodiversity features and areas zoned for development.*

CPO 12.13 states:

It is a policy objective of Westmeath County Council to: *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 natural asset.*

CPO 12.14 states:

It is a policy objective of Westmeath County Council to: *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 12.21 states:

It is a policy objective of Westmeath County Council to: *Ensure lighting fixtures provide only the Lighting 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 states:

It is a policy objective of Westmeath County Council to: *Require, in special circumstances where protected species/habitats are identified in association with a development proposal, that an 'EclA' prepared by a suitably qualified and indemnified person be undertaken for a proposed development which may potentially have a significant impact on rare or threatened species.*

CPO 12.23 states:

It is a policy objective of Westmeath County Council to: *Seek to create and enhance ecological linkages and buffer zones from development.*

CPO 12.24 states:

It is a policy objective of Westmeath County Council to: *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 12.39 states:

It is a policy objective of Westmeath County Council to: *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 states:

It is a policy objective of Westmeath County Council to: *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.*

In keeping with the above policies the Proposed Development entails the retention of much of the hedgerows and treelines at the Site, along with the provision of additional green infrastructure through tree and hedgerow planting at various locations therein. The policy objectives of the County Development Plan will act to minimize the loss of habitats in the county as a result of development by encouraging developments that are in keeping with its aims.

## **8.2 Methodology**

This section details the steps and methodology employed to undertake an EcIA of the Site of the Proposed Development.

### **8.2.1 Scope of Assessment**

The specific objectives of the study were to:

- Undertake baseline ecological surveys of the Site and evaluate the nature conservation importance of the Site;
- Identify and assess the direct, indirect and cumulative ecological implications or impacts of the project during its lifetime;
- Where possible, propose mitigation measures to remove or reduce those impacts at the Design, Construction and Operational Phases; and
- Achieve the best possible biodiversity outcome for the future of the Site.

#### **8.2.1.1 Terms and Definitions**

##### Habitats

In terms of definitions, a habitat is the environment in which an animal or plant lives, generally defined in terms of vegetation and physical structures. As per CIEEM, 2018, a habitat is defined as: “The place or type of site where an organism or population naturally occurs. Often used in the wider sense referring to major assemblages of plants and animals

found together.”. Habitats and species of ecological significance occurring/likely to occur within the Zone of Influence (ZOI) study area are classified as Key Ecological Receptors (KERS).

#### Key Ecological Receptors (KERS)

KERS are defined as sensitive sites, habitats, ecological features, assemblages, species, or individuals that occur within the vicinity of a Proposed Development upon which effects are likely.

The NRA (2009) defines KERS as those ecological features which are evaluated as Locally Important (higher value) or higher, that are likely to be impacted significantly by the Proposed Development. Internationally important receptors would include SACs or SPAs while those of national importance would include NHAs.

Using the comprehensive assessment of the existing environment (baseline conditions), it has been possible to accurately predict the likely effects of the Proposed Development on KERS and correctly assign an ecological significance to them.

#### Zone of Influence

The ‘zone of influence’ (ZOI) for a project is the area over which ecological features may be affected by changes as a result of the Proposed Development and associated activities. This is likely to extend beyond the development Site, for example, where there are ecological or hydrological links beyond the Site boundaries (CIEEM, 2018). The ZOI will vary with different ecological features, depending on their sensitivities to an environmental change. In this instance, the ZOI is regarded to be relatively limited and within the red line boundary of the Site for most ecological receptors.

To determine the ZOI of the Proposed Development for designated sites, reference was made to the OPR Practice Note PN01 - ‘Appropriate Assessment Screening for Development Management’ (OPR, 2021), a practice note produced by the Office of the Planning Regulator, Dublin. This note was published to provide guidance on screening for AA during the planning process, and although it focuses on the approach a planning authority should take in screening for AA, the methodology is also readily applied in the preparation of Biodiversity Chapters of EIAR such as this; to identify relevant designated sites potentially linked to the Proposed Development. Previously, a customary ZOI of 15km was applied in the assessment of ecological impacts. However as noted in the aforementioned practice note, this approach is not based on the Source – Pathway – Receptor (S-P-R) framework, which is considered best practice. Few projects have a ZOI this large, though some more complex projects may require a greater zone of investigation, that should be evaluated on a case-by-case basis.

In applying the precautionary principle, an initial 5km ZOI was used for European sites, Natural Heritage Areas / proposed Natural Heritage Areas and RAMSAR sites. Individual sources of potential impacts will be identified, and the ZOI for those sources expanded if required. A designated site will only be at risk from likely significant effects where a S-P-R link exists between the Proposed Development and the Site.

Sources of impacts are related to the nature, size and location of the Proposed Development. Pathways refer to the linkages between the Site and European sites, and receptors refers to the location, nature and sensitivities of the qualifying species and habitats within those European sites linked to the Proposed Development, and the ecological conditions underpinning their survival (i.e., the specified conservation objectives for the impacted European site (OPR, 2021).

### **8.2.2 Desk Study**

A desktop study was carried out to collate and review available information datasets and documentation sources pertaining to the Site’s natural environment. The desktop study, completed in September 2023, relied on the following sources:



- Information on species records<sup>1</sup> and distribution, obtained from the National Biodiversity Data Centre (NBDC) at [www.maps.biodiversityireland.ie](http://www.maps.biodiversityireland.ie);
- Information on waterbodies, catchment areas and hydrological connections obtained from the EPA at [www.gis.epa.ie](http://www.gis.epa.ie);
- Information on bedrock, groundwater, aquifers and their statuses, obtained from Geological Survey Ireland (GSI) at [www.gsi.ie](http://www.gsi.ie);
- Information on the network of designated conservation sites, boundaries, qualifying interests and conservation objectives, obtained from the NPWS at [www.npws.ie](http://www.npws.ie);
- Satellite imagery and mapping obtained from various sources and dates including Google, Digital Globe, Bing and Ordnance Survey Ireland;
- Information on the existence of permitted developments, or developments awaiting decision, in the vicinity of the Proposed Development from the National Planning Application Database available at: <https://housinggovie.maps.arcgis.com/apps/webappviewer/index.html?id=9cf2a09799d74d8e9316a3d3a4d3a8de>;
- Information on the extent, nature and location of the Proposed Development, provided by the applicant and/or their design team;
- The current conservation status of birds in Ireland taken from Gilbert et al. (2021); and
- The pollinator friendly planning code provided by The All-Ireland Pollinator Plan (2015 – 2020, 2021 – 2025) available at [www.pollinators.ie](http://www.pollinators.ie).

A comprehensive list of all the specific documents and information sources consulted in the completion of this document is provided in section 8.8 References.

### 8.2.2.1 Identification of Designated Sites

The methodology used to identify relevant designated sites comprised the following:

- Use of current GIS spatial datasets for designated sites and water catchments – downloaded from the NPWS website ([www.npws.ie](http://www.npws.ie)) and the EPA website ([www.epa.ie](http://www.epa.ie)) to identify designated sites which could potentially be affected by the Proposed Development;
- The catchment data was used to establish or discount potential hydrological connectivity between the Site boundary and any designated sites;
- All designated sites within the ZOI (within 5km of the Site) were identified and are shown in figure Figure 8-2 and Figure 8-3;
- The potential for connectivity with designated sites at distances greater than 5km were also considered in this initial assessment. In this case, there is no potential connectivity between the Site and designated sites located outside of the ZOI based on the S-P-R model;
- Table 8-8 provides details of all relevant designated sites as identified in the preceding steps. The potential for pathways between designated sites as identified in the preceding steps. The potential for pathways between designated sites and the Proposed Development Site was assessed on a case-by-case basis using the S-P-R framework as per the OPR Practice Note PN01 (March 2021). Pathways considered included:
  - Direct pathways e.g., proximity/location within the designated site, water bodies, air (for both air emissions and noise impacts).
  - Indirect pathways e.g., disruption to migratory paths, ‘sightlines’ where noisy or intrusive activities may result in disturbance to shy species.

<sup>1</sup> The Site of the Proposed Development lies within the 2km grid square N04L and N04R and 1km grid squares N0542, N0543, N0642 and N0643. Relevant records from the last 20 years from available datasets are given in the relevant sections of this report.

## 8.2.3 Field Surveys

A range of field surveys have been carried out at the Site of the Proposed Development to inform this Biodiversity Chapter. The following sections provide details of the field surveys carried out and a summary of ecological surveys is provided in Table 8-1.

Table 8-1: Summary of Ecological Surveys Carried Out at the Site.

Survey	Survey Date(s)	Surveyor
Ecological Walkover Survey	25/07/2023	ROH & BMcC (Enviroguide)
	24/07/2022	ROH (Enviroguide)
	17/07/2022	ROH (Enviroguide)
Detailed Botanical Survey of the Esker	26/04/2023	YM & ROH (Enviroguide)
Dedicated Badger Survey	05/04/2023 6/11/2022	BF (Flynn Furney Environnemental Consultants)
Bat Survey	23/08/2023	ROG & NB (Enviroguide)
	18/05/2023	ROG & NB (Enviroguide)
	28/07/2022	AW (AEE Ltd.)
	29/09/2021	AW (AEE Ltd.)
Bird Scoping Survey	25/07/2023	BMcC (Enviroguide)
	11/07/2022	
Wintering Bird Survey	30/03/2022	ROH (Enviroguide)
	11/03/2022	
	28/02/2022	
	15/02/2022	
	31/01/2022	
	14/01/2022	
	17/12/2021	
	30/11/2021	

### 8.2.3.1 Habitat Surveys

A habitat survey of the Site was undertaken by Enviroguide Ecologist ROH on the 25<sup>th</sup> of July 2023 and the 17<sup>th</sup> and 24<sup>th</sup> of August 2022. Habitats were categorized according to the Heritage Council's 'A Guide to Habitats in Ireland' (Fossitt, 2000) to level 3. The habitat mapping exercise has regard to the 'Best Practice Guidance for Habitat Survey and Mapping' (Smith et al., 2011) published by the Heritage Council. Habitats within the surrounding area of the Proposed Development were classified based on views from the Site and satellite imagery where necessary (Google Earth, Digital Globe and OSI).

### 8.2.3.2 Invasive Species Surveys

The Site was assessed for the presence of invasive plant species during the habitat surveys undertaken on the 25<sup>th</sup> of July 2023 and the 17<sup>th</sup> and 24<sup>th</sup> of August 2022. The location of invasive species was documented on the field map or through the use of GPS in the field. Non-native species in Ireland have been assessed and assigned an impact rating of either 'High', 'Medium' or 'Low' impact based on a number of factors that determine a species' potential to become established in this country and have significant impacts (Kelly et al., 2013). Invasive species can also be rated as an 'Amber-list species', which signifies a



‘Medium’ impact potential or established invasive species that may pose a threat to conservation goals (Invasive Species Ireland, 2022).

The invasive plant species surveys were primarily focused on plant species that are listed on Schedule III of the European Communities (Birds and Habitats) Regulations and considered to be ‘High impact’ invasive species e.g., Japanese knotweed (*Reynoutria japonica*). Incidental observations of other terrestrial plant species known to be potentially invasive, such as butterfly bush (*Buddleja davidii*), were also recorded. The invasive flora surveys were undertaken during the growing season of May – August as per best practice.

It is an offence to plant, disperse, allow or cause to disperse, spread or otherwise cause to grow any invasive species scheduled on the European Communities (Birds and Habitats) Regulations and species listed as ‘high’ impact under the NBDC ‘Invasive Species in Ireland Prioritisation Risk Assessment’ (Kelly, et al., 2013).

### 8.2.3.3 Detailed Botanical Survey of the Esker

A detailed botanical walkover survey of the esker was undertaken on the 26<sup>th</sup> of April 2023 by Enviroguide Ecologists YM and ROH. The focus on the survey was the area of dry calcareous and neutral grassland (GS1) habitat located on the esker to the south of the Proposed Development for its potential to correspond with the Annex I habitat semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco brometalia*) [6210], (please note that this includes the priority feature “important orchid rich sites”. This assessment applied the updated methodology as per Martin et al., (2018).

To assess floristic composition of the esker, relevés were collected, setting a sample plot in each topographical area, namely a slope (30° - 45°) of the esker, a ridge (0° - 5°) of the esker and a toe of slope (0° - 10°) of the esker.

In summary, the survey methodology was as follows:

- Set a 2 \* 2 m<sup>2</sup> plot with scales.
- Record all vascular species within a quadrat, layering into height strata, i.e., herb layer and shrub layer.
- Record the dominance of each species, following the Braun-Blanquet cover-abundance scale (Table 8-2).

**Table 0-2. Braun-Blanquet cover-abundance scale (Mueller-Dombois 1974).**

Rating symbol	Description	Percentage
5	Any number with cover more than $\frac{3}{4}$ of the reference area	>75%
4	Any number with $\frac{1}{2}$ - $\frac{3}{4}$ cover	50-75%
3	Any number with $\frac{1}{4}$ - $\frac{1}{2}$ cover	25-50%
2	Any number with $\frac{1}{20}$ - $\frac{1}{4}$ cover	5-25%
1	Numerous but less than $\frac{1}{20}$ cover or scattered with cover up to $\frac{1}{20}$	5%
+	Few, with small cover	-
R	Solitary, with small cover	-

#### 8.2.3.4 Mammal Surveys

Mammal surveys of the Site were carried out in conjunction with field surveys undertaken on the 25<sup>th</sup> of July 2023 and the 17<sup>th</sup> and 24<sup>th</sup> of August 2022. In addition, any signs of mammal presence were recorded, where relevant, during other surveys undertaken at the Site of the Proposed Development. The mammal surveys conducted had regard to the survey guidelines contained in *Guidelines for the Assessment of Ecological Impacts of National Road schemes* (NRA, 2009). The Site was searched for signs of mammals such as burrows, setts, droppings, foraging signs and tracks as per Bang and Dahlstrom (2001). The habitat types recorded throughout the survey area were used to assist in identifying the fauna considered likely to utilise the area.



#### 8.2.3.5 Bird Surveys

The Birds of Conservation Concern in Ireland (Gilbert et al., 2021) established the appropriate Red-Amber-Green listing category and individual species are assessed against a range of quantitative criteria. These criteria assess a number of important characteristics of populations such as changes in range and population size in Ireland, Europe and globally. Meeting one or more of these criteria qualifies a species for the relevant list with each species being listed according to the highest category for which they qualify. Amber-listed species include species that have an unfavorable status in Europe, have moderately declined in abundance or range, a very small population size, a localized distribution, or occur in internationally important numbers.

##### Bird Scoping Surveys

A general bird scoping survey of the entire applicant's landholding was undertaken by Enviroguide Ecologist/Ornithologist BMCC on the 25<sup>th</sup> of July 2023 and the 11<sup>th</sup> of July 2022, with a precautionary approach taken when assessing the likelihood of species recorded at the Site and the likelihood to breed therein. The Site was walked with details of all bird species encountered recorded to assess their behaviour and numbers. The survey methodology followed the British Trust for Ornithology's (BTO) *Common Bird Census* (CBS) technique (2<sup>nd</sup> edn.) (Bibby et al., 2000). The bird scoping survey commenced on the morning of each surveys and involved several transects through the Site to record all species present with a final zig-zag through the Site at the end of the survey to ensure no additional species were missed.

##### Wintering Bird Surveys

A set of targeted winter bird surveys, based on current best practice guidelines published by the Bird Survey & Assessment Steering Group (2022) "*Bird Survey Guidelines for assessing ecological impacts*", were carried out of the entire applicant's landholding at Cornamaddy during 2021/22. The purpose of these surveys was to provide a robust evidence-based assessment of whether the Site of the Proposed Development is, or has the potential to be, in its current state, utilised as ex-situ feeding/roosting grounds by species of shorebird and waterfowl listed as Special Conservation Interests (SCI) species for nearby SPAs.

The survey methodology was as followed:

- Each survey day either commenced at dawn and continued for 6 hours or commenced 6 hours prior to dusk and ended at dusk. These timings were alternated each survey day to capture any possible temporal trends in the usage of the lands by SCI species.
- Each day, prior to the commencement of the survey, the Site was walked and checked for any obvious evidence of SCI species usage e.g., light-bellied brent goose (LBBG) (*Branta bernicla hrota*) droppings.
- Each hour the Site was walked and observed for a period of approx. 20 minutes with any SCI species activity on, or in flight over the Site recorded.
- All SCI species that were observed visiting the Site or flew overhead were recorded, as were any other species of note e.g., rare passerines etc.

All surveys were undertaken using:

- Optricon 8x42 binoculars (or equivalent).
- Optricon 20x Telescope (or equivalent).
- Agreed survey methodology.
- Field notebook.

During the 2021/22 survey season, a total of 8 survey days were carried out at the Cornamaddy lands; covering November and December 2021 and January, February, March and April 2022. These surveys provide a summary of the usage of the Site by SCI species during the winter. A total of 48 hours of surveys were carried out at the Site.

#### 8.2.3.6 Bat Surveys

Bat activity surveys and bat roost assessments were carried out at the Site of the Proposed Development. Survey methodologies followed those of the Bat Conservation Trust *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, 2016). Evidence of bats if present includes live/dead bats, droppings, urine staining, feeding remains etc. Features of the Site were also assessed for potential roosting habitat (natural hollows in trees, cracks in stems or branches, man-made cavities in woody vegetation). A bat detector was used to determine the species of bats present on or near the Site of the Proposed Development.

The data collected was analysed and species assigned to each record with reference to species identification guides such as Russ (2012). Bat survey works were undertaken within the recommended survey period of May to September inclusive (Collins, 2016).

##### Potential Bat Roost Assessment

Potential Bat Roost (PBR) and commuting/foraging habitat suitability surveys were conducted by ROH and NB during the day of the 18<sup>th</sup> of May 2023.

Daytime inspections were undertaken of all of the trees within the Proposed Development area in order to assess features that may provide suitable bat roost habitat. Inspections were undertaken visually from the ground, with the aid of a strong torch beam where required. Trees within the survey area were assessed for Potential Roost Features (PRFs) which were used to determine their potential bat roost value as per Table 4.1 in the Bat Conservation Trust's *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, 2016).

##### Habitat Suitability Assessment

The Site was also assessed in relation to potential bat foraging habitat and potential bat commuting routes. Bat habitats and commuting routes identified were considered in relation to the wider landscape to determine landscape connectivity for local bat populations through the examination of aerial photographs Table 4.1 in the Bat Conservation Trust's *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, 2016).

##### Dusk Transect Activity Survey and Analysis



Dust transect bat activity surveys were conducted on the 18<sup>th</sup> of May 2023 by Enviroguide ecologists, and on the 28<sup>th</sup> of July 2022 and 29<sup>th</sup> of September 2021 by Ash Ecology & Environmental. Survey methodologies followed those of the Bat Conservation Trust *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, 2016). As per the best practice guidelines, activity surveys should be conducted in the period May to September. Surveys in March, April and October may be possible if weather conditions allow.

The aim of the activity surveys was to determine if bats were present on Site and if so, to monitor their behaviour such as feeding, commuting, or roosting. As a general guide activity level is determined as follows:

- Low = <10 bat passes/hr;
- Moderate = >10 bat passes/hr; and,
- High = >50 bat passes/hr.

The survey comprised of a walked transect around the Site with particular attention being given to linear features within the Site. Echolocations were recorded and saved by the Elekon Batlogger for more detailed species analysis using BatExplorer analytical software. The transect surveys in 2023 were undertaken by Enviroguide ecologists, and followed a predetermined approach consisting of a walked transect route in a clockwise direction separated by a number of predetermined stopping points where the surveyor spent a period of 6 minutes stationary and recording activity (Figure 8-1). The combination of stopping points and walked transects will allow any hotspots in bat activity along the various field boundaries at the Site to be captured and compared and indicates areas of particular importance to the local bat population.

To comply with best practice guidelines, dusk transect surveys began 15 minutes before sunrise and were sustained for a minimum of 2 hours (Collins, 2016). Weather conditions (Collins, 2016) and time of year (Marnell *et al.*, 2022) were suitable for bat surveys. The weather conditions are described in Table 8-3.



Figure 0-1. Bat Transect Activity Survey Route May 2023

The transect surveys in 2022 and 2021 were undertaken by Ash Ecology & Environmental. Surveys were conducted using an Elekon Bat Logger M detector and visual observations were taken with the aid of a powerful L.E.D. torch (AP Pros-Series 220 Lumens High Performance Spotlight). A Seek Thermal Reveal Pro High-Resolution Thermal Imaging Camera was also used along with a RIDGID 36848 Micro CA-150 Hand-held Borescope for inspection of any crevices on trees.

A predetermined transect of the Site based on the daytime walkover was walked for both the 2022 and 2021 surveys, allowing the Site's field boundaries and areas of vegetation to be surveyed for bat usage. Where activity was noted, the surveyors remained in place for several minutes to ensure a representation of the activity was recorded. The walked transects for the 2022 and 2021 surveys covered the entire applicants landholding at Cornamaddy whereas the 2023 survey focused on the area of the Proposed Development.

#### Emergence surveys

An emergence survey was undertaken of a treeline south of the Proposed Development boundary on the 23<sup>rd</sup> of August 2023. This treeline was noted as containing moderate potential bat roosts during the 2022 bat transect survey. Two surveyors equipped with high powered torches and an Elekon M2 handheld bat detector carried out the survey. The surveyors examined the trees prior to commencing the survey. Evidence of bat usage is in the form of actual bats (visible or audible), bat droppings, urine staining, grease marks (oily secretions from glands present on stonework) and claw marks. In addition, the presence of bat fly pupae (bat parasite) also can indicate that bat usage of a crevice, for example, has occurred in the past.

**Table 0-3. Bat survey effort and weather conditions at the Site.**

Date	Survey type	Survey duration	Weather at start	Weather at finish
23/08/2023	Emergence	Survey began at 20.25 (sunset was 20.42) and ended at 22.15	Wind: Beaufort 1 Precipitation: Dry Temperature: 15°	Wind: Beaufort 1 Precipitation: Dry Temperature: 12°
18/05/2023	Transect	Survey began at 21:25 (sunset was 21.29) and ended at 23:30	Wind: Beaufort 1 Precipitation: Dry Temperature: 16°	Wind: Beaufort 1 Precipitation: Dry Temperature: 11°
28/07/2022	Transect	Survey began at 21:05 (sunset was 21:35) and ended at 23:30	Wind: Beaufort 1 Precipitation: Dry Temperature: 15°	Wind: Beaufort 1 Precipitation: Dry Temperature: 15°
29/09/2021	Transect	Survey began at 18:45 (sunset was 19:13) and ended at 21:15	Wind: Beaufort 1 Precipitation: Dry Temperature: 14°	Wind: Beaufort 1 Precipitation: Dry Temperature: 12°

#### Bat Survey Data Analysis

Analysis and results from the 2023 bat survey was compiled by Enviroguide ecologist ROH. Echolocation data was recorded by the bat detector on Site and was later analysed using Elekon's BatExplorer software (Version 2.1.11.2). BatExplorer allows bat calls to be observed both audibly and on a sonograph to determine species identification. Each recording was manually identified to species level using species identification guides such as Russ (2021). *Myotis* species (Daubenton's bat (*M. daubentonii*), whiskered bat (*M. mystacinus*) and Natterer's bat (*M. nattereri*)) were identified to genus level and considered as a single group (*Myotis* spp.) due to the difficulty in distinguishing individual species based on echolocation parameters alone (Russ, 1999).

Each recording is comprised of a sequence of bat calls/pulses and is noted as a bat pass. A bat pass represents a recording of a bat in the vicinity of the surveyor. Bat passes are representative of bat activity and no individual bats. Some bats such as the *Pipistrelle* species repeatedly fly along a linear feature or circle an abundant feeding area. It is possible that a series of bat passes could represent a singular bat and therefore this measurement is more accurate as a representative of bat activity and not individual bats.



### 8.2.3.7 Other Fauna

A general fauna survey of the Site was carried out in conjunction with the other field surveys in July 2023. The habitat types recorded throughout the survey area were used to assist in identifying the fauna considered likely to utilise the area. Furthermore, the Site was searched for tracks and signs of mammals as per Bang and Dahlstrom (2001) and the National Road Authority (NRA, 2005). This survey considers protected or notable fauna that may occur within the Site or in the adjacent lands, but for which no historical records from the relevant grid squares exist or no targeted surveys were carried out.

### 8.2.4 Methodology for Assessment of Effects

The value of the ecological resources, i.e., the habitats and species present or potentially present, was determined using the ecological evaluation guidance given in the National Roads Authority's Ecological Assessment Guidelines (NRA, 2009) and CIEEM guidelines for Ecological Impact Assessment (2018). This evaluation scheme, with values ranging from locally important to internationally important, seeks to provide value ratings for habitats and species present that are considered ecological receptors of impacts that may ensue from a proposal. These guidelines set out the context for the determination of value on a geographic basis with a hierarchy assigned in relation to the importance of any particular receptor.

This evaluation scheme has been adapted here to assess the value of habitats and fauna within the site. The value of fauna is assessed on its biodiversity value, legal status and conservation status. Biodiversity value is based on its national distribution, abundance or rarity and associated trends. Using the evaluation criteria as described above, some of the habitats and species identified as being present were assessed as KERs. As per the NRA guidelines, impact assessment is only undertaken of KERs.

#### 8.2.4.1 Methodology to Determine Value of Ecological Resources

The ecological features identified within the Site and the wider area are evaluated based on their value, as detailed in Table 8-4. Habitats and species evaluated based on their conservation status, distribution and the estimated population size or importance. This evaluation follows the Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009). Ecological resources of below 'Local Importance (Higher value)' should not be selected as KERs for which detailed assessment is required (NRA, 2009).

**Table 8-4: Description of Values for Ecological Resources Based on Geographic Hierarchy of Importance (NRA,2009).**

Importance	Criteria
<b>International Importance</b>	<ul style="list-style-type: none"><li>- 'European site' including Special Area of Conservation (SAC), Site of Community Importance (SCI), Special Protection Area (SPA) or proposed Special Area of Conservation.</li><li>- Proposed Special Protection Area (pSPA). Site that fulfils the criteria for designation as a 'European site' (see Annex III of the Habitats Directive, as amended).</li><li>- Features essential to maintaining the coherence of the Natura 2000 Network</li><li>- Site containing 'best examples' of the habitat types listed in Annex I of the Habitats Directive.</li><li>- Resident or regularly occurring populations (assessed to be important at the national level) of the following:<ul style="list-style-type: none"><li>o Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; and/or</li><li>o Species of animal and plants listed in Annex II and/or IV of the Habitats Directive</li></ul></li></ul>





	<ul style="list-style-type: none"> <li>- Ramsar Site (Convention on Wetlands of International Importance Especially Waterfowl Habitat 1971).</li> <li>- World Heritage Site (Convention for the Protection of World Cultural &amp; Natural Heritage, 1972).</li> <li>- Biosphere Reserve (UNESCO Man &amp; The Biosphere Programme)</li> <li>- Site hosting significant species populations under the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals, 1979).</li> <li>- Site hosting significant populations under the Bern Convention (Convention on the Conservation of European Wildlife and Natural Habitats, 1979).</li> <li>- Biogenetic Reserve under the Council of Europe.</li> <li>- European Diploma Site under the Council of Europe.</li> <li>- Salmonid water designated pursuant to the European Communities (Quality of Salmonid Waters) Regulations, 1988, (S.I. No. 293 of 1988).</li> </ul>
<b>National Importance</b>	<ul style="list-style-type: none"> <li>- Site designated or proposed as a Natural Heritage Area (NHA).</li> <li>- Statutory Nature Reserve.</li> <li>- Refuge for Fauna and Flora protected under the Wildlife Acts.</li> <li>- National Park.</li> <li>- Undesignated site fulfilling the criteria for designation as a Natural Heritage Area (NHA); Statutory Nature Reserve; Refuge for Fauna and Flora protected under the Wildlife Act; and/or a National Park.</li> <li>- Resident or regularly occurring populations (assessed to be important at the national level) of the following: <ul style="list-style-type: none"> <li>o Species protected under the Wildlife Acts; and/or</li> <li>o Species listed on the relevant Red Data list.</li> <li>o Site containing 'viable areas' of the habitat types listed in Annex I of the Habitats Directive</li> </ul> </li> </ul>
<b>County Importance</b>	<ul style="list-style-type: none"> <li>- Area of Special Amenity.</li> <li>- Area subject to a Tree Preservation Order.</li> <li>- Area of High Amenity, or equivalent, designated under the County Development Plan.</li> <li>- Resident or regularly occurring populations (assessed to be important at the County level) of the following: <ul style="list-style-type: none"> <li>o Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive;</li> <li>o Species of animal and plants listed in Annex II and/or IV of the Habitats Directive;</li> <li>o Species protected under the Wildlife Acts; and/or</li> <li>o Species listed on the relevant Red Data list.</li> <li>o Site containing area or areas of the habitat types listed in Annex I of the Habitats Directive that do not fulfil the criteria for valuation as of International or National importance.</li> </ul> </li> <li>- County important populations of species; or viable areas of semi-natural habitats; or natural heritage features identified in the National or Local BAP; if this has been prepared.</li> <li>- Sites containing semi-natural habitat types with high biodiversity in a county context and a high degree of</li> </ul>

	<p>naturalness, or populations of species that are uncommon within the county.</p> <ul style="list-style-type: none"> <li>- Sites containing habitats and species that are rare or are undergoing a decline in quality or extent at a national level.</li> </ul>
<b>Local Importance (higher value)</b>	<ul style="list-style-type: none"> <li>- Locally important populations of priority species or habitats or natural heritage features identified in the Local BAP, if this has been prepared;</li> <li>- Resident or regularly occurring populations (assessed to be important at the Local level) of the following: <ul style="list-style-type: none"> <li>o Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive;</li> <li>o Species of animal and plants listed in Annex II and/or IV of the Habitats Directive;</li> <li>o Species protected under the Wildlife Acts; and/or</li> <li>o Species listed on the relevant Red Data list.</li> <li>o Sites 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;</li> </ul> </li> <li>- 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.</li> </ul>
<b>Local Importance (lower value)</b>	<ul style="list-style-type: none"> <li>- Sites containing small areas of semi-natural habitat that are of some local importance for wildlife;</li> <li>- Sites or features containing non-native species that is of some importance in maintaining habitat links.</li> </ul>

#### 8.2.4.2 Methodology – Impact Assessment Criteria

Once the value of the identified KERs was determined, the next step was to assess the potential effect or impact of the Proposed Development on these KERs. This was carried out with regard to the criteria outlined in various impact assessment guidelines (NRA, 2009; CIEEM, 2018; EPA, 2022) that set down a number of parameters such as quality, magnitude, extent and duration that should be considered when determining which elements of the proposal could constitute impacts or sources of impacts. Once impacts are defined, their significance was categorised using EPA Guidelines (EPA, 2022).

Identification of a risk does not constitute a prediction that it will occur, or that it will create or cause significant impact. However, identification of the risk does mean that there is a possibility of ecological or environmental damage occurring, with the level and significance of the impact depending upon the nature and exposure to the risk and the characteristics of the ecological receptor.

##### Criteria Used to Define Quality of Effects

In line with the EPA Guidelines (EPA, 2022), the following terms are defined when quantifying the quality of effects (Table 8-5).

**Table 8-5: Definition of quality of effects.**

Quality	Definition
<b>Positive Effects</b>	A change which improves the quality of the environment (for example, by increasing species diversity; or the improving reproductive capacity of an ecosystem, or by removing nuisances or improving amenities).

<b>Neutral Effects</b>	No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error
<b>Negative/adverse Effects</b>	A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem; or damaging health or property or by causing nuisance).

#### Criteria Used to Define Significant of Effects

European Commission (EC) Guidance on EIAR (EC, 2017) states that assessment of significance should be determined using appropriate, clear, and unambiguous criteria which take “the characteristics of the impact and the values associated with the environmental issues affected into account”. Consequently, in line with the EPA EIAR Guidelines (EPA, 2022), the following terms are defined when quantifying the significance of impacts (Table 8-6).

**Table 8-6: Definition of Significance of Effects**

<b>Significance of Effects</b>	<b>Definition</b>
<b>Imperceptible</b>	An effect capable of measurement but without significant consequences.
<b>Not significant</b>	An effect which causes noticeable changes in the character of the environment but without significant consequences.
<b>Slight Effects</b>	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
<b>Moderate Effects</b>	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
<b>Significant Effects</b>	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment
<b>Very Significant</b>	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.
<b>Profound Effects</b>	An effect which obliterates sensitive characteristics

#### Criteria Used to Define Duration of Effects

In line with the EPA Guidelines (EPA, 2022), the following terms are defined when quantifying duration and frequency of effects (Table 8-7).

**Table 8-7: Definition of Duration of Effects.**

<b>Quality</b>	<b>Definition</b>
<b>Momentary Effects</b>	Effects lasting from seconds to minutes
<b>Brief Effects</b>	Effects lasting less than a day
<b>Temporary Effects</b>	Effects lasting less than a year
<b>Short-term Effects</b>	Effects lasting one to seven years.
<b>Medium-term Effects</b>	Effects lasting seven to fifteen years.
<b>Long-term Effects</b>	Effects lasting fifteen to sixty years



<b>Permanent Effects</b>	Effects lasting over sixty years
<b>Reversible Effects</b>	Effects that can be undone, for example through remediation or restoration

## 8.2.5 Difficulties Encountered in Compiling Information

An extensive search of available datasets for records of rare and protected species within proximity of the Site has been undertaken as part of this assessment. However, the records from these datasets do not constitute a complete species list. The absence of species from these datasets does not necessarily confirm an absence of species in the area.

No significant limitations of the field surveys and desk-based work completed to date were encountered which would prevent robust conclusions being drawn as to the potential impacts of the Proposed Development. All surveys were undertaken at the appropriate period as per the relevant best practice guidelines. Minor areas of dense scrub habitat on Site were inaccessible during field surveys. The perimeter of the dense scrub habitat was surveyed and any evidence of mammal activity (entrance/exit trails, scat, snuffle holes etc.) was noted.

Due to Site constraints, the emergence survey of the treeline south of the Proposed Development was undertaken from one side only. There is therefore potential for bat emergence from this treeline on the opposite side may have been missed. This is not considered a significant limitation in combination with a precautionary approach and as this treeline will be retained and will not be impacted by the Proposed Development.

## 8.3 Description of Existing and Receiving Environment (Baseline Situation)

### 8.3.1 Proposed Development Description

Marina Quarter Limited intend to apply for development at this site of total c. 7.31 ha on lands located at Cornamaddy, Athlone, Co. Westmeath. The site is generally bounded by surrounding greenfield lands to the immediate north, east, south and west, to the south-west by an existing cemetery and a Pitch and Putt Club bordering the site to the north-west. The proposed duplexes are located to the south east of the Applicant's overall handholding adjoining the permitted creche (WMCC Ref. 22/340) near the N55 Roundabout. The site is also bounded by a number of extant permissions (currently granted, at further information stage or under construction) within the same overall development to the east and south, i.e. Phase 1 (reg ref. 22/253), Phase 2 (reg ref. 22/340), Phase 3 (reg ref. 22/577 – amendments to WMCC reg. ref. 14/7103) and Phase 5 (reg ref. 23/60047).

The development will comprise of a residential development and public open space comprising the following: Construction of 177 no. residential units on a gross site area of 7.31 ha ranging in height from 2-3 storeys comprising detached, semi-detached, and terraced houses, maisonettes and 3 storey duplex apartments. 65 no. 2 bed houses, 71 no. 3 bed houses and 9 no. 4 bed houses will be provided. 24 no. 1 bed maisonette apartment units and 8 no. 3 storey duplex apartment units will be provided.

All associated private open space in the form of gardens/terraces. All pedestrian and vehicular access roads and footpaths including a section of the planned east/west distributor road connecting to a section of the distributor road permitted under WMCC Reg. Refs 14/7103/ ABP Ref. PL25.244826 and 22/253 and proposed under concurrent application WMCC Reg. Ref. 22/577 to the south east of the site. The proposed development includes amendments to permissions granted within the applicants landholding at Cornamaddy as follows: Minor modifications to the internal access road layout and open space permitted under WMCC Ref. 22/253 and minor modifications to a section of the distributor road proposed under concurrent application WMCC Ref. 22/577. Minor modifications to the road permitted for access to the creche facility granted under WMCC Reg. Ref. 22/340 to provide turning heads and access to parking associated with the proposed duplex units. Minor modifications to the rear private gardens of units no's. 061,

062 and 063 permitted under WMCC Ref. 22/253 to provide additional private open space. All associated site development works, services provision, drainage works, zoned open space/linear park (c.1.09ha), residential public open space areas (c.0.82ha in total), landscaping, communal open space serving the duplex apartments (c.0.02ha), landscaping, boundary treatment works, public lighting, associated esb substation cabinets, bin stores and car and bicycle parking provision. This development will form part of a larger phase of permitted and proposed development. This planning application is accompanied by an Environmental Impact Assessment Report and Natura Impact Statement. The application is available for public viewing at the following website: [www.cornamaddyld.ie](http://www.cornamaddyld.ie)

### 8.3.1.1 Drainage and Foul Water

#### Surface Water

According to the Engineering Services Report for the Proposed Development (Paul McGrail, 2023a), the surface water network for the Site will discharge to the existing ditch located to the northern boundary of the Site.

It is proposed to incorporate a Sustainable Drainage System (SuDS) approach to surface water management at the Site throughout the Operational Phase. SuDS drainage designs collect and treat surface water runoff as close to the source as possible. Surface water runoff is managed using a treatment train approach to ensure that the quality and quantity of surface water runoff is addressed through the techniques of Pollution Prevention, Source Control, Site Control and Regional Control. SuDS features incorporated into the project design include:

- Modular Permeable Paving installed in private parking spaces and driveways.
- Swales along road networks.
- Bioretention systems designed in accordance with CIRIA guide C753 along roads.
- Filter drains on permeable paving and swales.
- Stormtech underground storage located under open space areas.
- Petrol/oil interceptors and hydrobrake flow control devices.

Surface water runoff from the Site will be attenuated to a greenfield runoff (Qbar) in accordance with the recommendations of the Greater Dublin Strategic Drainage Strategy (GDSDS). The Site has been divided into three separate catchment areas due to Site constraints. The greenfield runoff for catchment 1 is calculated as 24.1 l/s, catchment 2 is calculated as 24.7 l/s and catchment 3 is calculated as 1.2 l/s.

#### Foul Water

According to the Engineering Services Report for the Proposed Development (Paul McGrail, 2023a), foul water from the Proposed Development will connect to the existing Irish Water Wastewater Network pipeline to the east of the Site which connects to the existing Cornamagh wastewater pumping station northeast of the Site.

The foul water discharge calculations for the Proposed Development are as follows; dry weather flow of 446 l/dwelling/day, post development discharge of 0.934 l/s. post development peak discharge of 5.606 l/s and a daily foul discharge of 80,698 l.

Foul water from the Proposed Development will ultimately be treated at Athlone Wastewater Treatment Plant (WwTP).

A pre-connection enquiry has been submitted to Irish Water and a Confirmation of Feasibility has been granted (reference: CDS20006740). This Confirmation of Feasibility letter states that the Athlone WwTP and the Cornamagh Wastewater Pumping station has adequate capacity to cater for the additional loading as a result of the Proposed Development.

### 8.3.2 Site Overview

#### 8.3.2.1 Geology, Hydrology and Hydrogeology

The Site of the Proposed Development is within the Upper Shannon catchment (26E) WFD catchment and the Shannon [Upper]\_SC\_090 sub catchment (EPA, 2023).

There is one WFD waterbody adjacent to the Site of the Proposed Development. A tributary of the River Shannon (Shannon (upper)\_110) known locally as the Kippinstown stream and Garrynafela stream, flows along the northern and eastern Site boundaries. From here the stream flows north for approximately 1.7 river km towards Ballaghkerran Bay (IS\_SH\_26\_750d) and eventually to Lough Ree. The Garrynafela and Kippinstown streams were assigned a WFD status of *Poor* and the waterbodies are *At Risk* of not meeting their WFD status objectives (EPA, 2022). Ballaghkeeran bay is assigned a WFD status of *Moderate* and the lake is *Not At Risk* of not meeting its WFD status objectives. Ballaghkeeran lough is closely connected to Killinure Lough (IE\_SH\_26\_750b), Coosan Lough (IE\_SH\_26\_750c) and Lough Ree (IE\_SH\_26\_750a) and together they form Lough Ree SAC and Lough Ree SPA (EPA, 2023).

The Site is situated on the Athlone Gravels groundwater body (IE\_SH\_G\_246). The groundwater body has a status of *Good* and is *Not At Risk* of not meeting its WFD objectives (EPA, 2023). Based on the Geological Survey of Ireland (GSI) database, the bedrock beneath the Site is mapped as the *Waulsortian Limestone Formation* (Stratigraphic Code: WA) (New Code: CDWAUL), which comprises *massive unbedded lime-mudstone* (GSI, 2022). The groundwater rock units are described as *Dinantian Pure Unbedded Limestones* (GSI, 2022). The GSI (2023) has classified the aquifer beneath the Site as a *Locally Important Aquifer (LI) – Bedrock which is moderately productive only in local zones*. The groundwater vulnerability rating assigned to the groundwater beneath Site varies from *Moderate* to *High* (GSI, 2023).

The subsoils or quaternary sediments beneath the Proposed Development Site are mapped by the GSI (GSI, 2022), the following is present on Site:

- Fen Peat (FenPt) is present predominately in the north of the Site.
- Gravels derived from Limestone (GLs) is predominately in the southeast of the Site.
- Esker comprised of gravels of basic reaction (BasEsk) is present along the centre of the Site, running in a west to east direction.
- Lacustrine sediment (L) IS present in the southwest of the Site.

### 8.3.3 Designated Sites

The following designated sites have been identified as being connected to the Proposed Development by S-P-R linkages:

- Lough Ree SAC (000440).
- Lough Ree SPA (0004064).
- Lough Ree pNHA (000440).

The Lough Ree SAC, SPA and pNHA sites are all linked to the Proposed Development via hydrological pathways. Local groundwater and surface waters from the Site eventually drain to the Garrynafela stream adjacent to the Site which flows into Lough Ree.

The River Shannon Callows pNHA lies 2.6km southwest of the Proposed Development and maintains a weak hydrological connection with the Site via surface and foul water flows from the Site. The hydrological connection via surface water discharges is deemed insignificant given that the waterbodies near the Site flow northwards and away from the River Shannon Callows pNHA, and must flow over 12 river km from the Site to reach this pNHA (via the on-site drainage ditches and waterbodies such as the Garrynafela stream, Ballaghkerran Bay, Killinure Lough, Lough Ree and the River Shannon). Any potential surface water discharges containing sediment, silt and/or pollutants arising from the Construction and Operational Phase of the Proposed Development would become diluted



to non-discernible levels over the course of this distance. A hydrological connection also exists via the discharge of treated wastewater from Athlone WwTP. This WwTP is fully compliant with its discharge licence and a confirmation of feasibility has been received from Irish Water to confirm the WwTP and foul sewer network has ample capacity to treat the additional loading. As such, this hydrological connection is deemed insignificant.

No Ramsar Sites are located within the ZOI of the Proposed Development. Details of the designated sites within the 5km of the Proposed Development are presented in Table 8-8 below. The results of this preliminary screening concluded that there is a total of four SACs, two SPAs, five pNHAs and one NHA located within the precautionary ZOI of the Proposed Development Site (Figure 8-2 and Figure 8-3). The distances to each site listed are taken from the nearest possible point of the Proposed Development boundary to the nearest possible point of each designated site. Designated sites outside of this 5km radius were also considered but are deemed to be either; located a considerable physical distance; separated by a significant buffer; and/or located within different catchment zones to the Proposed Development (i.e., no S-P-R linkage exists).

A **Screening for AA** (Enviroguide, 2023a) and **NIS** (Enviroguide, 2023b), prepared in accordance with the requirements of Part XAB of the Planning and Development Act, 2000 (as amended) are submitted with this application under a separate cover. The following conclusions are extracted from the AA Screening Report and NIS, which concluded that the Proposed Development would not have a significant effect on any European sites:

*“The Proposed Development at Cornamaddy, Athlone, Co. Westmeath has been assessed taking into account:*

- The nature, size and location of the proposed works and possible impacts arising from the construction works and operational activity.*
- The QIs and conservation objectives of the European sites.*
- The potential for in-combination effects arising from other plans and projects.*

*In conclusion, upon the examination, analysis and evaluation of the relevant information and applying the precautionary principle, it is concluded by the authors of this report that the possibility may be excluded that the Proposed Development will have a significant effect on any of the European sites listed below:*

- River Shannon Callows SAC (000216).*
- Middle Shannon Callows SPA (004096).*

*However, upon examination of the relevant information including in particular the nature of the Proposed Development and the likelihood of significant effects on European sites, the possibility may not be excluded that the Proposed Development will have a likely significant effects on the European sites listed below:*

- Lough Ree SAC (000440).*
- Lough Ree SPA (004064).*

*Accordingly, a NIS has been prepared for the Proposed Development and is included under a separate cover.”*

*“This NIS details the findings of the Stage 2 Appropriate Assessment conducted to further examine the potential direct and indirect impacts of the Proposed Development planning application at Cornamaddy, Athlone, Co. Westmeath on the following European Sites:*

- Lough Ree SAC (000440).*
- Lough Ree SPA (004064).*

*The above sites were identified by a screening exercise that assessed likely significant effects of a range of impacts that have the potential to arise from the Proposed Development. The AA investigated the potential direct and indirect effects of the Proposed Development works, both during construction and operation, on the integrity and qualifying interests of the above European sites, alone and in combination with other plans and projects, taking into account the site's structure, function and conservation objectives.*

Where potentially significant effects were identified, a range of mitigation and avoidance measures have been suggested to avoid them. This NIS has concluded that, once the avoidance and mitigation measures are implemented as proposed, the Proposed Development will not have an adverse effect on the integrity of the above European site(s), individually or in combination with other plans and projects. Where applicable, a suite of monitoring surveys have been proposed to confirm the efficacy of said measures in relation to ensuring no adverse impacts on the habitats of the relevant European sites have occurred.

As a result of the complete, precise and definitive findings in of this NIS, it has been concluded, beyond reasonable scientific doubt, that the Proposed Development will have no significant adverse effects on the QIs, SCIs and on the integrity and extent of Lough Ree SAC (000440) and Lough Ree SPA (004064). Accordingly, the Proposed Development will not adversely affect the integrity of any relevant European site."

The conclusion of the AA Screening and NIS applies by proxy to Lough Ree pNHA which overlaps with Lough Ree SAC and Lough Ree SPA and is designated for the same reasons. As these designated sites have been assessed (and any significant effects addressed through mitigation) in the AA Screening and NIS Report that accompany this application under a separate cover, they will not be assessed or discussed specifically in this chapter. General mentions in this chapter of the receiving downstream environment and associated mitigation measures are analogous with those proposed in the NIS to protect the above designated sites.

The distance and lack of S-P-R impact pathways between the Site and any designated sites outside the 5km ZOI of the Proposed Development are sufficient to exclude the possibility of significant effects arising from: emissions of noise, dust, pollutants and/or vibrations emitted from the Site during the Construction Phase; increased traffic volumes during the Construction and Operational Phases; and increased human presence at the Site during the Construction and Operational Phases.

**Table 0-8: Designated Sites of Conservation Importance Within the Precautionary ZOI of the Proposed Development (5km)**

Site Name & Code (Receptor)	Qualifying Interests	Distance to Proposed Development	Potential Pathway to receptors
<b>SAC</b>			
<b>Lough Ree SAC (000440)</b>	<p>[3150] Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation</p> <p>[3140] Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.</p> <p>[6210] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)</p> <p>[7110] Active raised bogs</p> <p>[7120] Degraded raised bogs still capable of natural regeneration [7230] Alkaline fens</p> <p>[8240] Limestone pavements</p> <p>[91D0] Bog woodland</p>	0.9km	Yes – Potential impact via the onsite drainage ditches. Refer to NIS accompanying this application

	[91E0] Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae) [1355] Otter ( <i>Lutra lutra</i> ).		
<b>Crosswood Bog SAC (002337)</b>	[7110] Active raised bogs [7120] Degraded raised bogs still capable of natural regeneration	2.5km	None – Refer to AA Screening Report accompanying this application.
<b>River Shannon Callows SAC (000216)</b>	[6410] Molinia meadows on calcareous, peaty or clayey-silt-laden soils ( <i>Molinia caerulea</i> ) [6510] Lowland hay meadows ( <i>Alopecurus pratensis</i> , <i>Sanguisorba officinalis</i> ) [7230] Alkaline fens [8240] Limestone pavements [91E0] Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae) [1355] Otter ( <i>Lutra lutra</i> ).	2.5km	
<b>Carn Park Bog SAC (002336)</b>	[7110] Active raised bogs [7120] Degraded raised bogs still capable of natural regeneration	4km	
SPA			
<b>Lough Ree SPA (004064)</b>	[A004] Little grebe ( <i>Tachybaptus ruficollis</i> ) [A005] Great crested grebe ( <i>Podiceps cristatus</i> ) [A038] Whooper swan ( <i>Cygnus cygnus</i> ) [A050] Wigeon ( <i>Anas penelope</i> ) [A052] Teal ( <i>Anas crecca</i> ) [A053] Mallard ( <i>Anas platyrhynchos</i> ) [A054] Pintail ( <i>Anas acuta</i> ) [A056] Shoveler ( <i>Anas clypeata</i> ) [A061] Tufted duck ( <i>Aythya fuligula</i> ) [A065] Common scoter ( <i>Melanitta nigra</i> ) [A067] Goldeneye ( <i>Bucephala clangula</i> ) [A125] Coot ( <i>Fulica atra</i> ) [A140] Golden plover ( <i>Pluvialis apricaria</i> ) [A142] Lapwing ( <i>Vanellus vanellus</i> ) [A193] Common tern ( <i>Sterna hirundo</i> ) [A395] White-fronted goose ( <i>Anser albifrons flavirostris</i> )	0.9km	Yes – Potential impact via the onsite drainage ditches. Refer to NIS accompanying this application

	[A059] Common pochard ( <i>Aythya ferina</i> ) [A179] Black headed gull ( <i>Larus ridibundus</i> ) [A160] Eurasian curlew ( <i>Numenius arquata</i> ) [A017] Great cormorant ( <i>Phalacrocorax carbo</i> ) [A999] Wetland and waterbirds			
<b>Middle Shannon Callows SPA (004096)</b>	[A038] Whooper swan ( <i>Cygnus cygnus</i> ) [A050] Wigeon ( <i>Anas penelope</i> ) [A052] Teal ( <i>Anas crecca</i> ) [A056] Shoveler ( <i>Anas clypeata</i> ) [A061] Tufted duck ( <i>Aythya fuligula</i> ) [A082] Hen harrier ( <i>Circus cyaneus</i> ) [A113] Common quail ( <i>Coturnix coturnix</i> ) [A122] Corncrake ( <i>Crex crex</i> ) [A140] Golden plover ( <i>Pluvialis apricaria</i> ) [A142] Lapwing ( <i>Vanellus vanellus</i> ) [A149] Dunlin ( <i>Calidris alpina</i> ) [A160] Eurasian curlew ( <i>Numenius arquata</i> ) [A162] Common redshank ( <i>Tringa tetanus</i> ) [A156] Black-tailed Godwit ( <i>Limosa limosa</i> ) [A179] Black-headed Gull ( <i>Chroicocephalus ridibundus</i> ) [A290] Common grasshopper warbler ( <i>Locustella naevia</i> ) [A395] White-fronted goose ( <i>Anser albifrons flavirostris</i> ) [A999] Wetland and Waterbirds	2.6km		None – Refer to AA Screening Report accompanying this application.
pNHA				
<b>Lough Ree pNHA (000440)</b>		0.9km		Yes - potential pathway via on Site drainage ditches and the Garrynafela stream.
<b>Crosswood Bog pNHA (000678)</b>		2.5km		None – No impact pathway between the Site and this pNHA.
<b>River Shannon Callows pNHA (000216)</b>		2.6km		None – Refer to AA Screening Report accompanying this application.

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Walterstown Lake pNHA (001732)	4km	None – No impact pathway between the Site and these pNHAs.
Carn Park Bog pNHA (000676)	4km	
NHA		
Carrickynaghtan Bog NHA (001623)	4.7km	None – No impact pathway between the Site and this NHA.



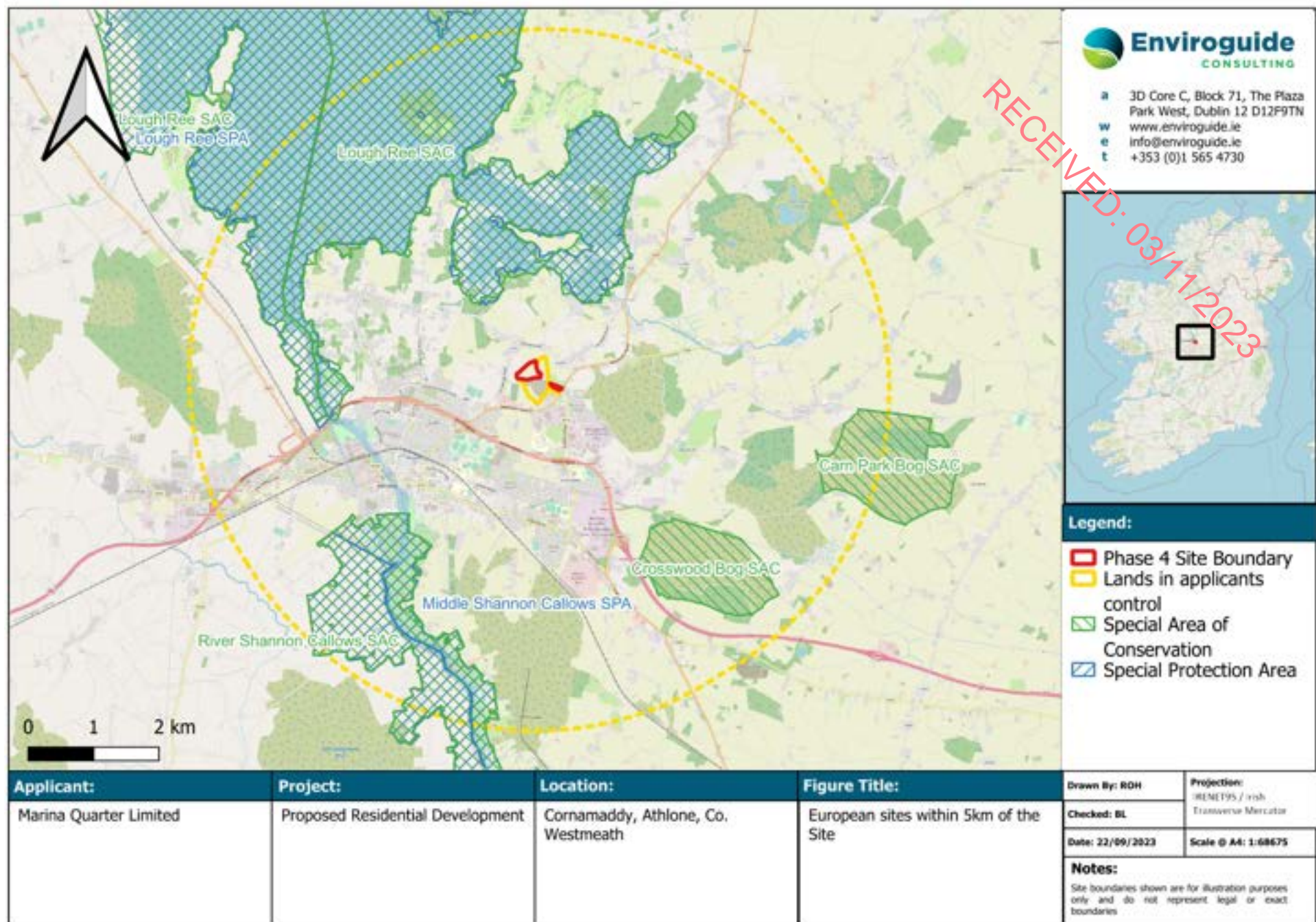


Figure 0-2: European sites within 5km of the Proposed Development



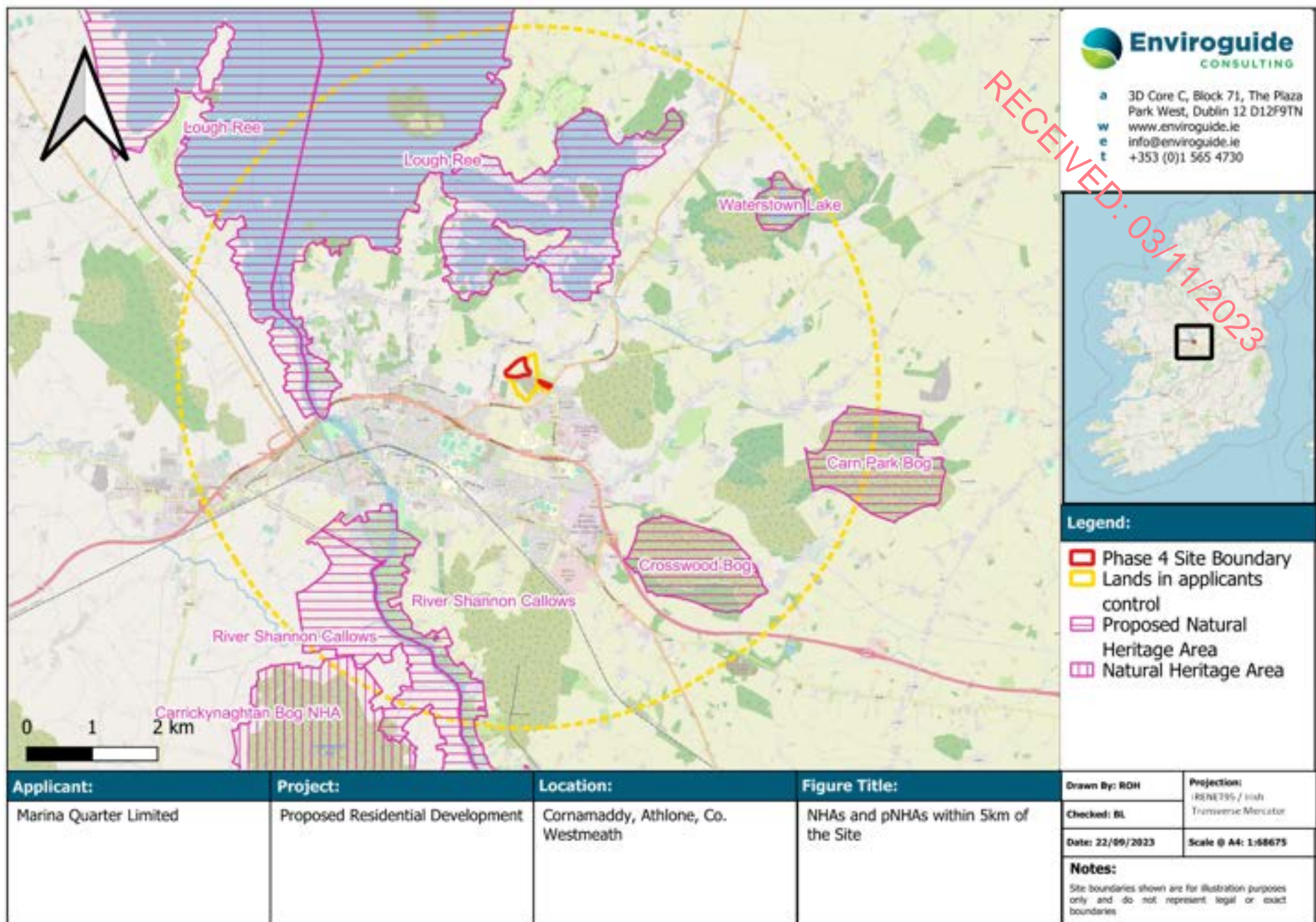


Figure 0-3: Natural Heritage Areas and proposed Natural Heritage Areas within 5km of the Proposed Development

### 8.3.4 NBDC Species and Species Groups

#### 8.3.4.1 Flora

##### Rare and Protected Flora

Species records from the NBDC online database and the Flora Protection Order - Bryophytes Map Viewer<sup>2</sup> were studied for the presence of rare of protected flora. Large white-moss (*Leucobryum glaucum*) was recorded within the Grid Square No4R.

##### Invasive Plant Species

Species records from the NBDC online database were studied for the presence of invasive plant species. One invasive species is for the 2km grid squares No4L and No4R. The “High” impact species, Japanese knotweed was recorded within both grid squares.

#### 8.3.4.2 Flora (excl. bats)

Records for terrestrial native mammals were retrieved from the NBDC online database. Table 8-9 lists the terrestrial native mammals recorded within the relevant 2km tetrads.

**Table 8-9: Records of Mammals for the Surrounding 2km Grid Square from the NBDC.**

Species	Grid Square	Date of last record	Source	Designation
<b>Eurasian badger</b> ( <i>Meles meles</i> )	No4L	22/03/2013	Atlas of Mammals in Ireland 2010 – 2015	Protected species - Wildlife (Amendment) Act 2000 EU Habitats Directive – Annex II & IV Bern Convention Appendix III
<b>Eurasian pygmy shrew</b> ( <i>Sorex minutus</i> )	No4L	31/05/2016	Mammals of Ireland 2016 – 2025	Protected Species - Wildlife (Amendment) Act 2000
<b>West european hedgehog</b> ( <i>Erinaceus europaeus</i> )	No4L	22/04/2021	Hedgehogs of Ireland	Protected species - Wildlife (Amendment) Act 2000 Bern Convention Appendix III
<b>Red fox</b> ( <i>Vulpes vulpes</i> )	No4L No4R	06/10/2017 02/07/2014	Mammals of Ireland 2016 – 2025 Atlas of Mammals in Ireland 2010 – 2015	n/a

The above species are protected under the Wildlife act 1976 (as amended), the Bern Convention and the EU Habitats Directive 1992 and EC (Birds and Natural Habitats) Regulations. The invasive eastern grey squirrel (*Sciurus carolinensis*) was also recorded within the 2km grid square No4L and the invasive European rabbit (*Oryctolagus cuniculus*) was recorded within the 2km grid square No4R.

<sup>2</sup> <https://dahg.maps.arcgis.com/apps/webappviewer/index.html?id=71f8df33693f48edbb70369d7fb26b7e>

#### 8.3.4.3 Birds

A total of eighteen bird species have been recorded within the 2km tetrads N04R and N04L by the NBDC. Of these, one is listed as Red, three as Amber and fourteen as Green in *Birds of Conservation Concern in Ireland 2020-2026* (Gilbert et al., 2021). Those listed as Red and Amber are included below.

##### Red-listed species:

Common snipe (*Gallinago gallinago*)

##### Amber listed species:

Barn swallow (*Hirundo rustica*)

Common starling (*Sturnus vulgaris*)

Willow warbler (*Phylloscopus trochilus*)

#### 8.3.4.4 Bats

All bat species found in Ireland are protected under the Wildlife Act (1976 to 2021) and Annex IV of the Habitats Directive. The lesser horseshoe bat is further protected under Annex II. Records for Bat species recorded in the 2km National Grid Squares were retrieved from the NBDC online database, no bat species were recorded within the relevant tetrads.

According to the NBDC maps landscape suitability for bats based on Lundy *et al.*, (2011), which provides a visual map of the broad scale geographic patterns of occurrence and local roosting habitat requirements for Irish bat species; the area surrounding the Site of the Proposed Development carries an overall bat suitability score of 41.22 out of 100 (*High*). The species with the highest individual suitability scores for the area encompassing the Site are common pipistrelle (*Pipistrellus pipistrellus*), Leisler's bat (*Nyctalus leisleri*) and brown long-eared bat (*Plecotus auratus*), with 58, 55 and 53, respectively.

### 8.3.5 Field Survey Results

#### 8.3.5.1 Habitats and Flora

The habitats within the applicant-owned land are coded and categorised for the most part as per Fossitt (2000) and are described in detail in the following sections. The habitat map of the applicant-owned land (yellow boundary) and the Site within (red boundary) are shown in Figure 8-11 below. The habitats at the applicant-owned land are listed and described below; those present within the Site of the Proposed Development are highlighted in **bold**:

- BL3 – Buildings and Artificial Surfaces
- BL1 – Stone walls and Other Stonework
- **ED2 – Spoil and Bare Ground**
- GS1 – Dry Calcareous and Neutral Grassland
- **GS2 – Dry Meadows and Grassy Verges**
- **GS4 – Wet Grassland**
- GA2 – Amenity Grassland
- **WL1 – Hedgerow**
- **WL2 – Treeline**
- **WS1 – Scrub**
- **FW4 – Drainage Ditches**
- **FW2 – Depositing/lowland River**

Habitats at the Proposed Development Site are semi-natural in nature, with fields over the majority of the Site comprising of GS2 – Dry Meadows and Grassy Verges. The south and



northwest of the applicant landholding is dominated by area of BL3 – Buildings and Artificial Surfaces and ED2 – Spoil and Bare Ground habitat associated with the under construction residential housing developments. Only ED2 – Spoil and Bare Ground habitat is found within the Site of the Proposed Development itself. An area of GS1 – Dry Calcareous and Neutral Grassland is present along the raised esker ridge that lies south of the Proposed Development boundary, this area is not zoned for development and no works are proposed on or immediately adjacent to the GS1 habitat. WS1 – Scrub habitat is present throughout the applicant landholding and along field boundaries, merging in places with WL1 – Hedgerow and WL2 – Treeline habitat. A number of FW4 – Drainage Ditches run parallel to the hedgerows and treelines that run along field boundaries within the Site. A stretch of FW2 – Depositing/ lowland river habitat was recorded along the northern boundary of the Site and along the northeastern boundary of the applicant landholding; these waterbodies are listed by the EPA as the Kippinstown and Garrynafela watercourses respectively (EPA, 2023). No rare or protected flora or habitats were identified on Site.

#### BL3 – Buildings and Artificial Surfaces

This habitat is predominantly present in the form of the under construction granted housing development within the applicant landholding but outside of the Site of the Proposed Development (Figure 8-4).



**Figure 8-4. BL3 – Buildings and Artificial Surfaces Habitat on Site.**

#### ED2- Spoil and Bare Ground

Spoil and bare ground habitat is the dominant habitat in the southeast section of the Proposed Development Site; vegetation cover is sparse at most.

#### GS1 – Dry Calcareous and Neutral Grassland

This habitat is present along the raised esker ridge that runs outside and to the south of the Proposed Development and is shown in Figure 8-5. A botanical survey was undertaken of the dry calcareous and neutral grassland on Site, in total nine relevés were collected at the esker, a full list of flora identified within the relevés are included in appendix 8.1. Dominant species recorded within this habitat include yarrow (*Achillea millefolium*), white clover (*Trifolium repens*), meadow foxtail (*Alopecurus pratensis*), sweet vernal grass (*Anthoxanthum odoratum*), blue sedge (*Carex flacca*), ribwort plantain (*Plantago lanceolata*), selfheal (*Prunella vulgaris*), common bird's-foot trefoil (*Lotus corniculatus*) and willow saplings (*Salix* spp.)



Figure 0-5: GS1 – Dry Calcareous and Neutral Grassland habitat at the Site.

#### GS2 – Dry Meadows and Grassy Verges

This is the dominant habitat present within the Site of the Proposed Development, with a lack of management at the Site having encouraged the growth of tall, coarse grasses and broadleaved herbs (Figure 8-6). Species found here include red clover (*Trifolium pratense*), ribwort plantain, meadow buttercup (*Ranunculus acris*), creeping thistle (*Cirsium arvense*), broadleaved dock (*Rumex obtusifolius*), wild angelica (*Angelica sylvestris*), prickly sowthistle (*Sonchus asper*), cleavers (*Galium aparine*), meadow vetchling (*Lathyrus pratensis*), hedge bindweed (*Calystegia sepium*), great willowherb (*Epilobium hirsutum*), cock's foot (*Dactylis glomerata*), nettle (*Urtica dioica*), spear thistle (*Cirsium vulgare*) and meadow foxtail.



Figure 0-6: GS2 – Dry Meadows and Grassy Verges habitat at the Site.

#### GS4 – Wet Grassland

A section of wet grassland habitat is associated with a depression in the land within a northern parcel of the Site of the Proposed Development. Species present within this habitat include soft rush (*Juncus effusus*), silverweed (*Potentilla anserina*), creeping bent-grass (*Agrostis stolonifera*), curled dock (*Rumex crispus*), meadowsweet (*Filipendula ulmaria*), water mint (*Mentha aquatica*), nettle, willow saplings, great willowherb and spear

thistle. Wetland indicator species recorded here indicate this area holds water seasonally during periods of very high rainfall.

#### GA2 – Amenity Grassland

A small area of amenity grassland lies adjacent to Drumaconn residential estate. This maintained grassland is species poor, dominated by Perennial rye grass (*Lolium perenne*) and lies outside of the Site of the Proposed Development.

#### WL1 – Hedgerow and WL2 – Treelines

The Hedgerow (Figure 8-7) and Treeline habitats that run along the various field boundaries of the Site of the Proposed Development were predominately mature in nature and reasonably old. Common hedgerow species recorded include hawthorn (*Crataegus monogyna*), bramble (*Rubus fruticosus*), elder (*Sambucus nigra*), willow and blackthorn (*Prunus spinosa*). The understorey is dominated by nettle, ivy (*Hedra helix*), cleavers and hedge bindweed. The treelines are dominated by hazel (*Corylus avellana*), ash (*Fraxinus excelsior*), pendunculate oak (*Quercus robur*), beech (*Fagus sylvatica*), hawthorn, elder and silver birch (*Betula pendula*). Non-native sycamore (*Acer pseudoplatanus*) was also recorded within the treelines in the applicant's landholding.



Figure 0-7: WL1 – Hedgerow habitat at the Site

#### WS1 – Scrub

Areas of Scrub (Figure 8-8) habitat containing species such as blackthorn, bramble, gorse (*Ulex europaeus*), willow and hazel are present throughout the applicant landholding, due to a lack of management, however, only a small patch of scrub lies within the Site of the Proposed Development itself, along a small section of the southern boundary.





**Figure 0-8: WS1 – sections of Scrub habitat at the Site**

FW4 – Drainage Ditch

A number of Drainage Ditches (Figure 8-9), containing varying levels of water and vegetation are present along the field margins throughout the applicant landholding and the Site of the Proposed Development, running in parallel with treeline and hedgerow field margins. Wetland indicator species found here include bullrush (*Typha latifolia*), water parsnip (*Berula erecta*), watermint (*Mentha aquatica*) and silverweed.



**Figure 0-9: FW4 – Drainage Ditch habitat at the Site**

FW2 – Eroding / Lowland River

Stretches of Eroding / Lowland River (Figure 8-10) habitat is located along the northern and north-eastern boundary of the applicant landholding, these waterbodies are listed by the EPA as the Kippinstown and Garrynafela watercourses respectively (EPA, 2023). The Garrynafela stream flows off Site at the north-eastern corner, flowing in a northern

direction towards Lough Ree, however, this watercourse is not located within the Site of the Proposed Development.



Figure 0-10: FW2 – Eroding/ Lowland River at the north of the Site (Garrynafela stream)





Figure 0-11: Habitat Map of the Site of the Proposed Development and Applicant-owned Land

### 8.3.5.2 Invasive Flora

No invasive species listed on Schedule III of the European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477 of 2011, as amended) were recorded at the Site of the Proposed Development.

Medium impact invasive species and butterfly bush were recorded within the applicant landholding (Kelly et al., 2013). Sycamore was recorded within the treelines and hedgerows; butterfly bush was recorded in the applicant landholding outside of the Site of the Proposed Development.

### 8.3.5.3 Small Mammals (excl. Bats)

#### Small Mammals

Pygmy shrew (*Sorex minutus*) and western European hedgehog (*Erinaceus europaeus*) are likely present at the Site of the Proposed Development due to the presence of suitable habitat (i.e., hedgerows, scrub and tall grassland) and evidence of smaller mammal trails throughout the Site. The Irish stoat (*Mustella erminea hibernica*) may also utilise the stonewall and scrub habitats within the applicant-owned land. However, given that the stonewall habitat lies outside of the Site of the Proposed Development and considering the majority of scrub is also located outside of the Site of the Proposed Development, it is assumed that these species could be present within the wider area but are unlikely to inhabit the Site of the Proposed Development itself. Furthermore, while it is acknowledged that these species are less likely to be recorded during walkover surveys due to their timid behaviours and small size, given the lack of suitable habitat within the Site of the Proposed Development, their occurrence within the Site is unlikely.

Scat potentially belonging to pine marten (*Martes martes*) was recorded on boulders lying along the southern margin of the larger northern fields (within the Site of the Proposed Development) during the 2020 surveys of the applicant-owned land, however no other evidence of this species was found during the 2021, 2022 or 2023 surveys. Pine marten is now widely distributed in Ireland and is present in every county, the population range and distribution of this species has been expanding since the 1980s. The pine marten is an arboreal woodland specialist, the primary habitat available to pine marten in Ireland is commercially managed coniferous plantations, however they can also utilise deciduous woodlands habitat (Lawton et al., 2019). Pine marten generally avoid open un-covered habitat types. This species may utilise the more mature sections of treelines within the applicant-owned land, but the Site of the Proposed Development itself is highly unlikely to provide a significant habitat for pine marten given the open and un-covered nature of the dominant habitat types present on Site (dry meadows and grassy verges (GS2) habitat and spoil and bare ground (ED2)).

Although not recorded during field surveys, red squirrel has seen a resurgence in Co. Westmeath in recent years (Lawton et al. 2020) and could be utilise the more mature treelines along bounds of the applicant-owned land, however the Site of the Proposed Development would not support significant habitat for red squirrel. Similar to pine marten, red squirrel are dependent on woodland as habitat with medium to large concentrations of trees required. Although this species may opportunistically utilise the more mature areas of treelines along the bounds of the applicant-owned land, the lack of woodland at the Site of the Proposed Development render it highly unlikely to provide any significant habitat for red squirrel.

Irish mountain hare (*Lepus timidus hibernicus*) is not likely present at the Site and no signs e.g., droppings were noted during surveys of the entirety of the applicant-owned land.

[REDACTED]





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The otter (*Lutra lutra*) population in Ireland remains one of the most stable in Europe. Otter is a QI for Lough Ree SAC. The majority of the habitats at the Site of the Proposed Development are considered unsuitable for otter however the Garrnafela stream may provide potential commuting habitat for otter. No evidence of otter was recorded within the Kippinstown stream or Garrnafela stream during surveys of the entire applicant landholding.

#### 8.3.5.4 Birds

##### July 2023 Breeding Bird Scoping Survey

A total of 19 species were recorded during the July 2023 Breeding Bird Scoping Survey, of which one is listed as *Red*, five as *Amber* and 13 as *Green* in *Birds of Conservation Concern in Ireland 2020-2026* (Gilbert et al., 2021). All bird species recorded during the survey are shown in Table 8-11.

**Table 8-11. Bird Species Recorded at the Site of the Proposed Development During the Breeding Bird Scoping Survey in July 2023.**

Species	Scientific name	BoCCI Status	Breeding Activity
Blackbird	<i>Turdus merula</i>	Green	Possible. Species observed in breeding season in suitable nesting habitat.





Species	Scientific name	BoCCI Status	Breeding Activity
<b>Blue tit</b>	<i>Cyanistes caeruleus</i>	Green	Confirmed breeding, recently fledged young.
<b>Chaffinch</b>	<i>Fringilla coelebs</i>	Green	Possible. Species observed in breeding season in suitable nesting habitat.
<b>Dunnock</b>	<i>Prunella modularis</i>	Green	Possible. Species observed in breeding season in suitable nesting habitat.
<b>Goldfinch</b>	<i>Carduelis carduelis</i>	Green	Confirmed breeding, recently fledged young.
<b>Hooded crow</b>	<i>Corvus cornix</i>	Green	Possible. Species observed in breeding season in suitable nesting habitat.
<b>House martin</b>	<i>Delichon urbicum</i>	Amber	Non-breeding. Flyovers and foraging over the Site.
<b>House sparrow</b>	<i>Passer domesticus</i>	Amber	Confirmed breeding, recently fledged young.
<b>Linnet</b>	<i>Linaria cannabina</i>	Amber	Possible. Pair observed in breeding season in suitable nesting habitat.
<b>Magpie</b>	<i>Pica pica</i>	Green	Possible. Species observed in breeding season in suitable nesting habitat.
<b>Meadow pipit</b>	<i>Anthus pratensis</i>	Red	Confirmed breeding, carrying food.
<b>Mistle thrush</b>	<i>Turdus viscivorus</i>	Green	Possible. Species observed in breeding season in suitable nesting habitat.
<b>Robin</b>	<i>Erithacus rubecula</i>	Green	Confirmed. Recently fledged young.
<b>Rook</b>	<i>Corvus frugilegus</i>	Green	Probable breeding. Pair observed in suitable nesting habitat in breeding season.
<b>Swallow</b>	<i>Hirundo rustica</i>	Amber	Non-breeding. Flyovers and foraging over the Site.
<b>Woodpigeon</b>	<i>Columba palumbus</i>	Green	Possible. Species observed in breeding season in suitable nesting habitat.
<b>Wren</b>	<i>Troglodytes troglodytes</i>	Green	Confirmed. Recently fledged young.
<b>Willow warbler</b>	<i>Phylloscopus trochilus</i>	Amber	Possible. Species observed in breeding season in suitable nesting habitat.

#### July 2022 Breeding Bird Scoping Survey

A total of 32 species were recorded during the July 2022 Breeding Bird Scoping Survey, of which one is listed as Red, seven are listed as Amber, and 23 are listed as Green and 1 is unclassified in *Birds of Conservation Concern in Ireland 2020-2026* (Gilbert et al., 2021). All bird species recorded during the survey are shown in Table 8-12.

Table 0-12: Bird Species Recorded at the Site of the Proposed Development During the Breeding Bird Scoping Survey in July 2022.

Species	Scientific name	BoCCI Status	Breeding Activity		
Blackbird	<i>Turdus merula</i>	Green			
Blackcap	<i>Sylvia atricapilla</i>	Green			
Bullfinch	<i>Pyrrhula pyrrhula</i>	Green			
Blue tit	<i>Cyanistes caeruleus</i>	Green			
Buzzard	<i>Buteo buteo</i>	Green			
Chaffinch	<i>Fringilla coelebs</i>	Green			
Chiffchaff	<i>Phylloscopus collybita</i>	Green			
Dunnoek	<i>Prunella modularis</i>	Green	Confirmed. Recently fledged young		
Feral pigeon	<i>Columba livia f. domestica</i>	Unclassified			
Goldcrest	<i>Regulus regulus</i>	Amber			
Goldfinch	<i>Carduelis carduelis</i>	Green			
Great tit	<i>Parus major</i>	Green			
Grey heron	<i>Ardea cinerea</i>	Green			
Hooded crow	<i>Corvus cornix</i>	Green			
House martin	<i>Delichon urbicum</i>	Amber			
House sparrow	<i>Passer domesticus</i>	Amber			
Jackdaw	<i>Corvus monedula</i>	Green			
Linnet	<i>Linaria cannabina</i>	Amber			
Lesser redpoll	<i>Acanthis flammea</i>	Green			
Magpie	<i>Pica pica</i>	Green			
Meadow Pipit	<i>Anthus pratensis</i>	Red			
Reed bunting	<i>Emberiza schoeniclus</i>	Green			
Robin	<i>Erithacus rubecula</i>	Green	Confirmed. young.	Recently	fledged
Rook	<i>Corvus frugilegus</i>	Green			
Siskin	<i>Spinus spinus</i>	Green			
Starling	<i>Sturnus vulgaris</i>	Amber			
Stonechat	<i>Saxicola torquatus</i>	Green	Confirmed. young.	Recently	fledged
Swallow	<i>Hirundo rustica</i>	Amber			

Species	Scientific name	BoCCI Status	Breeding Activity
<b>Whitethroat</b>	<i>Sylvia communis</i>	Green	Confirmed. Recently fledged young.
<b>Woodpigeon</b>	<i>Columba palumbus</i>	Green	
<b>Wren</b>	<i>Troglodytes troglodytes</i>	Green	Confirmed. Recently fledged young.
<b>Willow warbler</b>	<i>Phylloscopus trochilus</i>	Amber	

#### Winter Bird Survey

The set of winter bird Surveys at the applicant's landholding at Cornamaddy comprised of 8 survey days i.e., a total of 48 hourly counts across November and December 2021 and January, February and March 2022.

Out of the total of 48 hourly counts: 100% recorded no SCI waterfowl/shorebird species of Lough Ree and Middle Shannon Callows SPA utilising the Site lands. Common species observed foraging on the lands included robin (*Erithacus rubecula*), wren (*Troglodytes troglodytes*), feral pigeon (*Columba livia f. domestica*) and hooded crow (*Corvus cornix*). The occasional herring gull (*Larus argentatus*) was the only waterbird observed flying at height over the Site lands. Herring gull is not a listed SCI species for the SPAs within the ZOI and were not observed utilising the any of the applicant-owned lands.

### **8.3.5.5 Bats**

#### Landscape Evaluation

The main Site of the Proposed Development is considered of local importance (higher value) for bats with a 'high' landscape suitability for bats. The treelines and hedgerows along the Site boundaries provide commuting and foraging corridors to other important habitats for bats in the wider landscape and are considered to be of 'moderate' habitat value. The smaller Proposed Development Site was deemed to be unsuitable for bats based on the high levels of light pollution.

#### 2023 Dusk Transect Bat Activity Survey

A dusk transect bat activity survey was carried in May 2023 focused on the main Proposed Development Site, transect surveys of the smaller Proposed Development Site to the southeast were not undertaken due to the high lux levels in this area as a result of the adjacent public lighting which render the habitats unsuitable for bats. In total, three species of bat were detected at the Site. The tabulated results of the surveys are summarised in Table 8-13, with the complete dataset of bat species identified in real time in the field using the Elekon Batlogger M detector presented in Appendix 8.2.

As expected, activity was largely associated with the field boundaries of the Site. Activity hotspots were observed between point 2, point 3 and point 4. Here two Leisler's bats were observed foraging and commuting along this treeline. Although only two Leisler's bats were observed at this location, Leisler's bat tend to commute at high speed at heights of up to 100m so it is acknowledged that additional individuals may have been present but observed by the surveyors.

Bat activity along the remaining transect route was relatively low with single bats recorded foraging along the route between point 5, point 6 and point 7 (Figure 8-13). The Transect survey followed the boundary treeline but also incorporated the drainage ditches transecting the Site to determine if these linear features were being utilised by bats for foraging and commuting. Based off the May 2023 transect survey of the Site, the drainage ditches on Site do not provide important commuting and foraging features for bats. Activity was recorded along the drainage ditch on one occasion (point 5), with a Leisler's bat recorded commuting here. Very little bat activity was recorded along the northern



boundary during the May 2023 survey. This corresponds to the previous surveys undertaken at the Site in 2022 and 2021 as discussed below.

It can be summarized that there is a commuting / foraging corridor for bats along the western Site boundary with bats observed moving from within the Site to the adjacent fields and golf course to the north. The treeline and scrub habitats south of the Proposed Development boundary appear to provide a feeding resource for local bats, with high levels of activity recorded between point 2 and point 3. The boundary treelines and hedgerows provide good commuting and foraging habitat for bats to adjacent suitable habitats and the Site likely forms part of a wider network of bat foraging habitat along with the surrounding lands.

**Table 0-13. Summary of Bat Activity Recorded at the Site of the Proposed Development during a dusk transect survey in May 2023.**

Species	Scientific name	Number passes	of	Peak (kHz)	Frequency
<b>May 18<sup>th</sup>, 2023</b>					
<b>Common Pipistrelle</b>	<i>Pipistrellus pipistrellus</i>	4		46.5	
<b>Leisler's Bat</b>	<i>Nyctalus leisleri</i>	67		26.9	
<b>Soprano Pipistrelle</b>	<i>Pipistrellus pygmaeus</i>	5		56.5	



**Figure 0-13. May 18<sup>th</sup>, 2023, Bat Activity Survey Result for The Proposed Development Site (species points indicate bat passes and not necessarily individual bats).**

#### 2022 and 2021 Dusk Transect Bat Activity Survey

A dusk transect bat activity survey was carried out of the applicants' entire lands at Cornamaddy in July 2022 and September 2021. In total, three species of bat were detected at the Site. The tabulated results of the surveys are summarised in Table 8-14, with the complete dataset of bat species identified in real time in the field using the Elekon Batlogger M detector presented in the three Bat Reports in Appendix 8.3.

The passes are indicative of bat activity, and not absolute bat number. Bats tended to pass up and down repeatedly along the treelines which can suggest there are more bats present than is the case. Visual results of the bat surveys (28<sup>th</sup> July 2022 and 29<sup>th</sup> September 2021) are shown in Figure 8-14 and Figure 8-15. The activity during the surveys is considered Moderate given the optimal weather conditions on both occasions.

**Table 0-14: Summary of Bat Activity Recorded at the Site of the Proposed Development in 2022 and 2021.**

Species	Scientific name	Number passes	of Peak Frequency (kHz)
<b>July 28<sup>th</sup> 2022</b>			
<b>Common Pipistrelle</b>	<i>Pipistrellus pipistrellus</i>	19	46.5
<b>Leisler's Bat</b>	<i>Nyctalus leisleri</i>	2	26.9
<b>Soprano Pipistrelle</b>	<i>Pipistrellus pygmaeus</i>	22	56.5
<b>September 29<sup>th</sup> 2021</b>			
<b>Common Pipistrelle</b>	<i>Pipistrellus pipistrellus</i>	15	46.5
<b>Leisler's Bat</b>	<i>Nyctalus leisleri</i>	5	26.9
<b>Soprano Pipistrelle</b>	<i>Pipistrellus pygmaeus</i>	12	56.5



**Figure 0-14: July 28<sup>th</sup>, 2022, Bat Activity Survey Result for The Proposed Development Site (Source: ASH Ecology & Environmental, 2023).**





Figure 0-15: September 29<sup>th</sup>, 2021, Bat Activity Survey Result for the Proposed Development Site (Source: ASH Ecology & Environmental, 2023).

#### Bat Roost Potential Tree Assessment

The Tree Removal Plan available at the time of the bat survey (Charles McCorkell, 2023) identified, assessed and described 14 trees, one group and the partial removal of a second tree group for removal to facilitate development of the applicant landholding. Of these 14, only two fall within the Proposed Development Site and these were classed as being of Low roosting potential. Two additional trees will require pruning works. These trees were assessed on the 18<sup>th</sup> of May 2023 for any bat roost potential features along with risk for same and classified, none of the trees identified for removal or requiring works held moderate or high bat roost potential and the Proposed Development will not result in the loss of bat roost trees. An assessment of the affected trees within the entire applicant landholding for bats is provided in Table 8-15.

Table 0-15: Assessment of Affected Trees for Bats within the entire applicant landholding

Tree Number	Species	Recommended works as per arborist report	Bat Roost Potential	Classification of trees for risk of bat roost presence
H817	Elder, hawthorn, hazel	Partial removal of group to construction connecting road to neighbouring site.	Negligible	No Risk
T852	Hornbeam	Fell – ground level	Negligible	No Risk
G855	Buddleja, hawthorn, goat willow	Partial removal of group as shown on tree removals plan.	Negligible	No Risk
T872	Ash	Fell – ground level	Low	No Risk
T873	Ash	Fell – ground level	Negligible	No Risk
T874	Ash	Fell – ground level	Low	No Risk
T875	Ash	Fell – ground level	Negligible	No Risk



Tree Number	Species	Recommended works as per arborist report	Bat Potential	Roost	Classification of trees for risk of bat roost presence
T876	Ash	Fell – ground level	Negligible		No Risk
T889	Common beech	Fell – ground level	Negligible		No Risk
T893	Common beech	Fell – ground level	Negligible		No Risk
T894	Purple beech	Fell – ground level	Negligible		No Risk
T895	Purple beech	Fell – ground level	Negligible		No Risk
T896	Common beech	Fell – ground level	Negligible		No Risk
T901	Common beech	Fell – ground level	Negligible		No Risk
T902	Common beech	Fell – ground level	Negligible		No Risk
T903	Common beech	Lift low canopy – specified extent to 3m above ground level	Negligible		No Risk
T904	Common beech	Lift low canopy – specified extent to 3m above ground level	Negligible		No Risk
T905	Common beech	Fell – ground level	Negligible		No Risk

#### Emergence survey of the treeline south of the Phase 4 Site boundary

Based off the May 2023 bat activity survey and previous activity surveys undertaken at the Site in 2022 and 2021 a dedicated emergence survey of a treeline south of the Proposed Development Site was undertaken on the 23<sup>rd</sup> of August 2023. The focus of this emergence survey was on trees to be retained and outside the Site boundary but within the applicant's landholding and noted as having bats emerge during the 2021 and 2022 surveys of the Site, noted to hold high bat roost potential (trees T916, T917, T918, T919, T920, T921, T922, T923 and T924) or with elevated bat activity during the May 2023 survey.

During the bat survey of the Site in September 2021, Tree T922 was noted with soprano pipistrelle bat emerging. There are no proposals to remove this tree. Tree T914 was noted as having soprano and common pipistrelle emerge during July 28<sup>th</sup>, 2022, surveys. The tree alongside it, T915 was noted as holding High Bat Roost potential and bats emerging may have been missed during the 2022 survey. A NPWS derogation licence will be required for both T914 and T915 if justification is found for their removal.

No bat emergence was seen for any tree within this treeline on the 23<sup>rd</sup> of August however high levels of bat activity was recorded adjacent to T914 and T915 and it is noted that bats emerging may have been missed. Three bat species were recorded foraging and commuting along this treeline during the emergence survey in August 2023 and the tabulated results of the bat activity recorded are summarised in Table 8-16 with the complete dataset of bat species identified in real time in the field using the Elekon Batlogger M detector presented in Appendix 8.2. Bats were observed throughout the night commuting and foraging along this treeline, soprano pipistrelle was the earliest bat recorded at 21.12 and continued to be the most recorded species on the night, closely followed by common pipistrelle. Unlike the previous bat activity survey of the Site, Leisler's bat was the least recorded species on the night of the 23<sup>rd</sup> of August 2023 with only a single Leisler's bat recorded in August 2023.

Table 0-16. Summary of Bat Activity Recorded at the Site of the Proposed Development during the Emergence Survey on the 23<sup>rd</sup> of August 2023.

Species	Scientific name	Number passes	of Peak Frequency (kHz)
<b>August 23<sup>rd</sup>, 2023</b>			
<b>Common Pipistrelle</b>	<i>Pipistrellus pipistrellus</i>	41	46.5
<b>Leisler's Bat</b>	<i>Nyctalus leisleri</i>	1	26.9
<b>Soprano Pipistrelle</b>	<i>Pipistrellus pygmaeus</i>	54	56.5



Figure 0-16. Location of treeline and surveyors during the 23<sup>rd</sup> August, 2023, Bat Emergence Survey of a treeline south of the Proposed Development.

### 8.3.5.6 Fish

There are no records of notable fish species within the relevant 2km grid squares associated with the Site from the NBDC. The drainage ditches on Site periodically held water and do not have the potential to support notable fish species such as salmonids or lampreys, however the Garrnafela stream and Lough Ree are hydrologically connected to the Proposed Development Site via the Kippinstown watercourse which runs along the northern boundary, and Lough Ree supports eel and brown trout (*Salmo trutta*). As such, the fish assemblage of Lough Ree will be considered as part of this assessment.

### 8.3.5.7 Amphibians

The drainage ditches on Site provide potential habitat for common frog (*Rana temporaria*) and smooth newt (*Lissotriton vulgaris*), the wet grassland also provides potential terrestrial habitat for common frog. The drainage ditches and wet grassland habitat on Site were assessed for the presence of amphibians during the targeted winter bird survey dates across January, February and March 2022. Frog spawn was present on one occasion within the wet grassland habitat to the east of the Proposed Development Site. No evidence of amphibians were recorded during the July 2023 surveys, however, as no targeted surveys for amphibians were carried out, it is assumed under the precautionary principle that locally important populations of these species may be present at the Site.

### 8.3.5.8 Reptiles

No records of common lizard (*Zootoca vivipara*) exist for the relevant 2km grid squares. However, there is some suitable habitat for this species within the applicant's landholding at Cornamaddy, particularly within the stone wall, scrub and esker habitats which provides a drier habitat area than the majority of the Site of the Proposed Development. Although no targeted surveys for common lizard were carried out within the applicant landholding, given the lack of suitable habitat within the Site of the Proposed Development itself, it is unlikely that common lizard are present within the Site.

### 8.3.5.9 Other Species and Species Groups

The marsh fritillary (*Euphydryas aurinia*) butterfly is the only insect in Ireland that is listed on Annex II of the Habitats Directive, which makes it the only insect protected by law in Ireland. Butterfly forms of marsh fritillary are active in May-June and its associated food plant: devil's bit scabious (*Succisa pratensis*) flower in July-September. The surveys conducted at the applicant's landholding covered the flowering period of devil's bit scabious - no evidence of the food plant was recorded during surveys and thus it is presumed there are no marsh fritillary utilising the Site or the wider area within the applicant's landholding.

### 8.3.5.10 Protected and/ or Notable Species Unlikely to Occur at the site

Other notable and/or rare species and species listed on Annex IV of the Habitats Directive that were considered but that are unlikely to occur at the Site include:

#### Flora:

- Marsh saxifrage (*Saxifraga hirculus*) – Known populations only in Co. Mayo.
- Killarney fern (*Vandenboschia speciosa*) – Nearest known populations in Co. Wicklow, not recorded at the Site, no suitably sheltered and moist habitats available.
- Slender naiad (*Najas flexilis*) – A clear water, lowland lake species. No suitable habitat available at the Site and no records of slender naiad in Lough Ree.

#### Fauna:

- White-clawed crayfish (*Austropotamobius pallipes*) – No records of this species within Lough Ree, adjacent ditches and streams not considered suitable for this species due to low quality.
- Freshwater pearl mussel (*Margaritifera margaritifera*) – No records of this species within Lough Ree, adjacent ditches and streams not considered suitable for this species due to low quality.
- Natterjack toad (*Epidalea calamita*) – Distribution restricted to few coastal sites.
- Kerry slug (*Geomalacus maculosus*) – Distribution restricted to south and west of Ireland.

### 8.3.6 Designated Sites, Habitats and Species Evaluation

The ecological value of designated sites, habitats, flora and fauna associated with the Proposed Development Site are evaluated in Table 8-17. This evaluation follows the Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009). KERs are those ecological receptors for which detailed assessment is required, on the basis of ecological value and likely significant impacts. The rationale behind these evaluations is also provided. Ecological resources of below 'Local Importance (higher value)' should not be selected as 'KER' for which detailed assessment is required (NRA, 2009).

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Table 0-17: Evaluation of Designated Sites, Habitats and Fauna Recorded Within the Surrounding Area.

Designated Sites/Species/Habitats	Evaluation	Key Ecological Receptor (KER)	Rationale
<b>Designated Sites</b>			
<b>Lough Ree SAC and Lough Ree SPA</b>	International importance	No	Potential impacts on European sites are addressed in the AA Screening and NIS accompanying this application under a separate cover (Enviroguide, 2023a, 2023b). No significant impacts envisaged after mitigation measures are put in place.
<b>Lough Ree pNHA</b>	National importance	No	This site has been addressed by proxy in the AA Screening and NIS accompanying this application under a separate cover (Enviroguide, 2023a, 2023b). No significant impacts envisaged after mitigation measures are put in place.
<b>Habitats</b>			
<b>BL3 – Buildings and artificial surfaces</b>	Local importance (lower value)	No	Artificial habitat of little biodiversity value - this habitat lies outside of the Site of the Proposed Development.
<b>BL1 – Stone walls and other stonework</b>	Local importance (higher value)	No	Old stone walls present within the applicant's landholding may offer habitat for reptiles and Irish stoat – however this habitat lies outside the Site of the Proposed Development.
<b>ED2 – Spoil and Bare Ground</b>	Local importance (lower value)	No	Habitat of little biodiversity value.
<b>GS1 – Dry Calcareous and Neutral Grassland</b>	Local importance (lower value)	No	This grassland may also provide important foraging habitat for local birds, insects and mammals. The esker on Site was considered as part of the overall design of the applicant landholding and will not be impacted by the Phase 4 Proposed Development. The majority of this habitat will be retained and has been incorporated into the design of the overall applicant landholding. This grassland does not correspond to an Annex I habitat type, and is not present within the Site of the Proposed Development.
<b>GS2 – Dry Meadows and Grassy Verges</b>	Local importance (lower value)	No	Low to moderate diversity grassland. Of some value to local insects, birds and foraging mammals however this habitat is widely present throughout the surrounding landscape.
<b>GS4 - Wet Grassland</b>	Local importance (higher value)	No	Small area of wet grassland present at the north of the Site, not of ecological importance at the Site scale.
<b>WS1 – Scrub</b>	Local importance (higher value)	Yes	May provide some shelter/foraging habitat for local fauna and will be impacted by the Proposed Development.

WL1 – Hedgerow	Local importance (higher value)	Yes	May provide important nesting, resting and foraging habitat for local birds and bats and areas will be impacted by the Proposed Development.
WL2 – Treeline	Local importance (higher value)	Yes	May provide important nesting, resting and foraging habitat for local birds and bats and areas will be impacted by the Proposed Development.
FW4 – Drainage Ditch	Local importance (higher value)	Yes	The drainage ditches on Site are connected to Lough Ree. The drainage ditches on Site also provide potential habitat for common frog and smooth newt. Sections of the drainage ditches on Site will be culverted as required.
FW2 Depositing/Lowland River	- Local importance (higher value)	Yes	Hydrologically connected to Lough Ree.
<b>Fauna</b>			
Small mammals e.g., Eurasian pygmy shrew and hedgehog	Local importance (higher value)	Yes	These small mammals likely utilize the habitats at the Site which will be affected by the Proposed Development, namely the grassland, hedgerow and scrub habitats.
	Local importance (higher value)	Yes	
Pine marten	Local importance (lower value)	No	Possible pine marten scat identified during 2020 surveys, but no further evidence of this species found on Site. Pine martens are arboreal and generally rely on deciduous and/or coniferous woodland habitat (Lawton et al., 2019). The Site is not considered to support a significant habitat for this species.
Irish stoat	Local importance (higher value)	Yes	No significant suitable habitat for this species within the Site of the Proposed Development. This habitat is present within the wider applicant landholding.
Red squirrel	Local importance (lower value)	No	No evidence of this species on Site. The Site is unlikely to support Red Squirrel which usually rely on deciduous and/or coniferous woodland habitat (Lawton et al., 2019), none of which is present within the Site or its immediate surroundings. The Site is not considered to provide a significant habitat for this species due to a lack of woodland.
Irish mountain hare	Local importance (lower value)	No	No evidence of this species on Site and unlikely to be present.
Otter	Local importance (higher value)	Yes	No suitable habitat present within the Site for otter however otter are present within Lough Ree which is hydrologically connected to the Site via Kippinstown and Garrnafela watercourses. The Garrnafela and Kippinstown streams also provide potential commuting habitat for otter.



<b>Bird assemblage</b>	Local importance (higher value)	<b>Yes</b>	Suitable breeding and foraging habitat for a range of common and widespread bird species.
<b>Bat assemblage</b>	Local importance (higher value)	<b>Yes</b>	Three species of bat recorded in the Site environs. Moderate activity recorded on Site during the Bat Activity Survey. The mature treelines and hedgerows within the Site boundary are important for foraging commuting bats in a local context.
<b>Amphibians</b>	Local Importance (higher value)	<b>Yes</b>	Frog spawn was recorded within the wet grassland habitat at the Site, the drainage ditches running along the field boundaries also provide potential habitat for common frog and smooth newt.
<b>Common lizard</b>	Local importance (higher value)	<b>Yes</b>	Limited suitable habitat for this species within the Site of the Proposed Development. Minimal suitable habitat present within the wider applicant landholding in the form of scrub and hedgerow.
<b>Fish species within Lough Ree</b>	Local importance (higher value)	<b>Yes</b>	No potential habitat at the Site to support these species, however, records exist within Lough Ree which is hydrologically connected to the Site of the Proposed Development via the Kippinstown and Garrynafela streams.
<b>Marsh fritillary</b>	Local importance (lower value)	<b>No</b>	Neither marsh fritillary, nor its associated food plant; devil's bit scabious were recorded during surveys of the entire applicant landholding.



## 8.4 Predicted Impacts

As per the NRA guidelines (NRA, 2009), likely effects have been assessed for the KERs only, as listed in Table 8-17. The following sections provide an assessment of the impact of the Proposed Development on local ecology. As per CIEEM (2018), where mitigation is fully integrated into the scheme and there is high confidence that it will be implemented, the significance of effects of the mitigated project are assessed. Where mitigation has not been integrated into the scheme, for example where it is necessary to include specific measures within a Construction Environmental Management Plan (CEMP), the potential impacts are assessed in the absence of mitigation.

The following is extracted from CIEEM (2018): *“Presenting the results of the assessment ‘with’ and ‘without’ mitigation allows the need for mitigation and/or compensation to be clearly identified. Where mitigation is fully integrated into the scheme and there is high confidence that it will be implemented, it may be appropriate simply to assess the significance of effects of the mitigated project, with this assessment reflecting the likelihood of the incorporated measures being successful. Where there is any uncertainty, then the with/without mitigation approach to assessment described above should be used to ensure transparency”*.

In this instance, mitigation has been integrated into the landscape plan and public lighting at the Site. As such, the impacts of these plans are taken into account when assessing other relevant impact (e.g., habitat loss).

### 8.4.1 Do Nothing Scenario

If the Proposed Development were not to go ahead, it is anticipated that the lands would continue to evolve. The treelines and hedgerows would continue to provide foraging, roosting and commuting habitat for birds, bats and small mammals, the grasslands would continue to offer resources to local pollinators and the scrub habitat would persist in provided habitat for local wildlife. The construction of the granted residential housing developments adjacent to the Proposed Development would continue to progress.

### 8.4.2 Construction Phase

The Construction Phase of the Proposed Development will involve Site preparation works, the establishment of construction services and finally the construction of the proposed residential units. Site preparation works will involve Site clearance, establishing entranceways and haul roads for vehicles, surveying and setting out, setting up the construction Site fencing and compounds etc. It is noted that much of the haul road and entranceway to the Site have been established to cater for the existing surrounding developments.

#### 8.4.2.1 Designated Sites

The assessment of the quality and composition of the habitats present at the Site in July 2023 confirmed that the Site remains largely unsuitable as an *ex-situ* feeding/roosting resource for the SCI species for Lough Ree SPA and the Middle Shannon Callows SPA i.e., ducks, geese, waders and shorebirds. The habitats present on Site do not provide suitable feeding resources for the above groups, of which the majority favour waterbodies (i.e., diving/dabbling species, arable/cultivated lands, or open green spaces with short swards such as playing pitches and maintained greens. The rank grassland and spoil and bare ground habitat that covers much of the Site render it largely unsuitable for the species listed for the above SPAs, as was borne out in the survey data. The distance of 0.9 km between the Site and Lough Ree SPA and 2.6 km between the Site and the Middle Shannon Callows SPA is sufficient to exclude the possibility of significant effects from construction-related noise disturbance impacts to the SCI bird species. For full detail, refer to the accompanying AA Screening and NIS (Enviroguide Consulting, 2023a; Enviroguide Consulting, 2023b).

#### 8.4.2.2 Habitats and Flora

As per Table 8-15, the following habitats were identified as KERs:

- Scrub (WS1)
- Hedgerows (WL1)
- Treelines (WL2)
- Drainage Ditch (FW4)
- Lowland / Depositing River (FW2)

The Proposed Development will require the removal of 14 trees from the Site, one group and the partial removal of a second tree group for removal, to facilitate the Proposed Development. Two additional trees will require pruning works. The remaining treelines within the Proposed Development Site lie along the Site boundary and will be retained and protected using robust fencing throughout the Construction Phase of the Proposed Development as per the Arboricultural Impact Assessment Report (Charles McCorkell, 2023). There is potential, in the absence of mitigation, for works accidentally being carried out within the root protection area of trees being retained and subsequent impacts on the trees via accidental damage, storage of materials in this habitat and 'spilling out' of materials into the root protection area, for example. As such, there is potential for *negative, short-term, moderate* impacts on the trees designated for retention within the Site of the Proposed Development.

The hedgerow, treelines and scrub identified for removal on Site provide potential nesting, roosting, resting and foraging habitat for local bird and bat populations, as well as small mammals such as hedgehog, Irish stoat and pygmy shrew. The loss of hedgerows and treelines will be offset to a degree by the provision of new, partly native, hedge and tree planting in the landscape plan for the Proposed Development. However, it will take several years before the newly planted hedges and trees provide the same level of support to local fauna as the existing habitats. It is noted that similar habitat is available in the surrounding landscape to the north and west of the Site. Therefore, the loss of these habitats represents a *negative, long-term moderate* impact in the context of anticipated increased urbanisation and hedgerow removal (offset by the proposed compensatory planting at the Site).

Sections of the drainage ditches on Site will be culverted to facilitate the Proposed Development, these ditches were periodically wet during surveys. The loss of the drainage ditches on Site constitutes a *negative, permanent, slight* impact at a local scale. The installation of the surface water drainage infrastructure on Site and headwall to the Kippinstown stream could result in contaminated surface water discharges to these waterbodies, this constitutes a *negative, medium-term, moderate* impact to downstream waterbody quality in the absence of suitable mitigation. These impacts are addressed in detail in relation to Lough Ree SAC and Lough Ree SPA downstream in the NIS that accompanies this application under a separate cover. Mitigation measures are also included in this Chapter for clarity.

- **Mammals**


The Site of the Proposed Development contains habitats suitable for small mammals such as hedgehog and pygmy shrew (hedgerow, scrub, and grassland). Clearance of vegetation may put these species at risk of injury or death if present when clearance is taking place. This risk constitutes a potential *negative, short-term, significant* impact on the local populations of these species.

Small mammals such as hedgehog have the potential to become entangled in construction materials such as netting and plastic sheeting, as well as other waste materials, causing entrapment and injury or death. This constitutes a *negative, short-term, significant* impact at a local scale.

Noise and dust generated during the Construction Phase has the potential to cause a disturbance impact on small mammals, in the absence of appropriate mitigation this represents a *negative, short-term, slight* impact.

stream along the northern provide habitat suitable for  
ment to result in indirect  
of the Site via Kippinstown)  
y within the downstream  
impact on fish species has  
This constitutes a *negative*,  
quality mitigation.

The drainage ditches on Site and section of the Kippinstown stream along the northern boundary of the Site of the Proposed Development do not provide habitat suitable for otter, however there is potential for the Proposed Development to result in indirect effects on otter within the Garrnafela stream (downstream of the Site via Kippinstown) and Lough Ree as a result of reduction of water quality within the downstream waterbodies. The reduction of water quality and consequent impact on fish species has the potential to affect otter by reducing prey availability. This constitutes a *negative, short-term, moderate* impact in the absence of suitable water quality mitigation.



[REDACTED]

[REDACTED]



Figure 0-17: Site location showing area of dense vegetation to be cleared under supervision of a suitably qualified ecologist (blue hatched).

#### 8.4.2.4 Birds

Results of the winter bird surveys carried out over the 2021/2022 winter confirm no usage of the Site of the Proposed Development by species listed as SCI for the relevant SPAs (Lough Ree SPA and Middle Shannon Callows SPA). Updated surveys in July 2023 confirmed the habitats throughout the Site of the Proposed Development have not changed, and the Site remains unsuitable as *ex-situ* habitat for the SCI species. It is therefore concluded that there will be no loss of any important *ex-situ* foraging/roosting habitat as a result of the Proposed Development.

Several bird species were recorded utilising the hedgerow, scrub and treeline habitats within and bordering the Site. Should vegetation be cleared or cut back during the breeding bird season (March 1<sup>st</sup> to August 31<sup>st</sup>); there is the potential for nesting birds to be harmed and nests to be destroyed. This would be in contravention of the Wildlife Act 1976 (as amended) which provides protection to breeding bird species and their nests and young. In the absence of mitigation or preventative measures, this risk constitutes a *negative, short-term, significant* impact on local bird populations. The loss of potential nesting and foraging habitat at the Site through the removal of vegetation represents a *negative, permanent, moderate* impact in the absence of suitable mitigation.

A number of mature trees are present along the Site boundary and have been included in the proposed project design, the retention and inclusion of the boundary vegetation into the project design represents a *positive* effect on local bird populations.

The increased noise and dust levels associated with the Construction Phase of the Proposed Development may have the potential to cause *negative, short-term, not significant* impacts on local bird populations. Increased human presence during the Construction Phase, in addition to increased lighting at the Site has the potential to cause *negative, short-term, not significant* disturbance to birds in the locality.

#### 8.4.2.5 Bats

The majority of the boundary vegetation on Site will be retained and has been included in the project design. A small section of the treeline at the northwestern Site boundary will be removed to enable future access to adjacent lands. This section of treeline will only be removed when the construction of the road into the neighbouring Site is required. The

treeline along the road adjacent to the smaller Site area will be removed. This treeline is currently well illuminated and offers low commuting and foraging potential for local bats. As such, the loss of commuting and foraging habitat for bats that reside within the vicinity of the Proposed Development is considered to be *negative, permanent, slight* at the Site scale in the absence of suitable mitigation.

The Proposed Development and the adjacent granted and proposed planning applications will result in an overall loss of suitable commuting and foraging habitat for bats at the applicant's landholding, however the majority of the boundary vegetation at the applicant's landholding is proposed for retention and will enable bats to continue to commute and forage around the perimeter of the Site to suitable lands to the west and north. The Construction Phase will result in increased lighting levels at the Site associated with human activity, this represents a *negative, short-term, moderate* impact on local bat species in the absence of mitigation.

Two trees proposed for removal according to the Tree Removals Plan (Charles McCorkell, Drg. No. 210811-P-41) were noted to provide low bat roost features according to BCT guidelines (trees of sufficient size and age to contain PRFs but none noted), the remaining trees held negligible bat roost features. As such, the Proposed Development will not result in the significant loss of suitable bat roost features at the Site and represents a *negative, short-term, not significant* impact on local roosting bats.

A number of trees to the south of the Proposed Development were noted to hold potential bat roost features, Tree T922 was noted with soprano pipistrelle bat emerging during bat surveys of the Site in September 2021. This tree will be retained according to the most recent Site layout, the crown will be reduced by 10%. Tree T914 was noted as having soprano and common pipistrelle emerge during July 28<sup>th</sup>, 2022, surveys. The tree alongside it, T915 was noted as holding High Bat Roost potential and may also support roosting bats. No evidence of bat emergence was noted during the targeted emergence survey of this treeline in August 2023, however bat activity adjacent to this treeline was high. These trees are beyond the boundary of the Proposed Development and will not be impacted by the Proposed Development. Planning permission is currently submitted for development adjacent to the aforementioned tree and a NPWS derogation licence will be required for both T914 and T915 if removal is deemed necessary.

#### **8.4.2.6 Fish**

The drainage ditches on Site do not provide habitat for fish species, however, there is potential for negative impacts on fish in the Garrnafela stream or Lough Ree, due to the works undertaken as part of the Proposed Development. Negative impacts could result from water quality deterioration due to surface water run-off from the Site during the Construction Phase. Potential pollutants could include silt, hydrocarbons, cementitious material and other chemicals used in construction. This constitutes a potential *negative, short-term, moderate* impact downstream at the local level, in the absence of suitable mitigation.

#### **8.4.2.7 Amphibians and Reptiles**

The Site contains habitats deemed potentially suitable for common frog and smooth newt (wet grassland, drainage ditch) and common lizard (stonewalls, scrub). The removal of potentially suitable habitats may place these species at risk of injury or death, as well as cause disturbance and/or displacement of these species from the Site and general area. Common frog and common lizard are noted as being of Least Concern in the NPWS 2011 Redlist (King et al., 2021) and common frog are also noted as having Favourable status in NPWS (2019) due to their adaptability to land use change and widespread abundance. Should works take place within the drainage ditches during the breeding period for amphibians, there is the potential for mortality of young and adults. Should vegetation clearance be carried out during the hibernation period for common lizard, there is the potential for mortality of this species. This would



This constitutes a potential *negative, short-term, significant* impact to local populations of these species in the absence of suitable mitigation.

### 8.4.3 Operational Phase

During the Operational Phase of the Proposed Development will consist of the normal day-to-day operations necessary for the management of a residential development and the ongoing maintenance of the dwelling units, operational infrastructure and landscape features.

#### 8.4.3.1 Designated Sites

No significant effects on any designated site during the Operational Phase of the Proposed Development are anticipated.

#### 8.4.3.2 Habitats and Flora

##### Retained hedgerows

The Proposed Development will see the retained hedgerows and treelines on Site being managed during its Operational Phase, to ensure safety and aesthetic value of these boundary habitats. It is possible, in the absence of an appropriate management plan, for these habitats to lose their biodiversity value through disturbance and poor management. This constitutes a *negative, long-term, moderate* impact on a local scale.

##### Landscape design

The landscape design for the Site of the Proposed Development includes a planting palette which has been specifically chosen for its pollinator friendly species as well as the overall aesthetic value of the trees, shrubs and perennials. The landscaped green spaces create a natural link throughout the Proposed Development Site and connect it with the wider applicant-owned land. The open spaces within the Site provide both active and passive areas for residents to enjoy, with an objective to create a natural environment within the Site to invite interaction and communication.

Pollinator friendly species incorporated in the landscape design include species such as lavender (*Lavandula sp.*), bugle (*Ajuga reptans*), mountain cornflower (*Centaurea montana*) and cranesbill (*Geranium macrorrhizum* (Czakor)). Pollinator friendly hedgerow species including wild privet (*Ligustrum vulgare*) dog rose (*Rosa canina*) and guelder rose (*Viburnum opulus*) and are also included in the landscape design. An area of wilding planting is proposed in the landscape design. All wildflower seeds will be Irish Provenance Certified Seed, from a reputable source such as Design by Nature (Wildflowers.ie). To maximise the biodiversity value of the landscaping at the Site, consideration has been made to the All-Ireland Pollinator Plan planting code (NBDC, 2015).

Overall, the landscape design will have a *positive, permanent, significant* impact at a local scale to the Site. Great efforts have been made in the design and layout of the Proposed Development to retain and protect as much of the existing hedgerows and mature trees as possible. The majority of trees scheduled for removal are of low and poor quality, the significant compensatory planting proposed across the Site will ensure that these trees are replaced with trees of better quality, and that local canopy cover is increased in the long term across the applicant's landholding.

##### Drainage ditches and the Garrynafela stream

No impacts on drainage ditches or the Garrynafela or Kippinstown stream are anticipated during the Operational Phase of the Proposed Development. All surface water from the Operational Phase of the Proposed Development will be attenuated on Site using several SuDS measures and discharged at a controlled rate via a hydro-brake.



#### 8.4.3.3 Mammals

The Operational Phase of the Proposed Development will result in a general loss of foraging habitat for local mammals, as much of the dry meadows and grassy verges habitat replaced with buildings, artificial surfaces, and landscaped areas.

It is noted that the masterplan layout for the applicant's landholding at Cornamaddy includes the retention of the esker, the retention of much of the northern and western boundary treelines and hedgerows and abundant planting of new hedgerows and treelines. The ecological value of new hedgerows will be maximized, with habitat connectivity ensured along the margins of the Proposed Development, connecting it in with the wider field boundary network in the area. As such, the disturbance to potential foraging and commuting habitat at the Site represents a *negative, permanent, moderate* impact, to small mammals at a local scale.

of mammals to forage successfully within the Site going forward and in the worst scenario could lead to injury from a dog attack. This will equate to a *negative, permanent, moderate* impact at the Site scale in the absence of any mitigation.

Noise and potential physical disturbance associated with the Operational Phase has the potential to cause a *negative, permanent, moderate* impact to nocturnal mammals in the absence of suitable mitigation.

No other negative impacts on non-volant mammals during the Operational Phase of the Proposed Development are anticipated.

#### 8.4.3.4 Birds

No negative impacts to birds during the Operational Phase of the Proposed Development are anticipated. Bird species recorded and likely breeding within the Site and the applicant landholding are common species found in suburban areas, parks and in residential gardens. Therefore, the impact of the operation of the Proposed Development is deemed to have an imperceptible impact on local breeding bird populations.

#### 8.4.3.5 Bats

During the Operational Phase, there is potential for disturbance to local bats utilising the general area through night-time light pollution. Excess light spill could render normally dark commuting and foraging routes unsuitable for bats. Bats were recorded commuting and foraging along the trees, treelines and hedgerows at the Site. The lighting alterations to the Site may act cumulatively with other changes to the area associated with housing or other construction. This is considered to be a *negative, permanent, moderate* impact to bats in the absence of mitigation.

#### 8.4.3.6 Fish

No negative impacts on fish species are anticipated during the Operational Phase of the Proposed Development.

#### 8.4.3.7 Amphibians and Reptiles

No negative impacts on amphibians or reptiles are anticipated during the Operational Phase of the Proposed Development.

#### 8.4.4 Cumulative

If the Proposed Development and the existing or proposed projects or plants impact on the same KERs, there is the potential for cumulative impacts to occur, which could be of a higher level of significance.

##### 8.4.4.1 Existing Granted Planning Permissions

There are several existing planning permissions on record in the area ranging from small-scale extensions and alterations to existing residential properties to some larger-scale developments. Larger-scale developments identified within the vicinity of the Proposed Development are as follows:

Table 0-18. Large scale developments in the vicinity/within the Proposed Development Site.

Planning Reference	Planning Authority	Status	Location
2360074	Westmeath Council	Decision pending	0.1km East
<b>Development Description</b> Planning permission was sought for a development consisting of a 10 year permission for the provision of a total of 332no. residential units along with provision of a crèche. Particulars of the development comprise as follows: (a) Site excavation works to facilitate the proposed development to include excavation and general site preparation works. (b) The provision of a total of 172no. 2storey residential dwellings which will consist of 152no. 3 bed units and 20no. 4 bed units. (c) The provision of a total of 160no. apartments/duplex units consisting of 36no. 1 bed units, 99no. 2bed units and 25no. 3bed units. The apartment blocks range in height from 2 storey to 4 storey and the duplex blocks range from 2 storey to 3 storey in height. (d) Provision of a 2 storey creche. (e) Provision of associated car parking at surface level via a combination of in-curtilage parking for dwellings and via on-street parking for the creche, duplexes and apartment units. (f) Provision of electric vehicle charge points with associated site infrastructure ducting to provide charge points for residents throughout the site. (g) Provision of associated bicycle storage facilities at surface level throughout the site and bin storage facilities. (h) The provision of a new link road via adjacent lands to the west to provide for vehicular, pedestrian and cyclist access. (i)The provision of internal culverts and associated bridges along with a realignment of a section of an existing drainage channel within the site to facilitate internal access roads along with associated crossing points across the drainage channel (to facilitate pedestrian, cyclist and vehicular crossing points). (j)The creation of a pedestrian footpath alongside the local road which will connect to the existing footpath aligning the N55 National road; (k)Provision of associated open space areas, residential communal open space areas to include formal play areas along with all hard and soft landscape works for private gardens and amenity spaces along with public lighting, planting and boundary treatments to include boundary walls, railings & fencing; (l)Provision of 2no. ESB substations. (m)Internal site works and attenuation systems. (n)All ancillary site development/construction works to facilitate foul, water and service networks for connection to the existing foul, water and ESB networks.			
<b>Potential for In-combination effects</b> None – Should the Construction Phase of this development overlap with the Proposed Development there is potential for combined environmental impacts in the vicinity of the			

Site. These would likely amount to combined noise disturbance, dust and surface water run-off impacts and would largely be expected to be limited to the construction sites and their immediate surrounds. Noise and dust related impact sources would not be likely to pose a risk of significant impacts to any QIs of the European sites in Lough Ree. This development also has the potential to introduce surface and groundwater run-off to the Garrynafela stream.

This development maintains an S-P-R connection with the European sites in Lough Ree via the Garrynafela stream. However this application was accompanied by an EIAR and NIS detailing specific measures to be adhered to during the Construction Phase with regards the protection of the Garrynafela stream and downstream Lough Ree from pollution, as such there is no potential for the aforementioned development to result in significant negative impacts to water quality within the Garrynafela stream or European sites within Lough Ree.

2360047	Westmeath Council	County	Granted Conditional	-	Directly south of Proposed Development
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#### Development Description

Planning permission was sought for a development at a site of total c.1.13ha on lands located at Cornamaddy, Athlone, Co. Westmeath. The site is generally bounded to the west by greenfield lands and Cornamagh Cemetery, to the north by greenfield lands, to the south by greenfield lands and the Ballymahon Road (N55) and to the east by the existing Drumaconn housing estate. The development will consist of modifications to the permitted application WMCC Reg. Ref. 14/7103/ ABP Ref. PL25.244826 and concurrent application WMCC Reg. Ref. 22/577 to include the following: Removal of the permitted creche c.260sqm and associated parking granted under WMCC Reg Ref. 14/7103/ ABP Ref. PL25.244826. The recently permitted creche granted under WMCC Ref. 22/340 will regularize childcare provision on site. The remaining area will form part of the public open space associated with the wider development at Cornamaddy (c.710sqm). Associated minor landscape revisions to the concurrent application WMCC Reg. Ref. 22/577; Provision of 6 no. additional houses comprising 4 no. Type A1 4-5 bed 2-3 storey semi-detached units (c.166sqm area each) and 2 no. Type B 3 bed 2 storey semi-detached units (c.113sqm area each). All with associated rear gardens and 2 no. parking spaces per unit. No new house types are proposed under this application; Relocation and minor alterations including changes to the floor levels, house plots and associated gardens and boundary treatments of the remaining units comprising 4 no. Type A1 4-5 bed 2-3 storey semi-detached units (c.166sqm area each), 2 no. Type B 3 bed 2 storey semi-detached units (c.113sqm area each), 1 no. Type D 5 bed 2-3 storey detached unit (c. 215sqm area) and 2 no. Type E1 3 bed 2 storey semi-detached units (c.112sqm area each) permitted under WMCC Reg. Ref. 14/7103/ ABP Ref. PL25.244826. No changes to the permitted floor area of these units; Minor modifications to the concurrent application WMCC Reg. Ref. 22/577 to include reconfiguration and relocation of the main access roads south of the planned distributor road. Readjustment of the internal shared access road parallel to the distributor road permitted under WMCC Reg. Ref. 14/7103/ ABP Ref. PL25.244826; All associated site development works, services provision, connection to water services and connection to the section of the distributor road proposed under WMCC Reg. Ref. 22/577, public open space (c.600sqm), landscaping, boundary treatment works and car parking provision.

#### Potential for In-combination effects

None – This development consists of minor modifications to a previously permitted development. An AA Screening was submitted with this application which concluded that the development does not have the potential to result in significant effects to any European sites due to the nature and small scale of the amendments. The planners report for the original planning application determined that the development would not have the potential to result in significant effects to any European site.

22577	Westmeath Council	County	Decision pending		Directly south of Proposed Development
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#### Development Description

A 5 year permission was sought for a development at a site of total c.10.87 ha on lands located at Cornamaddy, Athlone, Co. Westmeath. The site is generally bounded to the west



by greenfield lands and Cornamagh Cemetery, to the north by greenfield lands, to the south by greenfield lands and the Ballymahon Road (N55) and to the east by the existing Drumaconn housing estate. The development will comprise of a residential development and public open space comprising the following: Amendments to permitted application WMCC Reg Ref. 14/7103 ABP Ref. PL25.244826 for the removal of 38 no. permitted units (not constructed) to be replaced by: Construction of 70 no. residential units comprising: 4 no. 2 bed terraced houses (c.78 sq.m each), 60 no. 3 bed semidetached (c. 96-116 sq.m each) and 6 no. 4 bed semidetached houses (c. 147 sq.m each) with associated private gardens. The creche facility, public open spaces, landscaping, roads layouts, car parking, boundary treatment works, public lighting and all associated site works associated with the 87 no. remaining units retained as permitted under WMCC Reg Ref. 14/7103 ABP Ref. PL25.244826 will remain unchanged. All pedestrian and vehicular access roads and footpaths including a section of the planned east/west distributor road connecting to a sections of the distributor road permitted under WMCC Reg. Refs 14/7103 ABP Ref. PL25.244826 and 22/253 to the east of the site. All associated site development works, services provision, drainage works, public open space (c.1.03ha), landscaping, boundary treatment works, public lighting, associated esb substation cabinets, bin stores, car and bicycle parking provision.

#### Potential for In-combination effects

None – Should the Construction Phase of this development overlap with the Proposed Development there is potential for combined environmental impacts in the vicinity of the Site. These would likely amount to combined noise disturbance, dust and surface water run-off impacts and would largely be expected to be limited to the construction sites and their immediate surrounds. Noise and dust related impact sources would not be likely to pose a risk of significant impacts to any QIs of the European sites in Lough Ree. This development also has the potential to introduce surface and groundwater run-off to the Garrynafela stream.

This development maintains an S-P-R connection with the European sites in Lough Ree via the Garrynafela stream. However this application was accompanied by an EIAR and NIS detailing specific measures to be adhered to during the Construction Phase with regards the protection of the Garrynafela stream and downstream Lough Ree from pollution, as such there is no potential for the aforementioned development to result in significant negative impacts to water quality within the Garrynafela stream or European sites within Lough Ree.

22253	Westmeath Council	County	Granted Conditional	–	Directly east of Proposed Development
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#### Development Description

Planning permission was sought for a development consisting of the following: Construction of 75 no. residential units comprising: 51 no. 2 storey semi-detached and terraced houses (consisting 4 no. 2 bed houses and 47 no. 3 bed houses, ranging in size from c.78 sq.m – 120 sq.m each), and 24 no. 3 storey apartment/duplex units (consisting 12 no. 2 bed apartments and 12 no. 3 bed duplexes, ranging in size from 84sq.m to 121 sq.m each), with associated private gardens and east/west facing terraces; All pedestrian and vehicular access roads and footpaths including a section of the planned east/west distributor road connecting to a section of the distributor road permitted under WMCC Reg. Ref. 14/7103/ ABP Ref. PL25.244826 to the south east of the site. All associated site development works, services provision, drainage works, residential open space (c.0.28ha) and public open space (c.0.82ha), landscaping, boundary treatment works, public lighting, 1 no. esb substation cabinets, bin stores, car and bicycle parking provision; Provision of a new detention basin on the eastern portion of the site designed to cater for the proposed development, in lieu of the drainage works permitted under WMCC Reg. Ref. 14/7103 / ABP Ref. PL 25.244826.

#### Potential for In-combination effects

None – Should the Construction Phase of this development overlap with the Proposed Development there is potential for combined environmental impacts in the vicinity of the Site. These would likely amount to combined noise disturbance, dust and surface water

run-off impacts and would largely be expected to be limited to the construction sites and their immediate surrounds. Noise and dust related impact sources would not be likely to pose a risk of significant impacts to any QIs of the European sites in Lough Ree. This development also has the potential to introduce surface and groundwater run-off to the Garrynafela stream.

This development maintains an S-P-R connection with the European sites in Lough Ree via the Garrynafela stream. However this application was accompanied by an NIS detailing specific measures to be adhered to during the Construction Phase with regards the protection of the Garrynafela stream and downstream Lough Ree from pollution, as such there is no potential for the aforementioned development to result in significant negative impacts to water quality within the Garrynafela stream or European sites within Lough Ree.

22340	Westmeath Council	County	Granted Conditional	–	Within redline boundary
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#### Development Description

Planning permission was sought for a development consisting of the following: Construction of a two Storey childcare facility, including classrooms, reception, kitchen, associated staff areas and office, toilets, storage, plant rooms, circulation areas and photovoltaic panels at roof level (c.668sqm total gross floor area); The proposed facility includes a secure outdoor play area(c. 595 sqm), 18 no. car parking spaces and 20 no. bicycle parking spaces; Existing vehicular access onto the existing link road and provision of an internal access road, footpaths and 2 no. pedestrian access points; All associated site development works, service provision, drainage works, landscape and boundary treatment works and public lighting.

#### Potential for In-combination effects

None – Should the Construction Phase of this development overlap with the Proposed Development there is potential for combined environmental impacts in the vicinity of the Site. These would likely amount to combined noise disturbance, dust and surface water run-off impacts and would largely be expected to be limited to the construction sites and their immediate surrounds. Noise and dust related impact sources would not be likely to pose a risk of significant impacts to any QIs of the European sites in Lough Ree. This development also has the potential to introduce surface and groundwater run-off to the Garrynafela stream.

This development maintains an S-P-R connection with the European sites in Lough Ree via the Garrynafela stream. However this application was accompanied by an NIS detailing specific measures to be adhered to during the Construction Phase with regards the protection of the Garrynafela stream and downstream Lough Ree from pollution, as such there is no potential for the aforementioned development to result in significant negative impacts to water quality within the Garrynafela stream or European sites within Lough Ree.

177224	Westmeath Council	County	Granted Conditional	–	Approx. 20m south of Proposed Development
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#### Development Description

Planning permission was sought for the development of 7 no new dwellings to include 3 no 5 bedroom detached houses and 2 no 4 bedroom detached houses with optional fifth bedroom/study and 2 no 4 bedroom semidetached houses with optional fifth bedroom/study and all associated site development works including road networks, services, landscaping, and boundary treatments.

#### Potential for In-combination effects

None – Should the Construction Phase of this development overlap with the Proposed Development there is potential for combined environmental impacts in the vicinity of the Site. These would likely amount to combined noise disturbance, dust and surface water run-off impacts and would largely be expected to be limited to the construction sites and their immediate surrounds. Noise and dust related impact sources would not be likely to pose a risk of significant impacts to any QIs of the European sites in Lough Ree.



This development is small in scale and is sufficiently set back from the Garrynafela stream, the Construction Phase of this development has also commenced and as such it is highly unlikely that the Construction Phase of this granted application would overlap with the Proposed Development. As such there is no potential for the aforementioned development to result in significant negative impacts to any European site.				
147103	Westmeath Council	County	Granted Conditional	– Approx. 15m south of Proposed Development
<p><b>Development Description</b></p> <p>Planning permission was sought for the construction of 98 no. new dwellings to include 11 no. 4/5 bedroom detached houses, 28 no. 4/5 bed semi-detached houses, 8 no. 3 bedroom detached houses, 34 no. 3 bedroom semi-detached houses, 8 no. 2/3 bedroom terraced houses, 3 no. 2 bedroom houses and 6 no. 2-bedroom bungalow houses. The development includes the provision of all associated site development works including road networks, services, landscaping and boundary treatments.</p> <p><b>Potential for In-combination effects</b></p> <p>Yes - Should the Construction Phase of this development overlap with the Construction Phase of the Proposed Development there is potential for combined environmental impacts in the vicinity of the Site. These would likely amount to combined noise disturbance, dust and surface water run-off impacts and would largely be expected to be limited to the construction sites and their immediate surrounds. Noise and dust related impact sources would not be likely to pose a risk of significant impacts to any QIs of the European sites in Lough Ree.</p> <p>However this development shares a common S-P-R connection with the Proposed Development via potential surface water run-off to the Garrynafela stream. This planning application was not accompanied by an AA screening report. As the Construction Phase for this development has already commenced and will likely be completed prior to the commencement of the Construction Phase of the Proposed Development, the potential for significant impacts to water quality within the Garrynafela stream and downstream Lough Ree is unlikely however in the absence of mitigation, there is potential for in-combination effects on water quality within the Garrynafela stream and subsequently the downstream European sites in Lough Ree.</p>				

A number of the above-mentioned applications have been previously granted planning permission but are within the boundary of this EIAR application, as such, the impacts have been assessed for the applicant-owned land as a whole. A planning application for a Large Scale Residential Development to the east of the Site is currently awaiting a decision from Westmeath County Council. Given the location of the above granted/ pending projects within and adjacent to the EIAR boundary, there is potential for combined environmental impacts in the vicinity of the Site. These would likely amount to combined noise disturbance, dust and surface water run-off related impacts and loss of habitats on Site and would largely be expected to be limited to the construction sites and their immediate surrounds. Where potential significant effects are identified, mitigation measures will be put in place to ensure no significant in-combination effects occur as a result of the project as a whole.

## 8.5 Mitigation Measures

The following sections outline the mitigation and enhancement measures that address the negative impacts as identified in this chapter on the KERs.



## 8.5.1 Construction Phase Mitigation

### 8.5.1.1 Construction Phase Surface Water Management

All works carried out as part of the Proposed Development will comply with all Statutory Legislation including the Local Government (Water Pollution) acts, 1977 and 1990 and the contractor will cooperate fully with the Environmental Section of Westmeath County Council.

Personnel working on the Site will be trained in the implementation of environmental control and emergency procedures. Procedures and relevant documents produced will be formulated in consideration of standard best international practice including but not limited to:

- CIRIA, (2001), Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors.
- Construction Industry Research and Information Association (CIRIA) Environmental Good Practice on Site (C650), 2005.
- BPGCS005, Oil Storage Guidelines.
- UK Pollution Prevention Guidelines (PPG) UK Environment Agency, 2004; Construction Industry Research and Information Association CIRIA C648: Control of water pollution from linear construction projects: Technical guidance (Murnane et al. 2006).
- CIRIA C648: Control of water pollution from linear construction projects: Site guide (Murnane et al. 2006); and
- Inland Fisheries Ireland (2016). Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters.

The following sedimentation/siltation measures will protect surface waters during the Construction Phase of the Proposed Development:

- Protective measures such as silt fencing and berms, will be installed prior to the commencement of construction to ensure the protection of the Kippinstown stream and ultimately Lough Ree downstream. A silt fence set back at least 10m from the waterbody (Paul McGrail, drawing reference no: 2022-115-010355) where possible will be required, to be constructed of a suitable geotextile membrane to ensure water can pass through, but that silt will be retained.
- Heras fencing will be installed in front of the silt fencing at the Site to prevent "Site creep", the progressive movement of site activities towards this silt fence.
- The silt fences will be monitored to ensure that they remain functional throughout construction of the Proposed Development. Where necessary, maintenance will be carried out on the fences to ensure that they continue to be effective. This will be particularly important after heavy rainfall events. The checks will be undertaken by the Environmental Manager. The frequency of monitoring will depend on the stage of works, and local environmental conditions. Daily checks may be appropriate during the initial Site clearance, during works in the vicinity of the Kippinstown stream and during and after storm events. Weekly or bi-weekly checks may be appropriate at other times.
- It will be ensured that all river protection measures will be maintained in good and effective condition for the duration of the proposed works and checked regularly to ensure that the silt fencing and other mitigation measures are operating effectively.
- To prevent elevated levels of erosion and sedimentation at the Site during the Construction Phase, surface water at the Site will be managed and controlled for the duration of the construction works, until the permanent surface water

drainage system (including attenuation and storage) for the Proposed Development is complete.

- Entry to the Kippinstown stream by vehicles will be avoided, while vehicle usage along the banks will be restricted as much as practicable. Any machines working in close proximity of the watercourse must be protected against leakage or spillage of fuels, oils, greases and hydraulic fluids.
- The infilling of the central drainage ditches on Site will only occur during dry weather conditions when no water flow is observed in the ditch.
- Should localised water pooling be present within the central drainage ditches on Site prior to infilling, this will be pumped out and discharged to the foul network as per agreement with Irish Water. This will prevent sediment rich water reaching the Kippinstown stream and ultimately the downstream waterbodies.
- An Ecological Clerk of Works (ECOW) will be present on Site to oversee the infilling of the drainage ditch and to ensure there is no potential for surface water runoff to the Kippinstown stream and ultimately Garrynafela stream.
- All associated waste from Portaloos and/or containerised toilets and welfare units will be removed from Site by a licenced waste disposal contractor.
- Under no circumstances will any untreated wastewater generated onsite (from equipment washing, road sweeping etc.) be released into nearby ditches or surface water sewers.

The following additional general surface/ground water protection measures will further reduce the potential for significant negative impacts to water quality in the vicinity of the Proposed Development;

- Discharge water generated during placement of concrete will be stored and removed off Site for treatment and disposal.
- There will be no washing out of any concrete trucks on Site.
- Specific areas for storage, delivery, loading/unloading of materials will be designated, which will have appropriate containment/spill protection measures where required. These areas will be located in the Site compound as per Figure 7 below.
- Leachate generation from stockpiles or waste receptacles will be prevented by using waterproof covers.
- If contaminated soils are encountered during construction works or if material becomes contaminated by, for example a fuel spill or hydraulic fluid leak the contaminated materials will be segregated, placed on an impermeable membrane to prevent contamination of the underlying ground and covered to prevent contaminants being mobilised by rainwater run-off. The materials will remain covered until such time as they can be compliantly removed from Site by appropriately authorised waste management contractors.
- Prolonged exposure of contaminated soils or groundwater to the atmosphere will be avoided where practical or unnecessary.
- A regular review of weather forecasts of heavy rainfall will be conducted, and a contingency plan will be prepared for before and after such events to minimise any potential nuisances.
- Refuelling of plant during the Construction Phase will only be carried out at designated refuelling station locations on Site. Each station will be fully equipped for spill response and a specially trained and dedicated Environmental and Emergency Spill Response team will be appointed before the commencement of works on Site.
- Appropriate bunding, storage and signage arrangements for all deleterious substances will be used.
- Robust and appropriate Spill Response Plan and Environmental Emergency Plans will be implemented for the duration of the works.

- Control measures and spill clean-up equipment adequate to treat spills at the Site will be available and staff will be trained and experienced in using said equipment.
- A register will be kept of all hazardous substances either used on Site or expected to be present. The register shall be available at all times and shall include as a minimum: valid safety sheets; Health & Safety, environmental controls to be implemented when storing, handling, using and in the event of spillage of materials; emergency response procedures/precautions for each material; the Personal Protective Equipment (PPE) required when using the material.
- The above measures relating to surface and groundwater protection will also prevent negative impacts to otter should they utilise Garrynafela stream and Lough Ree downstream of the Site.

#### 8.5.1.2 Protection of Habitats

Trees that are proposed to be retained will be protected by robust protective fencing, signage and/or ground protection prior to any materials or machinery being brought on site and prior to any development, demolition or soil stripping takes place. Areas that are designated for new plantings will be similarly protected. Barriers will be fit for the purpose of excluding construction activity. In most cases barriers should consist of a scaffold framework comprising a vertical and horizontal framework, well braced to resist impacts. To ensure the protective barriers are respected, clear concise signage will be affixed to the barrier in an unrestricted easily viewed location. The protective barriers will remain in an undisturbed condition and only removed on completion of all construction activity. Any breach of the protective fence will be reported to the consulting arborist.

During the course of the construction works the integrity of the fencing must be respected and remain in place at all times. No building materials or soil heaps will be stored within this area. Should essential works need to take place within the root protection area, the project arborist must be informed in advance and any necessary mitigation measures will be put in place. The protective fencing will remain in situ for the duration of the Construction Phase and will only be removed upon completion of all works. Construction on Site will not commence until the protective barriers and/or ground protection have been erected. Further information on Tree Protection measures can be found in the Arboricultural Impact Assessment accompanying this application.

#### 8.5.1.3 Invasive Species

There were no high impact or legally controlled invasive plant species identified at the Site during field surveys by Enviroguide Consulting.

The following measures will be adhered to, to avoid the introduction or dissemination of invasive species to and from the Site of the Proposed Development. For the Construction Phase, the contractor will prepare a project specific Invasive Alien Plant Species (IAPS) standard operating procedure document, in advance of work commencement. The document will cover the bio-security measures to be taken, including the maintenance of records, to screen for the introduction of IAPS onsite, and to enable their tracing if such an introduction occurs; and to ensure no transmission of IAPS offsite. These measures to include:

- Validation that all machinery/vehicles are free of IAPS, prior to their first introduction to Site.
- Certification from the suppliers that all imported soils and other fill/landscaping materials are free of IAPS.
- A regular schedule of Site inspections across the IAPS growing seasons, for the duration of the construction works programme.
- Validation that all machinery/vehicles are free of IAPS, prior to leaving the Site.
- Appropriate and effective Site biosecurity hygiene to ensure that no IAPS are transmitted offsite for the duration of the Proposed Works.

#### 8.5.1.4 Vegetation Clearance

To ensure compliance with the Wildlife Act 2000 as amended, the removal of areas of vegetation will not take place within the nesting bird season (March 1<sup>st</sup> to August 31<sup>st</sup> inclusive) to ensure that no significant impacts (i.e., nest/egg destruction, harm to juvenile birds) occur as a result of the Proposed Development. Where any removal of vegetation within this period is deemed unavoidable, a qualified ecologist will be instructed to survey the vegetation prior to any removal taking place. Should nesting birds be found, then the ecologist will liaise with the Site manager and measures will be put in place to protect the area of habitat in question (e.g., with a suitable fenced buffer to minimise disturbance to the nest) until the ecologist confirms the young have fledged. Vegetation confirmed to be free of nests and breeding activity by the ecologist will be cleared within 24 hours of their survey. Any longer than this and an updated survey will be required.

Guidance for when vegetation/habitat clearance is permissible is shown below in Table 8-19. Information sources include Herpetological Society of Ireland, British Hedgehog Preservation Society's *Hedgehogs and Development* and the *Wildlife (Amendment) Act*, 2000, Collins (2016) and NRA (2009).

The optimal period for vegetation/habitat clearance is within the months of **September and October**. Where this seasonal restriction cannot be observed, a check for active nests and signs of mammals will be carried out immediately prior to any Site clearance by an appropriately qualified ecologist/ornithologist and repeated as required to ensure compliance with legislative requirements. Works will be undertaken in adherence to a detailed Method Statement for vegetation removal.

**Table 0-19: Seasonal Restrictions on Vegetation Removal. Red Boxes Indicate Periods When Clearance/Works Are Not Permissible.**





#### 8.5.1.6 Protection of Fauna

##### Waste Management

As best practice all construction-related rubbish on Site e.g., plastic sheeting, netting etc. will be kept in a designated area and kept off ground level so as to prevent small mammals such as hedgehogs from entrapment and death.

##### Trenches/ pits /open pipes

Trenches/pits must be either covered at the end of each working day or include a means of escape for any animal falling in e.g., plank or objects placed in the corners of an excavation.

Any temporarily exposed open pipe system will be capped in such a way as to prevent animals gaining access as may happen when contractors are off site.

##### Lizard and Scrub/Grassland Clearance

As the stone wall habitat does not occur within the Site of the Proposed Development, its removal will not be required prior to the commencement of works as a component of Phase 4. However, removal will be needed to facilitate future development within the wider applicant-owned land. There is scrub habitat present within the Site of the Proposed Development, and as no reptile surveys were conducted onsite, any removal of the scrub/stone wall habitats on Site or within the applicant landholding will be carried out as per the following approach:

- Removal of scrub will be carried out in **September/October** to ensure that Lizards are active but also that nesting birds aren't impacted.
- Any removal of scrub will be carried out in a consistent direction; working away from the area of works and towards the nearest Site boundary; to allow any lizards present to escape.
- Removal of the scrub habitats will be supervised by a suitably qualified ecologist in case any Lizards are encountered.
- Any lizards encountered will be moved by the ecologist to a designated area of retained habitat that will be fenced and protected for the lifetime of the Proposed Development. The lizards will only be handled with gloves to ensure that should torpid reptiles be found their body temperature will not be raised through handling.
- The location of this retained habitat area will be confirmed with the applicant prior to the works commencing on-site.
- Once an area of the Site has been cleared of suitable scrub habitat to allow works, it will be maintained this way to ensure no suitable habitat for lizard develops i.e., no new piles of rocks/logs etc will be created within the active construction site; these can be deposited along the outer margins of the Site as new habitat.
- Construction staff will be briefed on lizards and remain vigilant for the presence of lizards throughout the Construction Phase. Should any hibernating lizards be discovered, the works in that area will cease, the ecologist will be contacted immediately and will move the lizard carefully to the Site's outer boundaries. The works can then continue in that area once the ecologist confirms no lizards are at risk.

##### Log Piles



Piles of logs and other woody vegetation arising from the vegetation removal on Site will be left in suitable secluded corners/margins of the Site; to provide habitat for common frogs, lizards and small mammals such as hedgehog and pygmy shrew for the duration of the construction works and operational lifetime of the Proposed Development where possible. These areas of woody debris will also benefit local invertebrate species through the provision of shelter and food sources.

#### Common frog and smooth newt

The Site provides some potential breeding habitat for both common frog and smooth newt in the form of drainage ditches and a terrestrial grassland habitats. Infilling of the drainage ditches on Site should not take place between March and July (inclusive) as this is the amphibian spawning season unless the ditches are confirmed to be devoid of amphibians by a suitably qualified ecologist. Survey methodology will take consideration of the National Roads Authority (NRA, 2009), now Transport Infrastructure Ireland (TII) Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes, The Irish Wildlife Trust National Smooth Newt Survey 2013 Report (Meehan, 2013) and the National Frog Survey of Ireland 2010/11 (Reid et al. 2013). Should frog or newt or their young require removal to allow works to proceed, the NPWS will be consulted by the project ecologist prior to any such works commencing and a method statement may be provided on how to proceed with works.

The surface water protection measures outlined in section 8.5.1.1 will protect water quality within the Kippinstown stream and Garrynafela stream, this will also protect amphibians.

#### Otter

The drainage ditches and Kippinstown stream along the northern Site boundary do not provide suitable habitat for otter however otter are likely present downstream of the Site within Lough Ree and the Garrynafela stream. The surface water protection measures outlined in section 8.5.1.1 will serve to protect water quality in the Garrynafela stream downstream of the Site, which will in turn limit and/or eliminate any potential negative impacts on prey availability for otter downstream of the Site.

#### Fish

There is no habitat for these species within the Proposed Development Site however they are likely present downstream of the Site within Lough Ree. The surface water protection measures outlined in section 8.5.1.1 will serve to protect water quality within Lough Ree, which in turn will limit and/or eliminate any potential negative impacts on aquatic species within Lough Ree which are sensitive to water quality changes.

### **8.5.1.7 Protection of Bats**

#### Bat Friendly Tree Felling

As good practice, all low potential trees on Site are to be felled with using 'soft felling' techniques under supervision of an ecologist and should be left in situ for 24 hours once felled or section felled.

#### Bat Roosting Opportunities

To offset the loss of trees on Site, a series of 6 bat boxes will be erected on suitably large trees along the boundaries of the Site of the Proposed Development to provide future roosting opportunities. The proposed boxes are 2F Schwegler Woodcrete bat boxes with double fronted panels or equivalent design. These boxes will be erected no less than 3m from the ground in an uncluttered environment away from public lighting. Boxes should be arranged in groups of 2-3 or more in suitable locations with two boxes facing south and the remaining boxes orientated in any direction. Bat boxes will be erected prior to any tree felling or building demolition occurring at the Site so as to provide immediate compensatory habitat to affected bats. The guidance of a suitably qualified Bat ecologist

will be sought in the placement of the bat boxes; to avoid disturbance from lighting generated by the Proposed Development and maximise the likelihood of their uptake by local bats.

#### Bat Friendly Lighting Measures

Subject to grant of planning permission, the construction stage lighting plan will be prepared by the main contractor when they are appointed, and this will be reviewed by a bat ecologist to ensure that no night-time light spill on to the boundary treelines at the Site occur as result of night-time security lighting at the construction site (if such lighting is required). Every effort will be made to ensure that there will be no night-time construction lighting within or directed into vegetated areas and treelines along the Site boundary. To ensure there is no light spill into these areas, the following luminaire specifications, taken from latest guidance (ILP, 2018), will be adhered to during the Construction Phase:

- A bat ecologist (with lighting expertise) will assess the lighting report for the Site to ensure there is no light spill onto retained treelines/hedgerows. They will advise further lighting mitigation as required.
- Retained treelines will not incur an increase in the current lux level due to the construction activity.
- All luminaires used will lack UV/IR elements to reduce impact.
- LED luminaires will be used due to the fact that they are highly directional, lower intensity, good colour rendition and dimming capability.
- A warm white spectrum (<2700 Kelvins will 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 will be carefully considered to minimise light spill. The shortest column height allowed will be used where possible.
- Only luminaires with an upward light ratio of 0% and with good optical control will be used.
- Luminaires will be mounted on the horizontal, i.e., no upward tilt.
- Any external security lighting will be set on motion-sensors and short (1min) timers.
- As a last resort, accessories such as baffles, hoods or louvres will be used to reduce light spill and direct it only to where it is needed.

The landscape plan also includes the provision of new tree and hedgerow planting within the proposed parkland that runs along the esker in the centre of the Masterplan area. This parkland area will be maintained with zero to minimal night-time lighting and will act as a dark corridor for bats and other wildlife to forage and commute through the Site during the lifetime of the Proposed Development.

#### **8.5.1.8 Reduction of Noise Related Impacts**

Short-term increases in disturbance levels as a direct result of human activity and through increased generation of noise during the Construction Phase can have a range of impacts depending upon the sensitivity of the ecological receptor, the nature and duration of the disturbance and its timing.

Noise generated during the Construction Phase of the Proposed Development could cause temporary disturbance to a number of faunal species in the vicinity of the Site of the Proposed Development. To mitigate this disturbance, the following measures will be implemented:

- Selection of plant with low inherent potential for generating noise.
- Siting of plant as far away from sensitive receptors as permitted by Site constraints.
- Avoidance of unnecessary revving of engines and switch off plant items when not required.

- Keep plant machinery and vehicles adequately maintained and serviced.
- Keep internal routes well maintained and avoid steep gradients.
- Minimise drop heights for materials or ensure a resilient material underlies.
- Use of alternative reversing alarm systems on plant machinery.
- Limiting the hours during which Site activities likely to create high levels of noise are permitted.
- Appointing a Site representative responsible for matters relating to noise.
- Monitoring typical levels of noise during critical periods and at sensitive locations.

These measures will ensure that any noise disturbance to nesting birds or any other fauna species in the vicinity of the Proposed Development will be reduced to a minimum.

#### 8.5.1.9 Reduction of Noise Related Impacts

The following general dust control measures will be followed for the duration of the Construction Phase of the Proposed Development. These measures will ensure no significant dust related impacts occur to nearby sensitive receptors including local faunal species.

- In situations where the source of dust is within 25m of sensitive receptors screens (permeable or semi-permeable) will be erected.
- Haulage vehicles transporting gravel and other similar materials to site will be covered by a tarpaulin or similar.
- Access and exit of vehicles will be restricted to certain access/exit points.
- Vehicle speed restrictions of 20km/hr will be in place.
- Bowsers will be available during periods of dry weather throughout the construction period.
- Stockpiles will be stored in sheltered areas of the Site, covered, and watered regularly or as needed if exposed during dry weather.
- Gravel or hardstand will be used at Site exit points to remove caked-on dirt from tyre tracks.
- Hard surfaced roads will be wet swept to remove any deposited materials.
- Unsurfaced roads will be restricted to essential traffic only.
- If practical/required, wheel-washing facilities will be located at all exits from the construction Site.
- Dust production as a result of Site activity will be minimised by regular cleaning of the Site access roads using vacuum road sweepers and washers. Access roads will be cleaned at least 0.5km on either side of the approach roads to the access points.
- Public roads outside the Site shall be regularly inspected for cleanliness, as a minimum daily, and cleaned as necessary. A road sweeper will be made available to ensure that public roads are kept free of debris.
- The frequency of cleaning will be determined by the Site agent and is weather and activity dependent.
- The height of stockpiles will be kept to a minimum and slopes will be gentle to avoid windblown soil dust.
- The following will be dampened during dry weather.
  - Unpaved areas subject to traffic and wind.
  - Stockpiles.
  - Areas where there will be loading and unloading of dust-generating materials.
  - Under no circumstances will wastewater from equipment, wheel or surface cleaning enter the surface water drainage network.

#### 8.5.2 Operational Phase Mitigation

### 8.5.2.1 Protection and Enhancement of Habitats

New hedgerows proposed in the landscape design will be managed in a way so as to mitigate for the loss of the existing hedgerows as much as is possible. In this way, the ecological value of new hedgerows will be maximised, with habitat connectivity ensured along the margins of the Proposed Development; connecting it in with the wider field boundary network in the area. This connectivity is vital for wildlife such as birds, bats, mammals and insect pollinators in a human landscape such as that which will be provided by the Proposed Development. Additionally, by managing hedgerows and treelines in a more natural way, they will provide more in terms of biodiversity; through increased plant diversity, increase provision of food resources and higher quality shelter to wildlife inhabiting and commuting through the area.

The above low intervention approach may not be suitable for hedges included within the more landscaped areas of the Site, which may need to be maintained to a higher degree for health and safety or aesthetic reasons. However, native species will be used wherever possible in these locations to maximise the biodiversity value of these internal landscaped parts of the Site.

For the hedgerows and treelines running along the outer margins of the Site, the following management approach is proposed to maximise their biodiversity value and offset the loss of existing hedgerows at the Site. Should planning be granted, a **Hedgerow Management Plan** will be prepared by a suitably qualified ecologist for the hedgerows that are proposed for the Site's outer boundaries. This management plan will include the following, with a focus on maintaining these hedges in as natural a state as possible to maximise their ecological value:

- Hedgerows will be maintained with a natural meadow strip of 1-2m at their base wherever possible. Hedges with plenty of naturally occurring flowers and grasses at the base will provide higher quality habitat for local wildlife using the hedges.
- The 1-2m strip at the base of the hedgerow will be cut on a reduced mowing regime to encourage wildflower growth and maximise the value of the hedgerow for pollinators. A two-cut management approach is ideal for suppressing coarse grasses and encouraging wildflowers. Cut the hedgerow basal strip once during February and March (this is before most verge plants flower and it will not disturb ground-nesting birds). Cut the verge once again during September and October (this slightly later cutting date allows plants that were cut earlier in the year time to grow and set seed).
- N.B. Raising the cutter bar on the back cut will lower the risk to amphibians and small mammals.
- Hedgerows, where possible, will be allowed to reach at least 2.5m in height, and should be trimmed in an A-shape; maintaining a wider base to compliment the natural meadow strip at their base.
- Where hedgerow trimming needs to occur delay trimming as late as possible – until January and February as the surviving berry crop will provide valuable food for wildlife. The earlier this is cut; the less food will be available to help birds and other wildlife survive through the winter. Any hedgerow cutting should be done outside of the nesting season and due consideration of the Wildlife Act 1976 (as amended) needs to be taken.
- Where possible, cut these outer boundary hedgerows on a minimum 3-year cycle (cutting annually stops the hedgerow flowering and fruiting), and cut in rotation rather than all at once - this will ensure some areas of hedgerow will always flower (Blackthorn in March, Hawthorn in May).
- Where they occur naturally, bramble and ivy should be allowed grow in hedgerows, as they provide key nectar and pollen sources for pollinators in summer and autumn.

#### Methods to Avoid

- **Hedgerows will not be over-managed.** Tightly cut hedges mean there are fewer flowers and berries, thus reducing available habitats, feeding sources and suitable nesting sites.
- **Hedgerows will not be cut between March 1st and August 31st inclusive.** It is both prohibited (except under certain exemptions) and very damaging for birds, as this is the period they will have vulnerable nests containing eggs and young birds.
- **DO NOT use pesticide/ herbicide sprays or fertilisers near hedgerows or areas of wildflower planting** as they can have an extremely negative effect on the variety of plants and animals that live there.

#### 8.5.2.2 Bird Boxes

A set of 10 bird boxes will be installed at the Site to offset any loss of nesting habitat associated with the Proposed Development. These boxes will be a mix of open-fronted and hole entrance boxes, which will cater for a number of different species. The bird boxes will be erected on suitably sized trees around the Site, as advised by the Project Ecologist.

#### 8.5.2.3 Bat Friendly Lighting

To preserve the commuting potential of the treelines/hedgerows within the Site and along the Site boundaries and to minimise disturbance to bats in the immediate vicinity of the Site, the lighting and layout of the Proposed Development has been designed to minimise light-spill. This will be achieved by ensuring that the design of lighting accords with guidelines presented in the Bat Conservation Trust & Institute of Lighting Engineers 'Bats and Lighting in the UK - Bats and Built Environment Series', the Bat Conservation Trust 'Artificial Lighting and Wildlife Interim Guidance' and the Bat Conservation Trust 'Statement on the impact and design of artificial light on bats'.

Bat-friendly lighting measures are incorporated into the project design and associated lighting plan. Dark buffer zones have been effectively used to separate important habitats or features from lighting by forming a dark perimeter around them (ILP, 2018). Buffer zones rely on ensuring light levels within a certain distance of features do not exceed certain defined limits. The buffer zone can be further subdivided into zones of increasing illuminance limit radiating away from the feature.

Night-time lighting across the Site will be kept to a minimum (once satisfying health and safety requirements), through the reduction of light spill from the buildings via windows/entrances, and the reduction of spill/glare from outdoor lighting in place on the building exterior and through the Proposed Development grounds.

Incorporation of appropriate luminaire specifications will have a considerable input in mitigating the potential impact of night-time lighting on local bats. Based on the above guidance documents, the lighting scheme has incorporated the following measures (Morley Walsh, 2023):

- Luminaires will have zero upward light ratio, to minimise light pollution, energy waste and impact on wildlife.
- Lighting will be directional on to the roadways and footways only with minimal spillage of light onto adjoining habitats. To reduce light spillage from luminaires, lights will not emit at angles greater than 70° from the vertical plane.
- Lighting design software will be utilised to predict where light spill will occur.
- LED luminaires will be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.
- Narrow spectrum bulbs will be used to lower the range of species affected by lighting. Light sources that emit minimal ultra-violet light and avoid the white and blue wavelengths of the light spectrum will be utilised to avoid attracting lots of insects. Lighting regimes that attract lots of insects result in a reduction of insects in other areas like parks and gardens that bats may utilise for foraging.
- Maintain dark zones of 10m in width for foraging bats in areas where lighting is not necessary e.g., along the vegetated boundaries of the Site. However, where



lighting is required, this lighting will be placed at a minimum height using the lowest lux value permitted for public health and safety.

- Motion sensor and timer activated lighting will be in place at the Site to ensure minimal light spill occurs during the hours of darkness.
- Where possible, luminaries will be recessed where installed in proximity to windows to reduce glare and light spill.
- The colour rendering of the selected light fittings will be 3000k making the LED fittings a warmer light, helping to further minimize the impact on the local wildlife.
- Retained treelines will not incur an increase in current lux levels due to the Proposed Development.
- Planting will provide areas of darkness suitable for bats to feed and commute.
- Reflective surfaces will not be placed under lights.

### **8.5.3 Monitoring**

#### **8.5.3.1 Construction Phase Surface Water Monitoring**

Regular monitoring will be carried out by the contractor to ensure water quality protection measures (e.g., silt fences) are working throughout the entire Construction Phase. All containment and treatment facilities will be maintained and inspected regularly based on Site and weather conditions for any signs of contamination of excessive silt deposits and records of these checks will be maintained for inspection. Should there be any deviations from the mitigation measures outlined in the above sections, the Local Planning Authority will be notified and a suite of additional corrective measures agreed.

#### **8.5.3.2 Operational Phase Surface Water Monitoring**

During the Operational Phase, the following monitoring will be carried out by the relevant designated person to ensure the implemented mitigation and enhancement measures are maintained efficiently:

- The standard necessary maintenance checks will be carried out to ensure all SuDS measures and the wastewater pumping station are working efficiently.
- A Biodiversity Monitoring Plan (BMP) will be prepared by a suitably qualified Ecologist that will cover the post-construction monitoring of the efficiency of the proposed enhancement measures e.g., bat boxes.
- Bird and bat boxes will be inspected annually for a period of 3 years as part of the BMP to assess whether these measures have been adopted by their respective species groups.

As with Construction Phase monitoring, should there be any deviations from the mitigation measures outlined for the Operational Phase, the Local Planning Authority will be notified, and a suite of additional corrective measures agreed.

### **8.6 Residual Impacts**

Residual impacts are impacts that remain once mitigation has been implemented or impacts that cannot be mitigated. They are the remaining 'environmental cost' of a project and are the final or intended effects of a development after mitigation measures have been applied to avoid or reduce adverse impacts. Table 8-20 provides a summary of the impact assessment for the identified KERs and details the nature of the impacts identified, mitigation proposed and the classification of any residual impacts.

All mitigation measures detailed in this Chapter and the accompanying NIS will be implemented in full and will remain effective throughout the lifetime of the Proposed Development. Therefore, no significant negative residual impacts on the local ecology or on any designated nature conservation sites are expected from the Proposed Development. In summary, the construction mitigation measures detailed in this report



(e.g., timing of vegetation clearance, surface water protection measures etc.) along with the design features adopted to minimise adverse impacts to fauna at the Site, will be sufficient to reduce any potential impacts to KERs associated with the Site to 'not significant' [REDACTED]

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Table 0-20: Summary of potential impacts on KER(s), mitigation measures/mitigating factors and residual impacts

Key Ecological Receptor	Level of Significance	Potential Impact	Impact Without Mitigation				Proposed Mitigation	Residual Impact
			Quality	Scale	Duration	Significance		
WL1 / WL2 – Hedgerows, Treelines	Local Importance (higher value)	<u>Construction Phase</u> Loss of habitat	Negative	Local	Long-term	Moderate	No further mitigation proposed for loss of habitat. With time, the maturing planted trees and hedgerows will neutralise the effects of habitat loss.	<b>Short term:</b> <b>Negative, slight</b> <b>Long-term:</b> <b>Imperceptible</b>
		Trampling and damage to trees identified for retention during the Construction Phase.	Negative		Short-term	Moderate		
		<u>Operational Phase</u> No potential impacts identified	None		None	None	Tree Protection measures as outlined in 8.5.1.2	
WS1 – Scrub	Local Importance (higher value)	<u>Construction Phase</u> Loss of habitat	Negative	Local	Permanent	Moderate	No further mitigation proposed for loss of habitat; only a small patch of scrub occurs within Proposed Development Site. With time, the maturing planted trees and hedgerows will neutralise the effects of habitat loss.	<b>Short term:</b> <b>Negative, slight</b> <b>Long-term:</b> <b>Imperceptible</b>
		<u>Operational Phase</u> No potential impacts identified	None		None	None		
FW4 – Drainage Ditches and FW2 - Depositing/Lowland River	Local importance (higher value)	<u>Construction Phase</u> Loss of drainage ditch habitat	Negative	Local	Permanent	Slight	Specific surface water mitigation measures as outlined in section 8.5.1.1.	<b>Negative, Permanent, Slight</b>
		Surface water discharges from the Site during the Construction Phase leading to a deterioration in water quality.	Negative		Medium-term	Moderate		
		<u>Operational Phase</u>	None		None	None		

Key Ecological Receptor	Level of Significance	Potential Impact	Impact Without Mitigation			Proposed Mitigation	Residual Impact
			Quality	Scale	Duration	Significance	
		No potential impacts identified					
Small mammals e.g., Eurasian pygmy shrew, stoat and hedgehog	Local importance (higher value)	Construction Phase Risk of injury and/or death as a result of vegetation clearance works.	Negative		Short-term	Significant	Negative, permanent, slight.
		Loss of habitat	Negative	Local	Permanent	Moderate	
		Disturbance due to increased noise, dust and lighting	Negative		Short-term	Slight	
		Operational Phase Increased human presence and disturbance	Negative		Permanent	Slight	
[REDACTED]	Local importance (higher value)	Construction Phase [REDACTED]	Negative	Local	Short-term	Moderate	Negative, permanent, slight
		Loss of foraging and commuting habitat.	Negative		Permanent	Moderate	
		Operational Phase Operational noise and human/dog disturbance, disruption to foraging habitat.	Negative		Permanent	Moderate	

Key Ecological Receptor	Level of Significance	Potential Impact	Impact Without Mitigation				Proposed Mitigation	Residual Impact
			Quality	Scale	Duration	Significance		
							Operational Phase human disturbance will be minimised through the landscape design and wildlife friendly lighting design.	
<b>Bird assemblage</b>	Local importance (higher value)	<u>Construction Phase</u> Risk of injury or death due to vegetation removal	Negative	Local	Short-term	Significant	No removal of vegetation to be carried out during nesting season.	<b>Short-term: Negative, slight</b>  <b>Long-term: Imperceptible</b>
		Disturbance due to noise and dust	Negative		Short-term	Not significant	Construction related noise and dust control/minimisation measures to be implemented.	
		Loss of nesting/foraging habitat.	Negative		Permanent	Moderate	Increase in tree cover and diverse planting as a result of the proposed landscaping plan.	
		<u>Operational Phase</u> None identified	None		None	None	A series of 10+ bird boxes to be erected on suitable trees along the Site boundaries and vegetated areas.	
<b>Bat assemblage</b>	Local importance (higher value)	<u>Construction Phase</u> Injury or mortality should bats be roosting in trees during felling.	Negative	Local	Short-term	Significant	As good practice, the low potential trees on Site to be felled using 'soft felling' techniques and should be left in situ for 24 hours once felled or section felled.	

Key Ecological Receptor	Level of Significance	Potential Impact	Impact Without Mitigation				Proposed Mitigation	Residual Impact
			Quality	Scale	Duration	Significance		
		Loss/damage of potential commuting and foraging habitat.  Increased public lighting  <u>Operational Phase</u> Increase public lighting	Negative  Negative  Negative		Permanent  Short term  Permanent	Slight  Moderate  Moderate	Bat friendly lighting measures to be implemented during Construction and in the Operational Design of the Proposed Development.  Operational Phase lighting to be checked by a Bat ecologist once fully operational.  Series of 6+ bat boxes to be erected on suitable trees along the Sites outer boundaries. This will be under the guidance of a Bat ecologist.	Negative, permanent, slight
Amphibians	Local importance (higher value)	<u>Construction Phase</u> Risk of injury or death due to water pollution event or during clearance works.  Loss of habitat (e.g., wet drainage ditches).  <u>Operational Phase</u> None identified.	Negative  Negative  None	Local	Short-term  Permanent  None	Significant  Moderate  None	No ditch culverting works unless confirmed to be devoid of amphibians.  Provision of compensatory refugia in the form of piles of stones/logs in out-of-the-way parts of the Site.  Surface water mitigation measures to protect the Kippinstown and Garrynafela stream (section 8.5.1.1).	Imperceptible

Key Ecological Receptor	Level of Significance	Potential Impact	Impact Without Mitigation				Proposed Mitigation	Residual Impact
			Quality	Scale	Duration	Significance		
Reptiles (Outside Site of the Proposed Development)	Local importance (higher value)	<u>Construction Phase</u> Loss of habitat (scrub)	Negative	Local	Permanent	Moderate	Specific methodology for protection of lizards to be followed when clearing scrub habitats (section 8.5.1.6)	Imperceptible
		<u>Operational Phase</u> None identified.	None		None	None	Provision of compensatory refugia in the form of piles of stones/logs in out-of-the-way parts of the Site.	
Aquatic and semi-aquatic fauna downstream of the Site within Lough Ree (otter, fish assemblage)	Local importance (higher value)	<u>Construction Phase</u> Deterioration in water quality of the Garrnafela stream and downstream Lough Ree from construction related pollutants.	Negative	Local	Short-term	Moderate	Mitigation measures to protect surface waters as outlined in section 8.5.1.1.	Not significant
		<u>Operational Phase</u> None identified	None		None	None		



## 8.7 Significant Interactions

This chapter pertaining to the ecological and biodiversity aspects of the Proposed Development, has the potential to interact with the aspects of the following chapters of this EIAR:

- Chapter 6: Land, Soils and Geology
- Chapter 7: Hydrology
- Chapter 9: Air Quality and Climate
- Chapter 10: Noise and Vibration
- Chapter 11: Landscape and Visual Impact

### 8.7.1 Land, Soils and Geology

An assessment of the potential impact of the Proposed Development on the existing land, soils and geological environment; with emphasis on the impact of the Proposed Development on the receiving soils underlying the Site during the Operational Phases of the Proposed Development, is described in Chapter 6 - 'Land, Soils, Geology and Hydrogeology' of this report. These impacts are considered to be relevant to the ecological sensitivities associated with the Site of the Proposed Development discussed in this Chapter; and mitigation measures addressing these potential impacts are described in full in Chapter 6. The bulk removal of soils at the Site can have implications for biodiversity. Natural regeneration of native and local seeds is the preferred option for re-vegetating areas to be retained for biodiversity.

### 8.7.2 Hydrology

The key environmental interaction with biodiversity is water. An assessment of the potential impact of the Proposed Development on the hydrological and hydrogeological environment is described in Chapter - 'Hydrology' of this report as well as in this Chapter, to ensure the quality (pollution and sedimentation) and quantity (surface water run-off) of water is of appropriate standard. Interactions between hydrology and biodiversity can occur through impacts to water quality, arising, for example from an accidental pollution event during the construction and operational phase. This interaction has the potential to result in impacts on habitats and fauna that are hydrologically linked to the Site.

### 8.7.3 Air Quality and Climate Change

An assessment of the potential impact of the Proposed Development on air quality and climate is included in Chapter 9 of this EIAR. Dust emissions arising from the Construction Phase of the Proposed Development were identified as having potential impacts on local biodiversity. Once dust minimisation measures are implemented, impacts to biodiversity are not predicted to be significant.

### 8.7.4 Noise and Vibration

An assessment of the potential impact of the Proposed Development in the form of excess noise and vibrations associated with the Proposed Works are laid out in Chapter 10- 'Noise and Vibrations'. These impacts are considered to be relevant to the ecological sensitivities associated with the Site of the Proposed Development discussed in this Chapter; and mitigation measures addressing these potential impacts are both referenced in this Chapter and described in full in Chapter 10. There is potential for interactions between noise and sensitive fauna, e.g., birds,

that occur in adjacent habitats from increased noise levels during the Construction Phase. However, as described, noise related impacts are not deemed to be significant

#### 8.7.5 Landscape and Visual Impact

An assessment of the potential impacts of the Proposed Development on the surrounding landscape character is outlined in Chapter 11 – Landscape and Visual. These impacts are considered to be relevant to the ecological sensitivities associated with the Site of the Proposed Development discussed in this Chapter; and mitigation measures addressing these potential impacts are both referenced in this Chapter and described in full in Chapter 11. Landscaping at a development site can have significant implications for biodiversity. The landscape plan for the Proposed Development includes an area to be retained for biodiversity. The lighting plan for the Site has also been sensitively designed to protect bats from light pollution. Significant negative effects are not predicted.

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## 9 AIR QUALITY AND CLIMATE

### 9.1 Introduction

This Chapter describes and assesses the potential impacts on air quality and climate associated with the Proposed Development at Dunboyne, Co. Meath.

Taking into account Ambient Air Quality Standards<sup>3</sup>, the baseline air quality was examined along with the potential for release of emissions to the atmosphere and associated effects of the Proposed Development prior to and following mitigation measures.

This Chapter also describes and assesses the potential impacts on micro and macro-climate as a result of the Proposed Development. Attention will be focused on Ireland's obligations under the Paris Agreement in the context of the overall climatic impact of the presence and absence of the Proposed Development.

#### 9.1.1 Author Information and Competency

This Chapter was prepared by Laura Griffin, Environmental Consultant, Enviroguide Consulting. Laura has a Master of Science (Hons) degree in Climate Change from Maynooth University and a Bachelor of Arts (Hons) degree in English and Geography from Maynooth University. Laura has worked as an Environmental Consultant with Enviroguide since 2021 and has built up experience preparing Environmental Impact Assessment (EIA) Screening Reports, Air Quality and Climate, Noise and Vibration, and Material Assets (Waste and Utilities) assessments and chapters for EIARs.

#### 9.1.2 Ambient Air Quality Standards

For the protection of health and ecosystems, EU directives apply air quality standards in Ireland and other EU member states for a range of pollutants. These rules include requirements for monitoring, assessment and management of ambient air quality. The first major instrument in tackling air pollution was the Air Quality Framework Directive 96/62/EC and its four daughter Directives. Each of these instruments was repealed with the introduction of Directive 2008/50/EC on ambient air quality and cleaner air for Europe in 2008 (as amended by Decision 2011/850/EU and Directive 2015/1480/EC) (the "CAFE Directive"), save for the "Fourth Daughter Directive" (Directive 2004/107/EC relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air). The CAFE Directive lays down measures aimed at:

- 1) defining and establishing objectives for ambient air quality designed to avoid, prevent or reduce harmful effects on human health and the environment as a whole;
- 2) assessing the ambient air quality in Member States on the basis of common methods and criteria and, in particular, assessing concentrations in ambient air of certain pollutants;
- 3) providing information on ambient air quality in order to help combat pollution and nuisance and to monitor long-term trends and improvements resulting from national and Community measures;
- 4) ensuring that such information on ambient air quality is made available to the public;
- 5) maintaining air quality where it is good and improve it in other cases;
- 6) promoting increased cooperation between the Member States in reducing air pollution.

<sup>3</sup> Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011) Irish Statute Book.



Ambient air quality monitoring and assessment in Ireland is carried out in accordance with the requirements of the CAFE Directive. The CAFE Directive has been transposed into Irish legislation by the Air Quality Standards Regulations (S.I. No. 180 of 2011). The CAFE Directive requires EU member states to designate 'Zones' reflective of population density for the purpose of managing air quality. Four zones were defined in the Air Quality Standards Regulations (2011) and subsequently amended in 2013 to account for 2011 census population counts and to align with coal restricted areas in the Air Pollution Act (Marketing, Sale, Distribution and Burning of Specified Fuels) Regulations 2012. (S.I. No. 326 of 2012) (the 2012 Regulations).

The main areas defined in each zone are:

- ❖ **Zone A:** Dublin Conurbation
- ❖ **Zone B:** Cork Conurbation
- ❖ **Zone C:** Other cities and large towns comprising Limerick, Galway, Waterford, Drogheda, Dundalk, Bray, Navan, Ennis, Tralee, Kilkenny, Carlow, Naas, Sligo, Newbridge, Mullingar, Wexford, Letterkenny, Athlone, Celbridge, Clonmel, Balbriggan, Greystones, Leixlip and Portlaoise.
- ❖ **Zone D:** Rural Ireland, i.e., the remainder of the State excluding Zones A, B and C.

The site of the Proposed Development is located in Cornamaddy, Athlone, Co. Westmeath and falls under the 'Zone C' category based on the Air Quality Standards Regulations.

The CAFE Directive outlines certain limit or target values specified by the five published directives that apply limits to specific air pollutants. These limits, outlined in Table 9.1, will be referred to as part of the Proposed Development assessment with respect to air quality.

POLLUTANT	LIMIT VALUE OBJECTIVE	AVERAGING PERIOD	LIMIT VALUE $\mu\text{g}/\text{m}^3$	LIMIT VALUE ppb	BASIS OF APPLICATION OF THE LIMIT VALUE	LIMIT VALUE ATTAINMENT DATE
SO <sub>2</sub>	Protection of human health	1 hour	350	132	Not to be exceeded more than 24 times in a calendar year	1 Jan 2005
SO <sub>2</sub>		24 hours	125	47	Not to be exceeded more than 3 times in a calendar year	1 Jan 2005
SO <sub>2</sub>	Protection of vegetation	Calendar year	20	7.5	Annual mean	19 July 2001
SO <sub>2</sub>		1 Oct to 31 Mar	20	7.5	Winter mean	19 July 2001
NO <sub>2</sub>		1 hour	200	105	Not to be exceeded more than 18	1 Jan 2010

POLLUTANT	LIMIT VALUE OBJECTIVE	AVERAGING PERIOD	LIMIT VALUE $\mu\text{g}/\text{m}^3$	LIMIT VALUE ppb	BASIS OF APPLICATION OF THE LIMIT VALUE	LIMIT VALUE ATTAINMENT DATE
	Protection of human health				times in a calendar year	
NO <sub>2</sub>		Calendar year	40	21	Annual mean	1 Jan 2010
NO + NO <sub>2</sub>	Protection of ecosystems	Calendar year	30	16	Annual mean	19 Jul 2001
PM <sub>10</sub>	Protection of human health	24 hours	50	-	Not to be exceeded more than 35 times in a calendar year	1 Jan 2005
PM <sub>10</sub>		Calendar year	40	-	Annual mean	1 Jan 2005
PM <sub>2.5</sub> – Stage 1		Calendar year	25	-	Annual mean	1 Jan 2015
PM <sub>2.5</sub> – Stage 2		Calendar year	20	-	Annual mean	1 Jan 2020
Lead		Calendar year	0.5	-	Annual mean	1 Jan 2005
Carbon Monoxide		24 hours	10,000	8,620	Not to be exceeded	1 Jan 2005
Benzene		Calendar year	5	1.5	Annual mean	1 Jan 2010

Table 9.1: Limit Values of Cleaner Air for Europe (CAFE) Directive 2008/50/EC (Source: EPA 2020)

The Environmental Protection Agency (EPA) is the competent authority for the purpose of the CAFE Directive and is required to send an annual report to the Minister for Environment and the European Commission. The regulations further provide for the distribution of public information. This includes information on any exceedances of target values, the reasons for exceedances, the area(s) in which they occurred, and the relevant information regarding effects on human health and environmental impacts.

### 9.1.3 Climate Agreements

Climate change is recognised as one of the most serious global environmental problems and arguably the greatest challenge facing humanity today. While natural variations in climate over time are normal, anthropogenic activities have interfered greatly with the global atmospheric system by emitting substantial amounts of greenhouse gases (GHGs). This has caused a discernible effect on our global climate system, with continued change expected due to current and predicted trends of GHG emissions. In Ireland this is demonstrated by rising sea levels, changes in the ecosystem, and extreme weather events.

In March 1994, the United Nations Framework Convention on Climate Change (UNFCCC) was established as an intergovernmental effort to tackle the challenges posed by climate change. The Convention membership is almost universal, with 197 countries having ratified. Under the Convention, governments gather and share information on GHG emissions, national policies, and best practices. This information is then utilised to launch national strategies and international agreements to address GHG emissions. Following the formation of the UNFCCC, two major international climate change agreements were adopted: The Kyoto Protocol, and the Paris Agreement.

In April 1994, Ireland ratified the United Nations Framework Convention on Climate Change (UNFCCC) and subsequently signed the Kyoto Protocol in 1997. The Kyoto Protocol is an international agreement linked to the UNFCCC which commits its parties to legally binding emission reduction targets. In order to ensure compliance with the protocol, the Intergovernmental Panel on Climate Change (IPCC) has outlined detailed guidelines on compiling National Greenhouse Gas Inventories. These are designed to estimate and report on national inventories of anthropogenic GHG emissions and removals. Under Article 4 of the Kyoto Protocol, Ireland agreed to limit the net anthropogenic growth of the six named GHGs to 13% above the 1990 level, spanning the period 2008 to 2012.

The second commitment period of the Kyoto Protocol was established by the Doha amendment which was adopted in extremis on the 8th of December 2012, to impose quantified emission limitation and reduction commitments (QELRCs) to Annex I (developed country) Parties during a commitment period from 2013 to 2020. 38 developed countries, inclusive of the EU and its 28 member states, are participating. Under the Doha amendment, participating countries have committed to an 18% reduction in emissions from 1990 levels. The EU has committed to reducing emissions in this period to 20% below 1990 levels. Ireland's QELRCs for the period 2013 to 2020 is 80% of its base year emissions. Ireland's compliance with the Doha amendment will be assessed based on the GHG inventory submission in 2022 for 1990-2020 data. As of October 2020, the Doha Amendment has received the required number of ratifications to enter into force. Once in force, the emission reduction commitments of participating developed countries and economies in transition (EITs) become legally binding.

In December 2015, the Paris Climate Change Conference (COP21) took place and was an important milestone in terms of international climate change agreements. The Paris Agreement sets out a global action plan to put the world on track to mitigate dangerous climate change by setting a global warming limit not to exceed 2°C above pre-industrial levels, with efforts to limit this to 1.5°C. As a contribution to the objectives of the agreement, countries have submitted national climate action plans (nationally determined contributions, (NDCs)). Under this agreement, governments agreed to come together every 5 years to assess the collective progress towards the long-term goals and inform Parties in updating and enhancing their nationally determined contributions. Ireland will contribute to the Paris Agreement through the NDC tabled by the EU on behalf of Member States in 2020, which commits to a 55% reduction in EU-wide emissions by 2030 compared to 1990. This is considered to be the current NDC maintained by the EU and its Member States under Article 4 of the Paris Agreement.

The EU has set itself targets for reducing its GHG emissions progressively up to 2050, these are outlined in the 2020 climate and energy package and the 2030 climate and energy policy framework. These targets are defined to assist the EU in transitioning to a low-carbon economy, as detailed in the 2050 low carbon roadmap. The 2020 package is a set of binding legislation to ensure that the EU meets its climate and energy targets for the year 2020. There are three key targets outlined in the package which were set by the EU in 2007 and enacted in legislation in 2009:

- 20% reduction in GHG emissions from 1990 levels;
- 20% of EU energy to be from renewable sources; and
- 20% improvement in energy efficiency.

The 2030 climate and energy framework builds on the 2020 climate energy package and was adopted by EU leaders in October 2014. The framework sets three key targets for the year 2030:

- At least 40% cuts in GHG emissions from 1990 levels;
- At least 32% share for renewable energy; and
- At least 32.5% improvement in energy efficiency.

The EU has acted in several areas in order to meet these targets, including the introduction of the Emissions Trading System (ETS). The ETS is the key tool used by the EU in cutting GHG emissions from large-scale facilities in the power, industrial, and aviation sectors. Around 45% of the EU's GHG emissions are covered by the ETS.

As part of the European Green Deal, the EU Commission proposed in September 2020 to raise the 2030 greenhouse gas emission reduction target, including emissions and removals, to at least 55% compared to 1990. The European Climate Law came into force in July 2021 and writes into law the goal set out in the European Green Deal for Europe's economy and society to become climate-neutral by 2050. The law also sets the intermediate target of reducing net greenhouse gas emissions by at least 55% by 2030, compared to 1990 levels.

#### 9.1.3.1 National Policy Position and Greenhouse Gas Emissions in Ireland

National climate policy in Ireland recognises the threat of climate change to humanity and supports mobilisation of a comprehensive international response to climate change, and global transition to a low-carbon future. A fundamental national objective aims to achieve transition to a competitive, low-carbon, climate-resilient and environmentally sustainable economy by 2050.

The Climate Action and Low Carbon Development (Amendment) Act 2021 was adopted in 2021 and sets Ireland on a legally binding path to net-zero emissions no later than 2050, and to a 51% reduction in emissions by the end of this decade. The Act provides the framework for Ireland to meet its international and EU climate commitments and to become a leader in addressing climate change.

The Climate Action Plan 2023 (CAP23) is the second annual update to Ireland's Climate Action 2019 (the plans are to be updated annually to ensure alignment with Ireland's legally binding economy-wide carbon budgets and sectoral ceilings). This plan is the first to be prepared under the Climate Action and Low Carbon Development (Amendment) Act 2021, and following the introduction, in 2022, of economy-wide carbon budgets and sectoral emissions ceilings.

The plan was launched on 21 December 2022.

The plan implements the carbon budgets and sectoral emissions ceilings and sets out a roadmap for taking decisive action to halve our emissions by 2030 and reach net zero no later than 2050, as committed to in the Programme for Government. Climate Action Plan 2023 sets out how Ireland can accelerate the actions that are required to respond to the climate crisis, putting climate solutions at the centre of Ireland's social and economic development.

The supplementary Annex of Actions, approved by the Irish Government and published on 7 March 2023, provides the specific actions required to implement the targets set out in the Plan, and includes information regarding outputs, lead departments, timelines and stakeholders.

In September 2019, Westmeath County Council adopted the Climate Change Adaptation Strategy 2019-2024. This began the process of adaptation planning in Westmeath County Council and is the first step by the Council in increasing knowledge and understanding of the changing climate, growing resilience, and enabling effective responses to the threats posed by climate change.

The Adaptation Strategy forms part of the National Adaptation Framework (NAF) which was published in response to the provisions of the Climate Action and Low Carbon Development Act 2015.

The local authority adaptation strategy takes on the role as the primary instrument at local level to:

- (i) ensure a proper comprehension of the key risks and vulnerabilities of climate change;
- (ii) bring forward the implementation of climate resilient actions in a planned and proactive manner; and
- (iii) ensure that climate adaptation considerations are mainstreamed into all relevant plans and policies and integrated into all operations and functions of the local authority.

The Westmeath County Council Climate Change Adaptation Strategy is tasked with mainstreaming climate change adaptation over time into all functions, operations and services of the local authority. It seeks to inform or 'climate proof' existing plans and policies produced and implemented by the local authority. It also helps in building resilience within the local authority organisation itself as well as across all communities.

While there is strong emphasis on local authorities through the NAF to develop and implement adaptation measures and actions; mitigation measures and actions that seek to combat, reduce or eliminate the emissions of greenhouse gases are also hugely important. Local authorities have a significant role to play in actively implementing mitigation actions through measures including the design and construction of flood defences, retrofitting of building stock, energy efficiency projects, promoting Sustainable Energy Communities (SEC) and encouraging sustainable transport and land use.

The Westmeath County Council Climate Change Adaptation Strategy is based around six thematic areas that are developed further as high-level goals. These goals identify the desired outcomes anticipated through the effective implementation of the climate change adaptation strategy. They are supported by specific objectives and adaptation actions to achieve their desired outcomes. The six thematic areas are as follows:

- Local Adaptation Governance and Business Operations;
- Infrastructure and Built Environment;
- Land use and Development;
- Drainage and Flood Management;
- Natural Resources and Cultural Infrastructure; and
- Community Health and Wellbeing.

Through its six thematic areas and high-level goals, the Westmeath County Council Climate Change Adaptation Strategy is designed to guide a planned and coherent response to the effects of climate change. Four principle aims (guiding principles) thread through and underpin these goals, these are outlined as follows:

1. **Mainstream Adaptation:** That climate change adaptation is a core consideration and is mainstreamed in all functions and activities across the local authority. In addition, ensure that local authority is well placed to benefit from economic development opportunities that may emerge due to a commitment to proactive climate change adaptation and community resilience.
2. **Informed decision making:** That effective and informed decision making is based on reliable and robust evidence base of the key impacts, risks and vulnerabilities of the area. This will support long term financial planning, effective management of risks and help to prioritise actions.
3. **Building resilience:** That the needs of vulnerable communities are prioritised and addressed, encourage awareness to reduce and adapt to anticipated impacts of climate change and promote a sustainable and robust action response.
4. **Capitalising on opportunities:** Projected changes in climate may result in additional benefits and opportunities for the local area and these should be explored and capitalised upon to maximise the use of resources and influence positive behavioural changes.

The implementation of the measures promoted in the Westmeath County Council Climate Change Adaptation Strategy will enable Westmeath County to adapt to climate change and will assist in bringing Ireland closer to achieving its climate related targets in future years. New developments need to be cognisant of the Westmeath County Council Climate Change Adaptation Strategy and incorporate climate friendly designs and measures where possible.

Ireland's latest greenhouse gas (GHG) emissions 1990-2022 are provisional figures based on the Sustainable Energy Authority Ireland's (SEAI's) final energy balance released in June 2023 (EPA, 2023). In 2022, Ireland's GHG emissions are estimated to be 60.76 million tonnes carbon dioxide equivalent (Mt CO<sub>2</sub> eq), which is 1.9% lower (or 1.19 Mt CO<sub>2</sub> eq) than emissions in 2021 (61.95 Mt CO<sub>2</sub> eq) and follows a 5.1% increase in emissions reported in 2021. Emissions are 4.6% below pre-COVID, 2019 figures.

In 2022, emissions in the stationary Emissions Trading Scheme (ETS) sector decreased by 4.3% and emissions under the ESR (Effort Sharing Regulation) decreased by 1.1%. When Land Use, Land Use Change and Forestry (LULUCF) is included, total national emissions decreased by 1.8%.

Decreased emissions in 2022 compared to 2021 were observed in the largest sectors except for transport, waste and commercial services. These 3 sectors showed increases in emissions (+6.0%, +4.9% and +0.2%, respectively).

Emissions per capita decreased from 12.4 tonnes CO<sub>2</sub> eq per person in 2021 to 11.9 tonnes CO<sub>2</sub> eq per person in 2022. Ireland's average tonnes of GHG per capita over the last ten years were 12.7 tonnes.

The GHG inventory for 2021 was the first of ten years over which compliance with targets set in the European Union's Effort Sharing Regulation (EU 2018/842) will be assessed. This Regulation sets 2030 targets for emissions outside of the Emissions Trading Scheme



(known as ESR emissions) and annual binding national limits for the period 2021-2030. Ireland's target was to reduce ESR emissions by 30% by 2030 compared with 2005 levels, with a number of flexibilities available to assist in achieving this. The ESR was amended in April 2023 and Ireland must now limit its GHG by at least 42% by 2030. The ESR includes the sectors outside the scope of the EU Emissions Trading System (ETS) (such as Transport, Residential, Public Services and Commercial Services and Waste).

Ireland's ESR emissions annual limit for 2022 is 42.36 Mt CO<sub>2</sub>eq. Ireland's provisional 2022 GHG ESR emissions are 46.08 Mt CO<sub>2</sub>eq, this is 3.72 Mt CO<sub>2</sub>eq more than the annual limit for 2022. This value is the national total emissions less emissions generated by stationary combustion and aviation operators that are within the EU's emissions trading scheme. This indicates that Ireland is not in compliance with its 2022 Effort Sharing Regulation annual limit, exceeding the allocation by 1.82 Mt CO<sub>2</sub>eq after using the ETS flexibility and 0.99Mt CO<sub>2</sub>eq after using both ETS and LULUCF flexibilities. Agriculture and Transport accounted for 75.7% of total ESR emissions in 2022.

The latest projections (June 2023) indicate that currently implemented measures (With Existing Measures) will achieve a reduction of 10% on 2005 levels by 2030, significantly short of the 42% reduction target. If measures in the higher ambition (With Additional Measures) scenario are implemented, EPA projections show that Ireland can achieve a reduction of 30% by 2030, still short of the 42% reduction target.

In terms of the 2030 targets, the ESR provides two flexibilities (use of ETS allowances and credit from action undertaken in the land use, land use change and forestry (LULUCF) sector) to allow for a fair and cost-efficient achievement of the targets. The full LULUCF flexibility of 26.8 Mt CO<sub>2</sub> eq (theoretically available under the ESR) was adjusted to take into account new research that led to a revision to the emission factor associated with forestry on organic (peat) soils. This led to decreased removals/increased emissions associated with forest land for all periods, with an available LULUCF flexibility of 9.3 Mt CO<sub>2</sub> eq, significantly less than the theoretical flexibility available.

Ireland's GHG emissions have increased by 9.2% from 1990 to 2022. In relation to the GHG; carbon dioxide (CO<sub>2</sub>) accounted for 60.4% of the total, with methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) contributing 29.0% and 9.4% as CO<sub>2</sub> equivalent, respectively and F-gases contributing 1.2% of the total as CO<sub>2</sub> equivalent.

In 2022, the energy industries, transport and agriculture sectors accounted for 74.1% of total GHG emissions. Agriculture is the single largest contributor to overall emissions, at 38.4%. Transport, energy industries and the residential sector are the next largest contributors, at 19.1%, 16.6% and 10.0%, respectively (EPA, 2023).

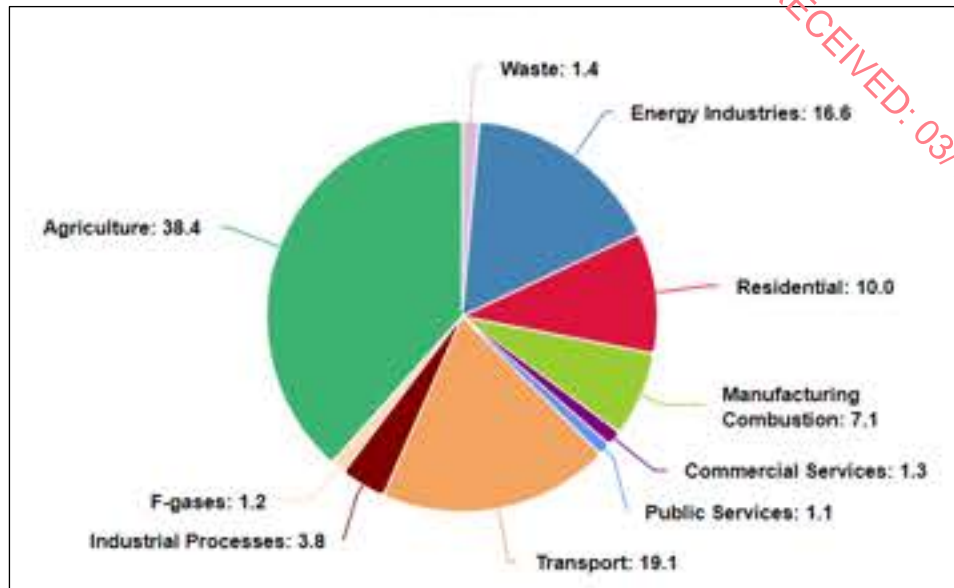


Figure 1 – Ireland's Greenhouse Gas Emissions Share by Sector 2022 (Source: EPA, 2023)

The Climate Change Advisory Council submitted their Annual Review 2023 to the Minister of the Environment, Climate and Communications on 21<sup>st</sup> of July 2023. Detailed key messages, including observations and recommendations for each sector (electricity; transport; built environment; enterprise and waste; agriculture, forestry and other land use; and biodiversity), can be found at the beginning of each chapter in the annual review. The overall recommendations are as follows:

- Government must address areas of uncertainty in how Ireland will reduce its emissions. The sectoral emissions ceilings for the LULUCF sector must be set, and it must be clear how each sector must reduce its emissions;
- Government needs to identify and remove barriers to policy implementation by ensuring adequate funding and planning reform at scale and speed;
- Key actions need to be implemented now to prevent longer term drainage and increased costs to society and the economy;
- Government must adopt new approaches to address emission reductions, creating investment and enhancing skills across the economy, particularly in areas such as retrofitting and renewable energy;
- The establishment of a Just Transition Commission is recommended to ensure that Ireland achieves its climate objectives in a way that is fair and equitable and protects vulnerable people and communities; and
- The Government should support opportunities that reduce emissions and make Ireland better prepared for the impacts of climate change.

## 9.2 Study Methodology

The study methodology is in line with accepted practices. Taking into account Ambient Air Quality Standards, the baseline air quality of the site is examined using EPA monitoring data. Air quality impacts from the Proposed Development are then determined by a qualitative assessment of the nature and scale of dust and emission generating activities associated with the Construction Phase of the Proposed Development in accordance with relevant guidance (Transport Infrastructure Ireland (TII) 2011 Appendix 8; Institute of Air Quality Management (IAQM) 2014).

A desktop study involving various national and international documents on climate change and analysis of synoptic meteorological data from the nearest Met Éireann station

(Casement Aerodrome Synoptic Station) was also carried out in order to compile this report. Attention has been focused on Ireland's obligations under the Paris Agreement in the context of the overall climatic impact of the presence and absence of the Proposed Development.

### 9.2.1 Construction Phase

According to Transport Infrastructure Ireland guidelines (TII, 2011), it is difficult to accurately quantify dust emissions arising from construction activities. Therefore, it is not possible to easily predict changes to dust soiling rates or PM<sub>10</sub> concentrations. TII recommend a semi-quantitative approach to determine the likelihood of significant impact in this instance. This should also be combined with an assessment of the proposed mitigation measures. Table 9.2 outlines the distance criteria which is recommended for use in assisting a semi-quantitative assessment:

SOURCE		POTENTIAL DISTANCE FOR SIGNIFICANT EFFECTS (DISTANCE FROM SOURCE)		
Scale	Description	Soiling	PM <sub>10</sub>	Vegetation effects
Major	Large construction sites, with high use of haul routes	100m	25m	25m
Moderate	Moderate sized construction sites, with moderate use of haul routes	50m	15m	15m
Minor	Minor construction sites, with limited use of haul routes	25m	10m	10m

Table 9.2: Scale and Distance Descriptors for Dust Emissions from Construction Activities

To account for a worst-case scenario, the Proposed Development can be considered major in scale due to the size of the site and the duration of construction activities. Therefore, it can be assumed that there is potential for likely significant effects from dust soiling 100m from the site. In light of this, sensitive receptors within 100m of the site boundary have been selected. Impacts from the Construction Phase traffic has been assessed using information from the Traffic Chapter and following the relevant guidance (TII, 2011; HA, 2007; EPA; UK DEFRA; IAQM).

### 9.2.2 Operational Phase

Operational Phase traffic impact assessment involved air dispersion modelling using the UK Design Manual for Roads and Bridges Screening Model (DMRB, UK Highways Agency 2007) (Version 1.03c), the NO<sub>x</sub> to NO<sub>2</sub> Conversion Spreadsheet (UK Department for Environment, Food and Rural Affairs, 2017), and following all relevant guidance (TII, 2011; HA, 2007; EPA; UK DEFRA; IAQM).

In terms of associated impacts on air quality, Table 9.3 outlines the typical criteria that are pre-requisite for an air quality assessment:

POTENTIAL CHANGE RESULTING FROM PROPOSED DEVELOPMENT	INDICATIVE CRITERIA TO PROCEED TO AN AIR QUALITY ASSESSMENT
Cause a significant change in Light Duty Vehicle (LDV) traffic flows on local roads with relevant receptors	A change of LDV flows of more than 1000 Annual Average Daily Traffic (AADT)
Cause a significant change in Heavy Duty Vehicle (HGV) flows on local roads with relevant receptors	A change of HGV flows of more than 100 Annual Average Daily Traffic (AADT)
Cause a change in Daily Average Speed (DAS)	Where the change is 5m or more
Cause a change in peak hour speed	Where the peak hour speed will change by 20km/h or more.

Table 9.3: Indicative Criteria for Requiring an Air Quality Assessment (Source: IAQM, 2017)

The UK Highways Agency Design Manual for Roads and Bridges (DMRB) air quality guidance (LA 105) provides a framework for assessing, mitigating, and reporting the effects of road schemes on air quality; however, this can be adapted to any development which results in a change in traffic.

The criteria as set out in Table 9.4 have been used to determine the project's risk potential to the receiving environment, and whether a simple or detailed air quality assessment is re-quired. If the receiving environment is determined to be of low sensitivity, then the project's risk potential is low.

SENSITIVITY	FEATURES OF THE ENVIRONMENT
High	<ol style="list-style-type: none"> <li>1) Large number of receptors (human or ecological) within 50m of roads triggering traffic change criteria;</li> <li>2) Baseline monitoring data indicates concentrations above the AQS Objective / EU limit value;</li> <li>3) Monitoring indicates exceedances of short term AQS Objectives / EU value limit;</li> <li>4) Projecting forward monitored concentrations to the opening year, indicates exceedances of AQS Objectives / EU limit value;</li> <li>5) AQMA's or reported EU limit value exceedances within project's study area.</li> </ol>
Medium	<ol style="list-style-type: none"> <li>1) Receptors (human or ecological) within 50m of roads triggering traffic change criteria;</li> <li>2) Baseline monitoring data illustrates annual mean NO<sub>2</sub> concentrations &gt;36µg/m<sup>3</sup>;</li> <li>3) Projections indicate annual mean NO<sub>2</sub> concentrations &gt;36µg/m<sup>3</sup> in opening year;</li> <li>4) AQMA's or EU limit value exceedances within project's study area.</li> </ol>
Low	<ol style="list-style-type: none"> <li>1) Few receptors located close to roads triggering traffic change criteria;</li> <li>2) Baseline monitoring data illustrates concentrations in base year below an annual mean of &gt;36µg/m<sup>3</sup>;</li> <li>3) No AQMA's or EU limit value exceedances within project's study area.</li> </ol>

Table 9.4: Receiving Environment Sensitivity (Source: DMRA LA 105)

The baseline pollutant concentrations are well below an annual mean of 36 µg/m³ and there are no exceedances of EU limit values within the study area. Therefore, in accordance with Table 9.4, it is considered that the receiving environment of the Proposed Development is of a 'Low Sensitivity' and the inclusion of the Proposed Development can be considered low risk. Therefore, in line with DMRB LA 105 guidance, it has been determined that simple air quality assessment is required in this case.

### 9.2.2.1 Traffic Generation Data

The estimated vehicle trips that will be generated by the Proposed Development has been estimated by Roadplan Consulting; A full copy of the annual average daily traffic (AADT) generated during the Construction and Operational Phases of the Proposed Development can be found in Volume 3 – Appendices. Table 9.5 shows the AADTs generated during the Construction Phase.

LINK	ROAD NAME	BASE YEAR (2021)  AADT	OPENING YEAR (2025)		SPEED (KM/H)
			DO NOTHING AADT	DO SOMETHING AADT	
1	R916	9,048 (2.8% HGV)	9,997 (2.8% HGV)	9,862	50
2	N55 South	11,843 (4.5% HGV)	12,839 (4.5% HGV)	12,617	50
1	L8048	543 (1% HGV)	555 (1% HGV)	1,390 (2% HGV)	50

Table 9.5: Construction Traffic Data Applied to DMRB Model

For the Construction Phase vehicle trip generation, presented in Table 9.5, the peak construction month (in 2025) has been used when the construction traffic flows are at their highest.

LINK	ROAD NAME	BASE YEAR (2021)  AADT	OPENING YEAR (2025)		DESIGN YEAR (2040)		SPEED (KM/H)
			DO NOTHING AADT	DO SOMETHING AADT	DO MINIMUM AADT	DO SOMETHING AADT	
1	R916	9,048 (2.8% HGV)	9,398 (2.8% HGV)	9,997 (2.8% HGV)	11,078 (2.8% HGV)	13,288 (2.8% HGV)	50
2	N55 South	11,843 (4.5% HGV)	12,311 (4.5% HGV)	12,839 (4.5% HGV)	13,713 (4.5% HGV)	16,635 (4.5% HGV)	50
3	L8048	543 (1% HGV)	555 (1% HGV)	1,805 (1% HGV)	633 (1% HGV)	6,593 (1% HGV)	50

Table 9.6: Operational Traffic Data Applied to DMRB Model

Table 9.6 shows the AADTs from the 3 no. link roads which will have change of Light Duty Vehicle (LDV) flows of more than 1000 Annual Average Daily Traffic (see Table 9.3 for the typical criteria that are prerequisite for an air quality assessment).

Three different year scenarios are presented in Table 9.6 for the Operational Phase vehicle trip generation data. The Baseline Year Scenario (2021), the Opening Year 'Do Nothing' and 'Do Something' scenarios (2025) and the Design Year (which is Opening Year plus 15 years, as per TII Guidance) (2040).

The Operational Design Year (2040) 'Do Something' scenario includes the AADTs for two proposed developments (Planning Application: 2360074 (Westmeath County Council) and Planning Application: 22/577 (Westmeath County Council)) which have not yet been permitted, these planning applications are adjacent to the Site and have similar timescales to the Proposed Development.

#### 9.2.2.2 UK Design Model for Roads and Bridges Screening Model (V. 103c 2007)

The impact of the Operational Phase of the Proposed Development has been assessed by use of the UK DMRB screening model (Version 1.03c, 2007). The DMRB screening model provides a simple and straightforward means of predicting pollutant concentrations associated with road traffic emissions from the Proposed Development. According to Transport Infrastructure Ireland Guidelines (TII, 2011), this method is a suitable approach in circumstances where the predicted environmental concentrations (i.e., ambient background + predicted concentration levels) lie sufficiently below the air quality standards (<90% of the standard). Where predicted concentrations approach or exceed the air quality standards/limit values, a detailed air quality assessment must be carried out. The DMRB modelling tool requires the following inputs to complete the assessment: road types, receptor locations, annual average daily traffic movements (AADT), percentage heavy goods vehicles (%HGV), annual traffic speeds and background pollutant concentrations. This input data is utilised by the model in predicting the Proposed Development's road traffic contribution to ambient ground level concentrations at the nearest affected sensitive air quality receptor. The DMRB modelling tool predicts annual mean concentrations of NO<sub>x</sub> and PM<sub>10</sub>. The road NO<sub>x</sub> concentration is then converted to NO<sub>2</sub> using the latest-available version of the UK Department for Environment, Food and Rural Affairs (DEFRA) NO<sub>x</sub> to NO<sub>2</sub> conversion spreadsheet (version 8.1). Concentrations of carbon monoxide (CO) and benzene (Bz) are consistently and significantly below their air quality limit values, even in urban centres, therefore modelling of these pollutants is no longer necessary (EPA Annual Air Quality Reports).

As the tool does not account for electric or hybrid vehicle use, vehicle emissions applied in this study are likely to overestimate the actual vehicle emissions experienced from the Proposed Development. The worst-case scenario contributions predicted by the tool are added to the existing background concentration to provide a worst-case scenario predicted ambient concentration.

#### 9.2.2.3 Sensitive Receptors

TII (2011) define sensitive receptor locations as: residential housing, schools, hospitals, places of worship, sports centres, and shopping areas, i.e., locations where members of the public are likely to be regularly present. According to the DMRB LA 105 guidance, sensitive receptors shall be chosen within 200m of the Affected Road Network (ARN) and include residential properties, schools and hospitals for the assessment of annual mean air quality thresholds. Where there is a risk of the short-term air quality thresholds being exceeded, then sensitive receptor locations including gardens and playing fields shall be assessed. In the current assessment, a number of high-sensitivity receptors such as residential properties and schools were identified within 200m of the ARN.



According to the DMRB LA 105 guidance, it is not necessary to model all receptors within 200m or an excessive number of receptors in the same area to determine whether there is likely to be any exceedances in the do minimum or do something scenarios.

For the purpose of determining local air quality impacts, seven (7 No.) receptors were included in this modelling assessment, and these have been identified in Table 9.7. The receptors modelled will represent the worst-case locations in the vicinity the Proposed Development and were chosen based on proximity (within 200m) to the road links affected by the Proposed Development.

NAME	TYPE	COORDINATES	
		X	Y
R1	Residential	605777	742626
R2	Residential	606193	742627
R3	Residential	606282	742949
R4	Residential	606388	742825
R5	School	606477	742813
R6	Residential	606506	742879
R7	Residential	606611	742645

Table 9.7: Road Traffic Emissions Sensitive Receptors



Figure 2– Road Traffic Emissions Sensitive Receptors (Construction Phase)



Figure 3 – Road Traffic Emissions Sensitive Receptors (Operational Phase)

Designated sites of ecological conservation importance within 200m of the ARN are required to be included in the air quality assessment. This includes Special Protection Areas, Special Areas of Conservation, Natural Heritage Areas, and nature reserves. Only sites that are sensitive to nitrogen deposition are included in the assessment, it is not

necessary to include sites such as those which have been designated as a geological feature. No sites of ecological conservation importance have been identified within 200m of the ARN; therefore, this analysis has been excluded in the air quality assessment.

#### 9.2.2.4 Pollutants and Background Concentrations

The DMRB modelling tool predicts annual mean concentrations of NO<sub>x</sub> and PM<sub>10</sub>. The road NO<sub>x</sub> concentration has then been converted to NO<sub>2</sub> using the latest published version of DEFRA's NO<sub>x</sub> to NO<sub>2</sub> conversion spreadsheet (version 8.1). Concentrations of carbon monoxide (CO), and benzene (Bz) are consistently and significantly below their air quality limit values, even in urban centres, therefore modelling of these pollutants is no longer necessary (EPA Annual Air Quality Reports). According to the DMRB LA 105 guidance, it is only necessary to model PM<sub>10</sub> for the base year to demonstrate that there is no impact on achievements of the PM<sub>10</sub> air quality thresholds as a result of the project. Where air quality monitoring indicates exceedances of the PM<sub>10</sub> air quality thresholds in the base year, PM<sub>10</sub> should then be included in the model for both the 'do nothing' and 'do something' scenarios. As Ireland currently meets its legal requirements for the achievement of the PM<sub>2.5</sub> air quality thresholds, there is no requirement to model this parameter. Additionally, the modelling of PM<sub>10</sub> can be used to demonstrate that the project does not impact on the PM<sub>2.5</sub> air quality threshold.

Annual mean of NO<sub>2</sub> and PM<sub>10</sub> for the years 2020 and 2021 have been obtained for Zone D stations (see Section 9.3.1). For both parameters, annual limits are well below the threshold limits contained within the regulations.

Background concentrations for the opening year (2025) and design year (2040) have been predicted for the air quality assessment. Baseline year (2021) background concentrations have been used in combination with correction factors to estimate annual average NO<sub>2</sub> concentrations in future years. These factors have been adapted from both TII (2011) and DEFRA roadside NO<sub>2</sub> projection factors.

Adjustments to the verified modelled NO<sub>2</sub> concentrations are required to be made in order to account for future roadside NO<sub>2</sub> concentrations. An additional scenario known as the projected base year is to be included in the air quality modelling to enable a gap analysis to be completed. The gap analysis is the application of adjustment factors which take into consideration the assumed roadside rates of reduction in NO<sub>x</sub> and NO<sub>2</sub> by DEFRA's modelling tools compared to observed roadside monitoring trend i.e., the gap between the predicted reductions and those observed (DMRB LA 105 guidance). This methodology has been applied to the current assessment in order to predict future NO<sub>2</sub> concentrations as a result of the Proposed Development and ensure that these concentrations are not underestimated.

#### 9.2.2.5 Determining the Impact

The TII guidance document 'Guidelines for the Treatment of Air Quality during the Planning and Construction of Road Schemes (2011)' outlines a clear methodology for determining the magnitude and significance of air quality impacts associated with road schemes; however, this remains applicable to any project which results in a change to traffic volumes. The TII significance criteria have been applied to the Proposed Development and adapted as necessary within Tables 9.8 to 9.11.

Tables 9.7 to 9.9 describe the air quality impacts at each receptor. They are applicable to the pollutants which are relevant to the Proposed Development and the standards or limit values against which they are being assessed (TII, 2011). The criteria focus on NO<sub>2</sub> and PM<sub>10</sub> as these pollutants are most likely to exceed the annual mean limit values (40 µg/m<sup>3</sup>).

The definition of 'impact magnitude' is related to the degree of change in pollutant concentrations, expressed as micrograms per cubic metre ( $\mu\text{g}/\text{m}^3$ ). 'Impact description' takes account of the impact magnitude and of the absolute concentrations and how they are linked to the air quality standards or limit values. The descriptors for the magnitude of change due to the Proposed Development are set out in Table 9.8:

MAGNITUDE OF CHANGE	ANNUAL MEAN $\text{NO}_2/\text{PM}_{10}$	NO. DAYS WITH $\text{PM}_{10}$ CONCENTRATIONS GREATER THAN $50 \mu\text{g}/\text{m}^3$
Large	Increase/decrease $\geq 4 \mu\text{g}/\text{m}^3$	Increase/decrease $> 4$ days
Medium	Increase/decrease $2 - < 4 \mu\text{g}/\text{m}^3$	Increase/decrease 3 or 4 days
Small	Increase/decrease $0.4 - < 2 \mu\text{g}/\text{m}^3$	Increase/decrease 1 or 2 days
Imperceptible	Increase/decrease $< 0.4 \mu\text{g}/\text{m}^3$	Increase/decrease $< 1$ day

Table 9.8: Definition of Impact of Magnitude in Changes in Ambient Pollutant Concentrations (Source: Adapted from TII, 2011)

The subsequent impact descriptors are set out in Table 9.9 and Table 9.10.

ABSOLUTE CONCENTRATION IN RELATION TO OBJECTIVE/LIMIT VALUE	CHANGE IN CONCENTRATION <sup>4</sup>		
	SMALL	MEDIUM	LARGE
INCREASE WITH SCHEME			
Above Objective/Limit Value with Scheme ( $\geq 40 \mu\text{g}/\text{m}^3$ of $\text{NO}_2$ or $\text{PM}_{10}$ )	Slight Adverse	Moderate Adverse	Substantial Adverse
Just Below Objective/Limit Value	Slight Adverse	Moderate Adverse	Moderate Adverse

ABSOLUTE CONCENTRATION IN RELATION TO OBJECTIVE/LIMIT VALUE	CHANGE IN CONCENTRATION <sup>4</sup>		
	SMALL	MEDIUM	LARGE
<b>INCREASE WITH SCHEME</b>			
with Scheme (36-<40 µg/m <sup>3</sup> of NO <sub>2</sub> or PM <sub>10</sub> )			
Below Objective/Limit Value with Scheme (30-<36 µg/m <sup>3</sup> of NO <sub>2</sub> or PM <sub>10</sub> )	Negligible	Slight Adverse	Slight Adverse
Well Below Objective/Limit Value with Scheme (<30 µg/m <sup>3</sup> of NO <sub>2</sub> or PM <sub>10</sub> )	Negligible	Negligible	Slight Adverse
<b>DECREASE WITH SCHEME</b>			
Above Objective/Limit Value with Scheme (≥40 µg/m <sup>3</sup> of NO <sub>2</sub> or PM <sub>10</sub> )	Slight beneficial	Moderate Beneficial	Substantial Beneficial
Just Below Objective/Limit Value with Scheme (36-<40 µg/m <sup>3</sup> of NO <sub>2</sub> or PM <sub>10</sub> )	Slight Beneficial	Moderate Beneficial	Moderate Beneficial
Below Objective/Limit Value with Scheme (30-<36 µg/m <sup>3</sup> of NO <sub>2</sub> or PM <sub>10</sub> )	Negligible	Slight Beneficial	Slight Beneficial
Well Below Objective/Limit Value	Negligible	Negligible	Slight Beneficial

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ABSOLUTE CONCENTRATION IN RELATION TO OBJECTIVE/LIMIT VALUE	CHANGE IN CONCENTRATION <sup>4</sup>		
	SMALL	MEDIUM	LARGE
INCREASE WITH SCHEME			
with Scheme (<30 µg/m <sup>3</sup> of NO <sub>2</sub> or PM <sub>10</sub> )			

Table 9.8: Air Quality Impact Descriptors for Changes for Annual Mean NO<sub>2</sub> and PM<sub>10</sub> Concentrations at Receptors (Source: Adapted from TII, 2011)

ABSOLUTE CONCENTRATION IN RELATION TO OBJECTIVE LIMIT VALUE	CHANGE IN CONCENTRATION <sup>5</sup>		
	SMALL	MEDIUM	LARGE
INCREASE WITH SCHEME			
Above Objective/Limit Value with Scheme (≥35 days)	Slight Adverse	Moderate Adverse	Substantial Adverse
Just Below Objective/Limit Value with Scheme (32-<35 days)	Slight Adverse	Moderate Adverse	Moderate Adverse
Below Objective/Limit Value with Scheme (26-<32 days)	Negligible	Slight Adverse	Slight Adverse
Well Below Objective/Limit Value with Scheme (<26 days)	Negligible	Negligible	Slight Adverse



ABSOLUTE CONCENTRATION IN RELATION TO OBJECTIVE LIMIT VALUE	CHANGE IN CONCENTRATION <sup>5</sup>		
	SMALL	MEDIUM	LARGE
<b>DECREASE WITH SCHEME</b>			
Above Objective/Limit Value with Scheme ( $\geq 35$ days)	Slight beneficial	Moderate Beneficial	Substantial Beneficial
Just Below Objective/Limit Value with Scheme (32-35 days)	Slight Beneficial	Moderate Beneficial	Moderate Beneficial
Below Objective/Limit Value with Scheme (26-32 days)	Negligible	Slight Beneficial	Slight Beneficial
Well Below Objective/Limit Value with Scheme (<26)	Negligible	Negligible	Slight Beneficial

Table 9.10: Air Quality Impact Descriptors for Changes to Number of Days with PM<sub>10</sub> Concentration Greater than 50 µg/m<sup>3</sup> at a Receptor (Source: TII, 2011)

In terms of ‘significance of effects’, professional judgment has been applied in making this determination. The TII Guidance (2011) outlines that the overall air quality impact of the Proposed Development should be described as either ‘insignificant’, ‘minor’, ‘moderate’, or ‘major’; and a number of factors, as listed in Table 9.11, are set out which should be taken into account:

FACTORS
Number of people affected by increases and/or decreases in concentrations and a judgement on the overall balance.
The number of people exposed to levels above the objective or limit value, where new exposure is being introduced.
The magnitude of the changes and the descriptions of the impacts at the receptors i.e., using the findings based on Boxes Tables 9.8 to 9.10.
Whether or not an exceedance of a standard or limit value is predicted to arise in the study area where none existed before or an exceedance area is substantially increased.
Whether or not the study area exceeds a standard or limit value and this exceedance is removed, or the exceedance area is reduced.
Uncertainty, including the extent to which worst-case assumptions have been made.
The extent to which a standard or limit value is exceeded, e.g., an annual mean NO <sub>2</sub> of 41 µg/m <sup>3</sup> should attract less significance than an annual mean of 51 µg/m <sup>3</sup> .

Table 9.11: Factors to Consider when Determining Air Quality Significance (Source: Adapted from TII, 2011)

The modelling results are discussed in Section 9.5 for this Chapter.

### 9.3 The Existing and Receiving Environment (Baseline Situation)

The Site is currently used as agricultural land and is surrounded by hedgerows and drainage ditches. The Proposed Development Site forms part of the “Cornamaddy Action Area Plan – 2005”. The Site located on lands which have been allocated Zoning Objectives of “Residential (Low – Medium Density)” and “Open Space”.

#### 9.3.1 Air Quality

According to the 2012 Regulations (S.I. No. 326 of 2012) the proposed Site falls into ‘Zone C’ of Ireland which is described by the EPA as ‘Other cities and large towns comprising Limerick, Galway, Waterford, Drogheda, Dundalk, Bray, Navan, Ennis, Tralee, Kilkenny, Carlow, Naas, Sligo, Newbridge, Mullingar, Wexford, Letterkenny, Athlone, Celbridge, Clonmel, Balbriggan, Greystones, Leixlip and Portlaoise’. It is expected that existing ambient air quality in the vicinity of the Site is characteristic of a suburban location with the primary source of air emissions such as particulate matter, NO<sub>2</sub>, and hydrocarbons likely to be of traffic and domestic fuel burning.

In conjunction with individual local authorities, the EPA undertakes ambient air quality monitoring at specific locations throughout the country in the urban and rural environment; an Air Quality Report based on data from monitoring stations and a number of mobile air quality units is developed on an annual basis. The EPA’s most recent publication ‘Air Quality in Ireland, 2022’ reports the quality of the air in Ireland based on the data from the National Ambient Air Quality Monitoring Network throughout the year 2022.

When assessing air quality, the EPA focuses on two main pollutants: particulate matter and nitrogen oxides. Measured concentrations of NO<sub>2</sub> for the years 2021 and 2022 are presented in Table 9.12 for Zone C monitoring stations. These results show that current levels of NO<sub>2</sub> are well below the annual mean and 1-hour maximum limit values. In the year 2021, annual mean concentrations of NO<sub>2</sub> ranged from 4.2 – 21.9 µg/m<sup>3</sup> across all Zone C stations, with no exceedance of the maximum hourly limit (EPA, 2022). In the year 2022, annual mean concentrations of NO<sub>2</sub> ranged from 4.8 - 21 µg/m<sup>3</sup> across all Zone C stations, with no exceedance of the maximum hourly limit (EPA, 2023).

The average concentration of NO<sub>2</sub> in 2021 was 11.47 µg/m<sup>3</sup>. Therefore, a conservative estimate of the baseline year (2021) background NO<sub>2</sub> concentration in the region of the Proposed Development is 12 µg/m<sup>3</sup>.

STATION	OBJECTIVE	CONCENTRATION		LIMIT OR THRESHOLD VALUE
		2021	2022	
Meath Navan	Annual Mean NO <sub>2</sub>	21.9	21	40 µg/m <sup>3</sup>
	Days > 200 µg/m <sup>3</sup>	0	0	35 Days
	Annual Mean NO <sub>2</sub>	6.6	7.3	40 µg/m <sup>3</sup>

<b>Waterford Brownes Road</b>	<b>Days &gt; 200 µg/m<sup>3</sup></b>	<b>0</b>	<b>0</b>	<b>35 Days</b>
<b>Sligo<sup>6</sup></b>	<b>Annual Mean NO<sub>2</sub></b>	<b>16.6</b>	<b>-</b>	<b>40 µg/m<sup>3</sup></b>
	<b>Days &gt; 200 µg/m<sup>3</sup></b>	<b>0</b>	<b>-</b>	<b>35 Days</b>
<b>Limerick People's Park</b>	<b>Annual Mean NO<sub>2</sub></b>	<b>9.8</b>	<b>10.2</b>	<b>40 µg/m<sup>3</sup></b>
	<b>Days &gt; 200 µg/m<sup>3</sup></b>	<b>0</b>	<b>0</b>	<b>35 Days</b>
<b>Limerick Henry Street</b>	<b>Annual Mean NO<sub>2</sub></b>	<b>14</b>	<b>15.2</b>	<b>40 µg/m<sup>3</sup></b>
	<b>Days &gt; 200 µg/m<sup>3</sup></b>	<b>0</b>	<b>0</b>	<b>35 Days</b>
<b>Kilkenny Seville Lodge</b>	<b>Annual Mean NO<sub>2</sub></b>	<b>4.2</b>	<b>4.8</b>	<b>40 µg/m<sup>3</sup></b>
	<b>Days &gt; 200 µg/m<sup>3</sup></b>	<b>0</b>	<b>0</b>	<b>35 Days</b>
<b>Portlaoise</b>	<b>Annual Mean NO<sub>2</sub></b>	<b>7.9</b>	<b>9</b>	<b>40 µg/m<sup>3</sup></b>
	<b>Days &gt; 200 µg/m<sup>3</sup></b>	<b>0</b>	<b>0</b>	<b>35 Days</b>
<b>Dundalk</b>	<b>Annual Mean NO<sub>2</sub></b>	<b>10.733341</b>	<b>10.4</b>	<b>40 µg/m<sup>3</sup></b>
	<b>Days &gt; 200 µg/m<sup>3</sup></b>	<b>0</b>	<b>1</b>	<b>35 Days</b>
<b>Galway Eyre Square</b>	<b>Annual Mean NO<sub>2</sub></b>	<b>-</b>	<b>17.6</b>	<b>40 µg/m<sup>3</sup></b>
	<b>Days &gt; 200 µg/m<sup>3</sup></b>	<b>-</b>	<b>0</b>	<b>35 Days</b>

Table 9.12: Mean Concentrations of NO<sub>2</sub> at Zone C Monitoring Stations

Measured concentrations of PM<sub>10</sub> for the years 2021 and 2022 are presented in Table 9.13 for Zone C monitoring stations. As is evident from these results, current levels of PM<sub>10</sub> are well below the annual mean limit value. In the year 2021, annual mean concentrations of PM<sub>10</sub> ranged from 9.7 – 19 µg/m<sup>3</sup> across all Zone C stations, with no exceedance of short-term limit values (EPA, 2022). In the year 2022, annual mean concentrations of PM<sub>10</sub> ranged from 7.9 – 20 µg/m<sup>3</sup> across all Zone C stations, with no exceedance of short-term limit values (EPA, 2022).

The nearest air monitoring station which measures PM<sub>10</sub> is Athlone monitoring station (ca. 2.2km southwest of the Site) and therefore is broadly representative of background concentrations in the vicinity of the Proposed Development. Concentrations of PM<sub>10</sub> at Athlone monitoring station are well below their respective limit values in 2021 and 2022,

<sup>6</sup> There is no data for Sligo for 2022 due to operational issues. There will be data for Sligo in 2023.

with an annual mean of 12.1  $\mu\text{g}/\text{m}^3$  and 12.1  $\mu\text{g}/\text{m}^3$ , respectively, and with no exceedances of the  $\text{PM}_{10}$  daily limit for the protection of human health (EPA, 2021; EPA, 2022).

STATION	OBJECTIVE	CONCENTRATION		LIMIT OR THRESHOLD VALUE
		2021	2022	
Portlaoise	Annual Mean $\text{PM}_{10}$	11.4	12	40 $\mu\text{g}/\text{m}^3$
	Days > 50 $\mu\text{g}/\text{m}^3$	1	0	35 Days
Ennis	Annual Mean $\text{PM}_{10}$	19	20	40 $\mu\text{g}/\text{m}^3$
	Days > 50 $\mu\text{g}/\text{m}^3$	17	21	35 Days
Sligo <sup>7</sup>	Annual Mean $\text{PM}_{10}$	18.3	-	40 $\mu\text{g}/\text{m}^3$
	Days > 50 $\mu\text{g}/\text{m}^3$	20	-	35 Days
Galway Rahoon	Annual Mean $\text{PM}_{10}$	11.4	12.6	40 $\mu\text{g}/\text{m}^3$
	Days > 50 $\mu\text{g}/\text{m}^3$	1	0	35 Days
Clonmel	Annual Mean $\text{PM}_{10}$	10.6	11	40 $\mu\text{g}/\text{m}^3$
	Days > 50 $\mu\text{g}/\text{m}^3$	0	1	35 Days
Dundalk	Annual Mean $\text{PM}_{10}$	11.7	7.9	40 $\mu\text{g}/\text{m}^3$
	Days > 50 $\mu\text{g}/\text{m}^3$	0	0	35 Days
Carlow Town	Annual Mean $\text{PM}_{10}$	10.4	11.3	40 $\mu\text{g}/\text{m}^3$
	Days > 50 $\mu\text{g}/\text{m}^3$	0	0	35 Days
Waterford Browne's Road	Annual Mean $\text{PM}_{10}$	13.7	15.2	40 $\mu\text{g}/\text{m}^3$
	Days > 50 $\mu\text{g}/\text{m}^3$	2	3	35 Days
Navan	Annual Mean $\text{PM}_{10}$	13.5	14.2	40 $\mu\text{g}/\text{m}^3$
	Days > 50 $\mu\text{g}/\text{m}^3$	9	1	35 Days

<sup>7</sup> There is no data for Sligo for 2022 due to operational issues. There will be data for Sligo in 2023.

Kilkenny Seville Lodge	Annual Mean PM <sub>10</sub>	16.7	17.5	40 µg/m <sup>3</sup>
	Days > 50 µg/m <sup>3</sup>	2	2	35 Days
Letterkenny	Annual Mean PM <sub>10</sub>	14.7	14.2	40 µg/m <sup>3</sup>
	Days > 50 µg/m <sup>3</sup>	0	6	35 Days
Wexford Town	Annual Mean PM <sub>10</sub>	13.5	14.5	40 µg/m <sup>3</sup>
	Days > 50 µg/m <sup>3</sup>	2	5	35 Days
Limerick Henry Street	Annual Mean PM <sub>10</sub>	11.1	13.9	40 µg/m <sup>3</sup>
	Days > 50 µg/m <sup>3</sup>	0	2	35 Days
Limerick People's Park	Annual Mean PM <sub>10</sub>	12.6	13.9	40 µg/m <sup>3</sup>
	Days > 50 µg/m <sup>3</sup>	2	2	35 Days
Athlone	Annual Mean PM <sub>10</sub>	12.1	12.3	40 µg/m <sup>3</sup>
	Days > 50 µg/m <sup>3</sup>	2	3	35 Days
Tralee	Annual Mean PM <sub>10</sub>	17.1	17.9	40 µg/m <sup>3</sup>
		10	14	35 Days
Drogheda	Days > 50 µg/m <sup>3</sup>	10.7	11.9	40 µg/m <sup>3</sup>
		0	0	35 Days
Naas	Annual Mean PM <sub>10</sub>	10.5	12.3	40 µg/m <sup>3</sup>
	Days > 50 µg/m <sup>3</sup>	0	2	35 Days
Greystones	Annual Mean PM <sub>10</sub>	9.7	11.6	40 µg/m <sup>3</sup>
	Days > 50 µg/m <sup>3</sup>	0	0	35 Days
Bray	Annual Mean PM <sub>10</sub>	-	10	40 µg/m <sup>3</sup>
	Days > 50 µg/m <sup>3</sup>	-	0	35 Days
Leixlip	Annual Mean PM <sub>10</sub>	-	11.2	40 µg/m <sup>3</sup>

	Days > 50 µg/m <sup>3</sup>	-	1	35 Days
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Table 9.13: Concentrations of PM10 at Zone C Monitoring Stations

### 9.3.2 Macroclimate

Ireland has a typical maritime climate, largely due to its proximity to the Atlantic Ocean and the presence of the Gulf Stream. Due to the moderating effects of the Gulf Stream, Ireland does not suffer the temperature extremes that are experienced by many other countries at a similar latitude. Mean annual temperatures generally range between 9°C and 10°C. Winters tend to be cool and windy while summers are mostly mild and less windy. The prevailing wind direction is between the south and west with average annual wind speeds ranging between 6 knots in parts of south Leinster to over 15 knots in the extreme north. Rainfall in Ireland occurs throughout the year with reasonable frequency. The highest rainfall occurs in the western half of the country and on high ground, and generally decreases towards the northeast. As the prevailing winds are from the west-southwest, the west of Ireland experiences the largest number of wet days. The area of least precipitation is along the eastern seaboard of the country.

### 9.3.3 Microclimate

The synoptic meteorological station at Mullingar is located approximately 37.7km northeast of the Proposed Development; and for the purposes of this chapter, weather data collected here may be considered similar to that which is experienced in the area of the subject Site.

The weather in the area of the subject site is generally dominated by cool oceanic air masses, with cool winters, mild humid summers, and a lack of temperature extremes. Based on meteorological data at Mullingar over the last 3 years, the mean January temperature is 4.6°C, while the mean July temperature is 14.4°C. The prevailing wind direction is from a quadrant centred on the southwest. These are moderately warm winds from the Atlantic and they habitually bring rain. The average annual rainfall in Mullingar is 1020.5mm. Easterly winds are less frequent, weaker, and tend to bring cooler weather from the northeast in spring and warmer weather from the southeast in summer.

#### 9.3.3.1 Rainfall

Rainfall is a key indicator of changes in climate, as measurements of rainfall are fundamental to assessing the effects of climate change on the water cycle and water balance. Table 9.14 illustrates the monthly and annual rainfall data collected over a 3-year period (2020-2022) at Mullingar Weather Station. The annual rates of precipitation ranged from 980.8mm in 2021 to 1078.9mm in 2020 with distribution of the highest monthly rainfall values falling mainly in the autumn and winter months. This is broadly within the expected range of the midlands.

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual
2022	47.6	131.8	46.2	48.7	53.4	100.6	31.6	35.2	104.1	208.9	109.3	84.5	1001.8



2021	126.9	80.3	80.9	25.5	107.4	17.4	74.9	142.1	58.1	97.7	41.6	128.0	980.8
2020	54.4	197.5	61.0	41.9	10.1	96.6	126.3	114.0	68.3	131.8	87.7	89.3	1078.9
LTA <sup>8</sup>	92.5	70.3	76.6	65.9	69.2	73.8	71.1	86.1	78.3	104.3	88.1	94.7	970.9

Table 9.14: Monthly Rainfall Values (mm) for Casement Aerodrome Weather Station January 2020 to December 2022 (Source: Met Eireann)

### 9.3.3.2 Wind

Wind at a particular location can be influenced by a number of factors, such as obstructions by trees or buildings, the nature of the terrain, and deflection by nearby mountains or hills. Wind blows most frequently from the south and west for open sites while winds from the northeast and north occur less often. The analysis of hourly weather data from Mullingar synoptic weather station over a period of 30 years suggests that the predominant wind direction blows from the southwest, with windspeeds of between 7 and 10 knots occurring most frequently.

Figure 4 provides a wind speed frequency distribution which represents wind speed classes and the frequency at which they occur (% of time) at Mullingar weather station over a period of 30 years. Wind speeds of 5 knots have the highest frequency, occurring approximately 11% of the time.

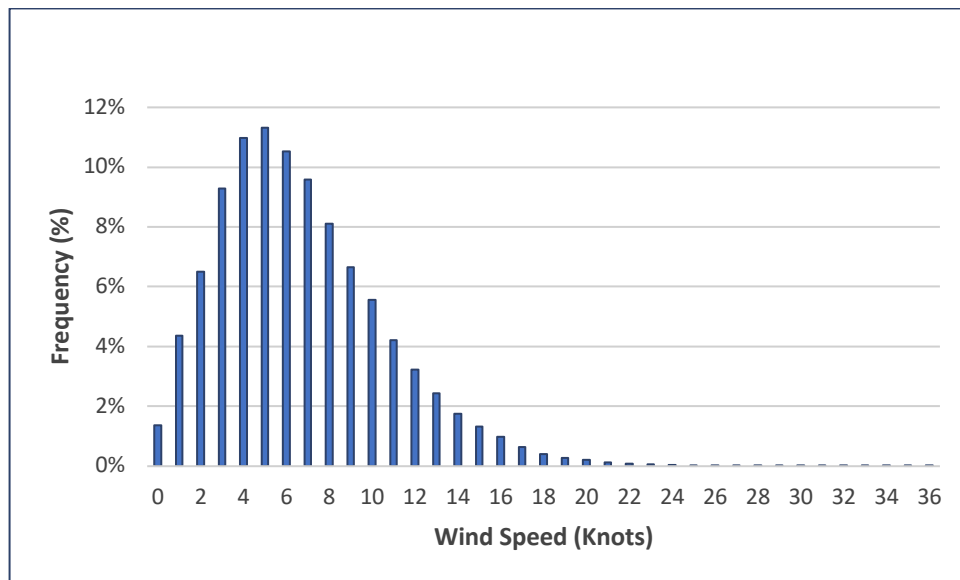


Figure 4 – Wind Speed Frequency Distribution at Mullingar Synoptic Station over 30 years (1992-2021)

Figure 5 provides a wind rose of the predominant wind directions and associated wind speeds at Mullingar Synoptic weather station. As is visible from Figure 3, the prevailing

<sup>8</sup> The 'LTA' is average for the climatological long-term-average (LTA) reference period 1981-2010

wind is from a south-westerly direction with an annual incidence of 28.35% for winds between 200 and 250 degrees. The most frequent wind speed associated with this wind direction is between 7 and 10 knots which is considered a 'gentle breeze' in terms of the Beaufort scale, this wind direction and wind speed occurs in combination approximately 9.97% of the time. The overall most common windspeed is also between 4 and 6 knots, occurring in 32.81% of incidences, and wind speeds of between 7 and 10 knots occurring in 29.89% of incidences.

The lowest frequency is for winds blowing from the northern quadrant at approximately 3.84% of the time. Wind speeds of above 11 knots (5.66m/s) occurring in just 15.75% of incidences. This windrose is broadly representative of the prevailing conditions experienced at the subject site.

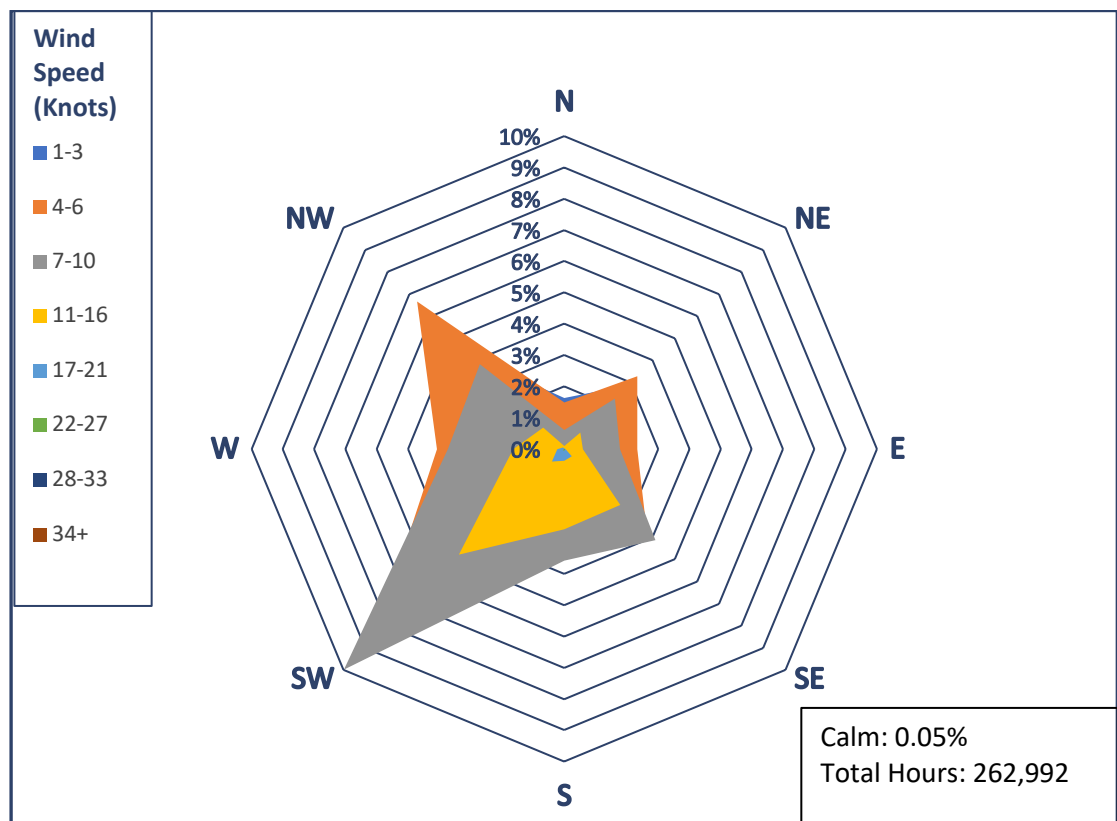


Figure 5 – 30-year Windrose at Mullingar Synoptic Weather Station 1992-2021 (Developed using Met Eireann Hourly Data)

#### 9.4 Characteristics of the Proposed Development

See Chapter 2 for a description of all components of the Proposed Development. The building has been designed to meet current building regulations. The materials selected have been chosen with regards to sustainable credentials of the manufacturers and products.

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## 9.5 Potential Impact of the Proposed Development

### 9.5.1 Potential Impacts on Air Quality

#### 9.5.1.1 Construction Phase

There is the potential for construction related air emissions to impact on local air quality as a result of the Proposed Development. Potential impacts are expected to be short-term and of a temporary nature. The main air quality impacts are:

- Dust deposition;
- Elevated particulate matter concentrations ( $PM_{10}$  and  $PM_{2.5}$ ) as a result of dust generating activities on site; and
- An increase in concentrations of airborne particles, volatile organic compounds, nitrogen oxides, and sulphur oxides due to exhaust emissions from diesel powered vehicles and equipment on site (non-road mobile machinery) and vehicles accessing the Site.

#### Construction Dust

The greatest potential impact on air quality during this phase is from construction dust emissions and the potential for nuisance dust. The dust emissions from a construction site that may result in air quality impacts generally depend on:

- Site activities and duration;
- The size of the site;
- The meteorological conditions;
- The proximity of receptors to the activities;
- The adequacy of applied mitigation measures; and
- The sensitivity of receptors to dust.

The primary sources of dust identified include soil excavation works, demolition, bulk material transportation, loading and unloading, stockpiling materials, cutting and filling, and vehicular movements (HGVs and on-site machinery).

In order to account for a worst-case scenario, the Proposed Development can be considered major in scale due to the size of the site and the duration of construction activities. Therefore, it can be assumed that there is potential for significant dust soiling 100m from the Site as per Table 9.2.

There are a number of high-sensitivity receptors (residential dwellings) located within 100m of the site boundary; these are situated to the south of the Proposed Development Site. Therefore, in the absence of mitigation, it is considered that there is potential for dust impacts to occur at these locations. Sensitive receptors within 100m of the Proposed Development are identified in Table 9.15.

TYPE	ITM COORDINATES		ORIENTATION RELATIVE TO THE SITE BOUNDARY
	X	Y	
Residential	606311	742867	South
Residential	606420	742861	South
Residential	606278	742947	South

Table 9.15: Dust Sensitive Receptors



Figure 6– Sensitive Receptors Dust

According to IAQM Guidance (2016), the primary factor influencing the Pathway is the distance between the sensitive receptor and the dust sources. However, other factors can cause a higher or a lower category to be assigned than would be the case based on distance alone. These factors include:

- Orientation of receptors relative to the prevailing wind direction; and
- Topography, terrain and physical features.

Meteorological conditions greatly affect the level of dust emissions and subsequent deposition downwind of the source; the most predominant being rainfall and wind speed. Adverse impacts can occur in any direction from a site; however, they are more likely to occur downwind of the prevailing wind direction and/or close to the site. Relatively high levels of moisture in the surrounding air, soils, and precipitation helps to suppress dust due to the cohesive properties of water between dust particles. The least favourable

meteorological conditions for dust generation would typically be warm days with strong winds and low precipitation. Due to the variability of weather, it is impossible to predict the conditions that will occur during the Construction Phase of the development. However, wind direction is most likely to prevail from the southwest.

Table 9.16 outlines the hourly percentage distribution of wind speed and direction at Mullingar synoptic weather station over a 30-year period (1992-2021). This data is consistent with Figure 3 of this chapter and shows that the most frequent wind direction prevails from the southwest (28.35% frequency). The corresponding most frequent wind speed is between 4 and 6 knots which is considered a 'light breeze' in terms of the Beaufort scale; this wind direction and wind speed occurs in combination approximately 8.60% of the time.

WIND SPEED (KNOTS)		<1	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34+	% DRY DAYS
WIND DIRECTION	DEGREES										
North	350-10	0.05	1.63	1.50	0.61	0.10	0.00	0.00	0.00	0.00	31%
North-east	20-70		2.78	3.29	2.28	0.73	0.02	0.00	0.00	0.00	
East	80-100		1.54	2.32	1.78	0.58	0.04	0.01	0.00	0.00	
South-east	110-150		2.05	3.72	4.11	2.52	0.33	0.03	0.00	0.00	
South	170-190		1.48	2.65	3.56	2.57	0.38	0.05	0.00	0.00	
South-west	200-250		4.36	8.60	9.97	4.78	1.65	0.07	0.01	0.00	
West	260-280		1.99	4.07	3.73	1.65	0.23	0.02	0.00	0.00	
North-west	290-340		4.19	6.67	3.83	0.97	0.07	0.01	0.00	0.00	

Table 9.16: Percentage Distribution of Wind Speeds and Direction at Casement Aerodrome (1991-2020)

Dry days with moderate to high windspeeds (above 5m/s (7-10 knots)) are the conditions which are most likely to result in fugitive dust emissions. Sensitive receptors within 100m of the Proposed Development have been identified as residential dwellings which are located to the south of the Site.

Receptors located to the south of the Site would require prevailing winds from the north to be potentially impacted by fugitive dust emissions. At these receptors, the frequency of winds (>5m/s) occurring from the direction of the dust source on dry days is 0.22%. Therefore, appropriate conditions for fugitive dust emissions at these receptors are highly infrequent and it is expected that adequate mitigation measures, as outlined in Section 9.1.6.1, will prevent nuisance dust from resulting in any adverse impacts.

#### Construction Traffic

Construction vehicles and machinery during this phase will temporarily and intermittently generate exhaust fumes and consequently potential emissions of volatile organic compounds, nitrogen oxides, sulphur oxides, and particulate matter (dust). Dust

emissions associated with vehicular movements are largely due to the resuspension of particulate materials from ground disturbance. According to the IAQM (2014), experience from the assessment of exhaust emissions from on-site machinery and site traffic suggests that they are unlikely to make a significant impact on local air quality, and in the vast majority of cases they will not need to be quantitatively assessed. Air pollutants may increase marginally due to construction-related traffic and machinery from the Proposed Development. However, any such increase is not considered significant and will be well within relevant ambient air quality standards. According to TII (2011), the significance of impacts due to vehicle emissions during the Construction Phase will be dependent on the number of additional vehicle movements, the proportion of HGVs and the proximity of sensitive receptors to site access routes. If construction traffic would lead to a significant change (> 10%) in Annual Average Daily Traffic (AADT) flows near to sensitive receptors, then concentrations of nitrogen dioxide, PM<sub>10</sub> and PM<sub>2.5</sub> should be predicted in line with the methodology as outlined within TII guidance. Construction traffic is expected to result in a significant change (> 10%) in AADT flows near to sensitive receptors (see Volume 3 - Appendices for Construction Phase Traffic AADTs). Therefore, a detailed air quality assessment is required, the results of which are discussed in Section 9.5.1.2.1.

### 9.5.1.2 Operational Phase

#### Building emissions

The design and construction of all buildings in accordance with Building Regulations Technical Guidance Document (TGD) Part L 2021 will ensure that modern building materials are used and that they are designed to be thermally efficient resulting in a reduction in the volume of fossil fuels required to heat the buildings. It is predicted that fossil fuel combustion gas emissions including carbon dioxide, sulphur dioxide, nitrogen oxides, carbon monoxide and hydrocarbon particulate emissions will be minor and ongoing for the life of the development and will not have an adverse significant impact on the existing ambient air quality in the vicinity of the Site.

#### Transport emissions

The largest potential effect on air quality during the Operational Phase of the Proposed Development is from traffic-related air emissions.

Operational traffic will use regional and local roads to access the facility with potential increases of traffic flow on some roads and subsequent associated emissions of VOCs, nitrogen oxides, sulphur dioxides and increased particulate matter concentrations.

The DMRB LA 105 guidance has been outlined in Section 9.2 of this Chapter; in accordance with Table 9.4, it is considered that the receiving environment of the Proposed Development is of a 'Low Sensitivity' and the inclusion of the Proposed Development can be considered low risk. Therefore, it has been determined that a simple air quality assessment is required in this case, as per Table 9.17.

RISK POTENTIAL OF PROJECT	RECEIVING ENVIRONMENT SENSITIVITY			
	RISK	HIGH	MEDIUM	LOW
	HIGH	Detailed	Detailed	Simple
	LOW	Detailed	Simple	Simple

Table 9.17: Table for Determination of Simple or Detailed Assessment (Source: DMRB LA 105 Guidance)



### 9.5.1.2.1 Modelling Results

The impact of the Proposed Development has been determined by modelling traffic-related air emissions resulting from the presence (Do-Something scenario) or absence (Do-Nothing scenario) of the Proposed Development.

RECEPTOR	ITM COORDINATE	RECEPTOR TYPE	PARAMETER	TOTAL ( $\mu\text{g}/\text{m}^3$ )	ROAD TRAFFIC COMPONENT
R1	605777, 742626	Residential	PM <sub>10</sub>	12.68	0.58
			NO <sub>2</sub>	15.01	3.01
R2	606193, 742627	Residential	PM <sub>10</sub>	12.60	0.50
			NO <sub>2</sub>	14.64	2.64
R3	606282, 742949	Residential	PM <sub>10</sub>	12.15	0.5
			NO <sub>2</sub>	12.24	0.24
R4	606388, 742825	Residential	PM <sub>10</sub>	12.66	0.56
			NO <sub>2</sub>	14.92	2.92
R5	606477, 742813	Residential	PM <sub>10</sub>	13.30	1.20
			NO <sub>2</sub>	17.97	5.97
R6	742813, 742879	Residential	PM <sub>10</sub>	12.50	0.40
			NO <sub>2</sub>	13.99	1.99
R7	606611, 742645	Residential	PM <sub>10</sub>	12.33	0.23
			NO <sub>2</sub>	13.14	1.14

Table 9.18: Modelled Baseline NO<sub>2</sub> and PM<sub>10</sub> Concentrations (2021)

Concentrations of NO<sub>2</sub> and PM<sub>10</sub> were modelled for the baseline year of 2021. As is evident from Table 9.18, the model has indicated that concentrations for all pollutants were in compliance with the annual limit of 40  $\mu\text{g}/\text{m}^3$ . Therefore, in line with DMRB LA 105 guidance, further modelling of PM<sub>10</sub> for the opening and design Years is not required. The highest road increment of PM<sub>10</sub> experienced at receptors was 1.20  $\mu\text{g}/\text{m}^3$ . When this is assessed in combination with the 2021 background concentration of 11.8  $\mu\text{g}/\text{m}^3$  (total  $\mu\text{g}/\text{m}^3$  is 13.3  $\mu\text{g}/\text{m}^3$ ), an overall impact of 33.25% of the annual limit is experienced at the worst-case receptor.

The impact of NO<sub>2</sub> was predicted for the opening and design years at the nearest receptors to the affected road network (ARN). The degree of impact has been determined based on both the absolute and relative impact of the Proposed Development. A 'Do-Nothing Scenario', which assumes that the Proposed Development does not exist in future years, has also been assessed within the model and results have been compared in order to determine the degree of impact.

RECEPTOR	BACKGROUND	CONSTRUCTION PHASE (2025) NO <sub>2</sub> µg/m <sup>3</sup>				
		DO NOTHING	DO SOMETHING	PROPOSED DEVELOPMENT CONTRIBUTION	MAGNITUDE	IMPACT DESCRIPTION
R4	10.2	14.5	14.61	0.11	Imperceptible	Negligible Increase
R5		17.93	18.23	0.3	Imperceptible	Negligible Increase
R6		13.46	14.81	1.35	Small	Negligible Increase

Table 9.19: Predicted Annual Mean Concentrations of NO<sub>2</sub> (Construction Phase (2025))

The impact of the Construction Phase of the Proposed Development on annual mean NO<sub>2</sub> concentrations has been assessed relative to the 'Do Nothing' levels for the year 2025. The results shown in Table 9.19 determine that there may be some 'imperceptible' and 'small' increases in concentrations of NO<sub>2</sub> at worst-case receptors assessed when compared with 'Do Nothing' levels; with the highest predicted increase of 1.35µg/m<sup>3</sup> at R6 in the 'Do Something' scenarios.

In relation to the NO<sub>2</sub> objective/limit value, concentrations of NO<sub>2</sub> at all sensitive receptors are less than 19 µg/m<sup>3</sup> with the inclusion of the Construction Phase of the Proposed Development, and as such, are well below the objective/limit value of 40 µg/m<sup>3</sup>. Therefore, it is considered that the impact of the Proposed Development is minor at sensitive receptors and not significant in terms of overall ambient air quality standards.

Having regard to the assessment criteria set out in Section 9.2.2.5 and the modelling results outlined in Table 9.19, the impact of the Construction Phase of the Proposed Development on NO<sub>2</sub> concentrations in the locality is likely to be 'short-term, 'negative' and 'imperceptible'.

RECEPTOR	BACKGROUND	OPENING YEAR (2025) NO <sub>2</sub> µg/m <sup>3</sup>				
		DO NOTHING	DO SOMETHING	PROPOSED DEVELOPMENT CONTRIBUTION	MAGNITUDE	IMPACT DESCRIPTION
R1	10.2	14.62	14.76	0.14	Imperceptible	Negligible Increase
R2		14.19	14.31	0.12	Imperceptible	Negligible Increase
R3		12.53	12.92	0.39	Imperceptible	Negligible Increase
R4		14.5	14.69	0.19	Imperceptible	Negligible Increase
R5		17.93	18.37	0.44	Small	Negligible Increase

RECEPTOR	BACKGROUND	OPENING YEAR (2025) NO <sub>2</sub> µg/m <sup>3</sup>				
		DO NOTHING	DO SOMETHING	PROPOSED DEVELOPMENT CONTRIBUTION	MAGNITUDE	IMPACT DESCRIPTION
R6		13.46	14.87	1.41	Small	Negligible Increase
R7		13.64	13.74	0.1	Imperceptible	Negligible Increase

Table 9.20: Predicted Annual Mean Concentrations of NO<sub>2</sub> (Opening Year 2025)

RECEPTOR	BACKGROUND	DESIGN YEAR (2040) NO <sub>2</sub> µg/m <sup>3</sup>				
		DO NOTHING	DO SOMETHING	PROPOSED DEVELOPMENT CONTRIBUTION	MAGNITUDE	IMPACT DESCRIPTION
R1	8.2	15.08	15.8	0.72	Small	Negligible Increase
R2		15.64	16.31	0.67	Small	Negligible Increase
R3		8.47	10.04	1.57	Small	Negligible Increase
R4		14.93	15.8	0.87	Small	Negligible Increase
R5		19.6	21.67	2.07	Medium	Negligible Increase
R6		14.74	15.58	0.84	Small	Negligible Increase
R7		13.4	13.82	0.42	Small	Negligible Increase

Table 9.21: Predicted Annual Mean Concentrations of NO<sub>2</sub> (Design Year 2040)

The impact of the Operational Phase of the Proposed Development on annual mean NO<sub>2</sub> concentrations in the opening year (2025) and design year (2040) has been assessed relative to the 'Do Nothing' levels. The results shown in Tables 9.20 and 9.21 determine that there may be some 'imperceptible', 'small' and 'medium' increases in concentrations of NO<sub>2</sub> at worst-case receptors assessed when compared with 'Do Nothing' levels; with the highest predicted increase of 1.41µg/m<sup>3</sup> at R6 in the Opening Year and 2.07 µg/m<sup>3</sup> measured at R5 in the Design Year 'Do Something' scenarios.

The Proposed Development contribution in relation to the NO<sub>2</sub> objective/limit value, concentrations of NO<sub>2</sub> at all sensitive receptors are less than 22 µg/m<sup>3</sup> with the inclusion of the Proposed Development in both the opening and design years, and as such, are well below the objective/limit value of 40 µg/m<sup>3</sup>. Therefore, it is considered that the impact of the Proposed Development is minor at sensitive receptors and not significant in terms of overall ambient air quality standards.

Having regard to the assessment criteria set out in Section 9.2.2.5 and the modelling results outlined in Table 9.20 and Table 9.21, the impact of the Proposed Development on NO<sub>2</sub> concentrations in the locality is likely to be ‘long-term’, ‘negative’ and ‘imperceptible’.

## 9.5.2 Potential Impacts on Climate

A Climate Change Impact Assessment (CCIA) has been prepared for the Proposed Development by Enviroguide (2023) (see Volume 3 – Appendices). The contents of this Report provide dual duty to the requirements as set out in Regulation (EU) 2020/852 of the European Parliament and of the Council (the ‘Taxonomy Regulation’) for a Climate Risk and Vulnerability Assessment and Westmeath County Council requirements for a Climate Change Impact Assessment.

Additionally, the CCIA provides information to support the relevant public body in carrying out its functions in a manner consistent with national climate plans and strategies and furthering the achievement of the national climate objective as set out under Section 15 of the Climate Action and Low Carbon Development Act 2015, as amended in 2021.

### 9.5.2.1 Construction Phase

There is the potential for combustion emissions from onsite machinery and traffic derived pollutants of CO<sub>2</sub> and Nitrous Oxide (N<sub>2</sub>O) to be emitted during the construction phase of the development. However, due to the size and duration of the Construction Phase, the effect on national GHG emissions will not be significant in terms of Ireland’s obligations under the Paris Agreement. The Contractor will seek to achieve the greatest standards of sustainable construction and design and will incorporate sustainable design criteria from the outset which supports overall climate change mitigation. The following mitigation measure will further reduce the effect on national GHG emissions:

- Exhaust emissions from vehicles and machinery will be minimised by avoidance of engines running unnecessarily as idle engines will not be permitted for excessive periods.

### 9.5.2.2 Operational Phase

#### 9.5.2.2.1 Flood Risk

A Flood Risk Assessment (FRA) was undertaken by Paul McGrail Consulting Engineers on behalf of the Applicant for the Proposed Development and has been included in this EIAR in Volume 3 - Appendices. This assessment concluded that the Proposed Development is considered to be adequately protected in consideration of future scenario of flood event in the area. The Site is within Zone C and is appropriate for the Proposed Development from a flood risk perspective. The Athlone Development Plan Flood Map shows that the Site falls outside the extents of the 100-year Fluvial Flood event. This was also evident from the Catchment Flood Risk Assessment (CFRAM) maps.

#### 9.5.2.2.2 Energy Statement

An Energy Statement has been prepared for the Operational Phase of the Proposed Development by Morley Walsh Consulting Engineers (2023) and has been included in this EIAR in Volume 3 - Appendices. The report outlines a number of methodologies in Energy Efficiency, Conservation and Renewable Technologies that will be employed in part or in combination with each other for the Proposed Development. These techniques will be

employed to achieve compliance with the building regulations Part L and NZEB standards currently in public consultation.

Building energy has been long understood as contributing a major component of GHG emissions which was acknowledged within the 2030 Communication published by the European Commission (2014) which stated that “the majority of the energy-saving potential (for the EU) is in the building sector. The EU Energy Performance of Buildings Directive set out the target that all new developments should be Nearly Zero-Energy Buildings (NZEB) by the end of 2020.

In developing the energy strategy for the Proposed Development, the incorporation of energy efficient strategies into the project deliverables will encourage the commitment to sustainable design at an early stage and ensure that the Proposed Development will meet the principles of the Government’s ‘National Climate Change Policy’ and the NZEB criteria as set out in the Part L Regulations 2021 and will maximise the reduction in Carbon Dioxide (CO<sub>2</sub>) emissions thus demonstrating the commitment to Climate Change.

### 9.5.2.2.3 GHG Emissions

#### 9.5.2.2.3.1 Traffic

Increased LDV and HGV traffic flow as a result of the Proposed Development is likely to contribute to increases in GHG emissions such as CO<sub>2</sub> and N<sub>2</sub>O. However, these contributions are likely to be marginal in terms of overall national GHG emission estimates and Ireland’s obligations under the Paris Agreement, and therefore unlikely to have an adverse effect on climate.

### 9.5.3 Potential Cumulative Impacts

Cumulative impacts can be defined as “*impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project*”. Effects which are caused by the interaction of effects, or by associated or off-site projects, are classed as indirect effects. Cumulative effects are often indirect, arising from the accumulation of different effects that are individually minor.

Cumulative air quality impacts have the potential to arise locally when construction activities associated with the Proposed Development take place at the same time as other developments in a specific location.

A review of other off-site developments and proposed developments was completed as part of this assessment. Table 9.22 details these projects which are existing, proposed and granted planning permissions on record in the area.

PLANNING REFERENCE	PLANNING AUTHORITY	STATUS	LOCATION
2360074	Westmeath County Council	Decision Pending	0.1km East
<p><i>Planning permission was sought for a development consisting of a 10-year permission for the provision of a total of 332no. residential units along with provision of a crèche. Particulars of the development comprise as follows: (a) Site excavation works to facilitate the proposed development to include excavation and general site preparation works. (b) The provision of a total of 172no. 2storey residential dwellings which will consist of 152no. 3 bed units and 20no. 4 bed units. (c) The provision of a total of 160no. apartments/duplex units consisting of 36no. 1 bed units, 99no. 2bed units and 25no. 3bed units. The apartment blocks range in</i></p>			

<p>height from 2 storey to 4 storey and the duplex blocks range from 2 storey to 3 storey in height. (d) Provision of a 2 storey creche. (e) Provision of associated car parking at surface level via a combination of in-curtilage parking for dwellings and via on-street parking for the creche, duplexes and apartment units. (f) Provision of electric vehicle charge points with associated site infrastructure ducting to provide charge points for residents throughout the site. (g) Provision of associated bicycle storage facilities at surface level throughout the site and bin storage facilities. (h) The provision of a new link road via adjacent lands to the west to provide for vehicular, pedestrian and cyclist access. (i) The provision of internal culverts and associated bridges along with a realignment of a section of an existing drainage channel within the site to facilitate internal access roads along with associated crossing points across the drainage channel (to facilitate pedestrian, cyclist and vehicular crossing points). (j) The creation of a pedestrian footpath alongside the local road which will connect to the existing footpath aligning the N55 National road; (k) Provision of associated open space areas, residential communal open space areas to include formal play areas along with all hard and soft landscape works for private gardens and amenity spaces along with public lighting, planting and boundary treatments to include boundary walls, railings &amp; fencing; (l) Provision of 2 no. ESB substations. (m) Internal site works and attenuation systems. (n) All ancillary site development/construction works to facilitate foul, water and service networks for connection to the existing foul, water and ESB networks.</p>			
2360047	Westmeath County Council	Granted Conditional	Directly South of the Proposed Development
<p>Planning permission was sought for a development at a site of total c.1.13ha on lands located at Cornamaddy, Athlone, Co. Westmeath. The site is generally bounded to the west by greenfield lands and Cornamagh Cemetery, to the north by greenfield lands, to the south by greenfield lands and the Ballymahon Road (N55) and to the east by the existing Drumaconn housing estate. The development will consist of modifications to the permitted application WMCC Reg. Ref. 14/7103/ ABP Ref. PL25.244826 and concurrent application WMCC Reg. Ref. 22/577 to include the following: Removal of the permitted creche c.260sqm and associated parking granted under WMCC Reg. Ref. 14/7103/ ABP Ref. PL25.244826. The recently permitted creche granted under WMCC Ref. 22/340 will regularize childcare provision on site. The remaining area will form part of the public open space associated with the wider development at Cornamaddy (c.710sqm). Associated minor landscape revisions to the concurrent application WMCC Reg. Ref. 22/577; Provision of 6 no. additional houses comprising 4 no. Type A1 4-5 bed 2-3 storey semi-detached units (c.166sqm area each) and 2 no. Type B 3 bed 2 storey semi-detached units (c.113sqm area each). All with associated rear gardens and 2 no. parking spaces per unit. No new house types are proposed under this application; Relocation and minor alterations including changes to the floor levels, house plots and associated gardens and boundary treatments of the remaining units comprising 4 no. Type A1 4-5 bed 2-3 storey semi-detached units (c.166sqm area each), 2 no. Type B 3 bed 2 storey semi-detached units (c.113sqm area each), 1 no. Type D 5 bed 2-3 storey detached unit (c. 215sqm area) and 2 no. Type E1 3 bed 2 storey semi-detached units (c.112sqm area each) permitted under WMCC Reg. Ref. 14/7103/ ABP Ref. PL25.244826. No changes to the permitted floor area of these units; Minor modifications to the concurrent application WMCC Reg. Ref. 22/577 to include reconfiguration and relocation of the main access roads south of the planned distributor road. Readjustment of the internal shared access road parallel to the distributor road permitted under WMCC Reg. Ref. 14/7103/ ABP Ref. PL25.244826; All associated site development works, services provision, connection to water services and connection to the section of the distributor road proposed under WMCC Reg. Ref. 22/577, public open space (c.600sqm), landscaping, boundary treatment works and car parking provision.</p>			
22577	Westmeath County Council	Decision pending	Directly south of Proposed Development
<p>A 5 year permission was sought for a development at a site of total c.10.87 ha on lands located at Cornamaddy, Athlone, Co. Westmeath. The site is generally bounded to the west by greenfield lands and Cornamagh Cemetery, to the north by greenfield lands, to the south by greenfield lands and the Ballymahon Road (N55) and to the east by the existing Drumaconn housing estate. The development will comprise of a residential development and public open space comprising the following: Amendments to permitted application WMCC Reg. Ref. 14/7103 ABP Ref. PL25.244826 for the removal of 38 no. permitted units (not</p>			



constructed) to be replaced by: Construction of 70 no. residential units comprising: 4 no. 2 bed terraced houses (c.78 sq.m each), 60 no. 3 bed semidetached (c. 96-116 sq.m each) and 6 no. 4 bed semidetached houses (c. 147 sq.m each) with associated private gardens. The creche facility, public open spaces, landscaping, roads layouts, car parking, boundary treatment works, public lighting and all associated site works associated with the 87 no. remaining units retained as permitted under WMCC Reg Ref. 14/7103 ABP Ref. PL25.244826 will remain unchanged. All pedestrian and vehicular access roads and footpaths including a section of the planned east/west distributor road connecting to a sections of the distributor road permitted under WMCC Reg. Refs 14/7103 ABP Ref. PL25.244826 and 22/253 to the east of the site. All associated site development works, services provision, drainage works, public open space (c.1.03ha), landscaping, boundary treatment works, public lighting, associated esb substation cabinets, bin stores, car and bicycle parking provision.			
22253	Westmeath County Council	Granted – Conditional	Directly east of Proposed Development
Planning permission was sought for a development consisting of the following: Construction of 75 no. residential units comprising: 51 no. 2 storey semi-detached and terraced houses (consisting 4 no. 2 bed houses and 47 no. 3 bed houses, ranging in size from c.78 sq.m – 120 sq.m each), and 24 no. 3 storey apartment/duplex units (consisting 12 no. 2 bed apartments and 12 no. 3 bed duplexes, ranging in size from 84sq.m to 121 sq.m each), with associated private gardens and east/west facing terraces; All pedestrian and vehicular access roads and footpaths including a section of the planned east/west distributor road connecting to a section of the distributor road permitted under WMCC Reg. Ref. 14/7103/ ABP Ref. PL25.244826 to the south east of the site. All associated site development works, services provision, drainage works, residential open space (c.o.28ha) and public open space (c.o.82ha), landscaping, boundary treatment works, public lighting, 1 no. esb substation cabinets, bin stores, car and bicycle parking provision; Provision of a new detention basin on the eastern portion of the site designed to cater for the proposed development, in lieu of the drainage works permitted under WMCC Reg. Ref. 14/7103 / ABP Ref. PL 25.244826.			
22340	Westmeath County Council	Granted – Conditional	Within redline boundary
Planning permission was sought for a development consisting of the following: Construction of a two Storey childcare facility, including classrooms, reception, kitchen, associated staff areas and office, toilets, storage, plant rooms, circulation areas and photovoltaic panels at roof level (c.668sqm total gross floor area); The proposed facility includes a secure outdoor play area(c. 595 sqm), 18 no. car parking spaces and 20 no. bicycle parking spaces; Existing vehicular access onto the existing link road and provision of an internal access road, footpaths and 2 no. pedestrian access points; All associated site development works, service provision, drainage works, landscape and boundary treatment works and public lighting.			
177224	Westmeath County Council	Granted – Conditional	Approx. 20m south of Proposed Development
Planning permission was sought for the development of 7 no new dwellings to include 3 no 5 bedroom detached houses and 2 no 4 bedroom detached houses with optional fifth bedroom/study and 2 no 4 bedroom semidetached houses with optional fifth bedroom/study and all associated site development works including road networks, services, landscaping, and boundary treatments.			
147103	Westmeath County Council	Granted – Conditional	Approx. 15m south of Proposed Development
Planning permission was sought for the construction of 98 no. new dwellings to include 11 no. 4/5 bedroom detached houses, 28 no. 4/5 bed semi-detached houses, 8 no. 3 bedroom detached houses, 34 no. 3 bedroom semi-detached houses, 8 no. 2/3 bedroom terraced houses, 3 no. 2 bedroom houses and 6 no. 2-bedroom bungalow houses. The development includes the provision of all associated site development works including road networks, services, landscaping and boundary treatments.			

Table 9.22: Potential Cumulative Impacts

The cumulative effects on the air quality and climate of the current Proposed Development and other permitted or existing developments have been considered, in particular through the generation of air pollutants and GHG emissions.

The potential impacts on air quality and climate are assessed in Section 9.5.1 and it is considered that there are no other potential significant cumulative impacts associated with the Proposed Development and considered offsite permitted developments.

In terms of dust, no significant impacts are predicted; good construction practice, which incorporates the implementation of the identified mitigation measures, will be employed at the Proposed Development site. Due to the implementation of good construction practices at the Site of the Proposed Development and these offsite permitted developments, it is not anticipated that significant cumulative impacts will occur during the Construction Phase.

Assessment of operational stage impacts on air quality involved traffic data which is inclusive of traffic associated with other existing and permitted developments on the road networks surrounding the site both in current and future years. Therefore, cumulative impacts have been assessed in this regard and the impact on ambient air quality has been determined as not being significant.

It is considered that there are no other potential significant cumulative impacts associated with the Proposed Development and considered offsite permitted developments.

#### **9.5.4 Do nothing Impact**

A do-nothing scenario would result in the Site remaining undeveloped. If the Proposed Development were not to proceed there would be no immediate impact on the air quality in the area or the macro and microclimate.

### **9.6 Avoidance, Remedial and Mitigation Measures**

#### **9.6.1 Air Quality**

##### **9.6.1.1 Construction Phase**

It is not expected that adverse air quality impacts are likely to occur at sensitive receptors as a result of the Proposed Development. However, appropriate mitigation measures, as follows, will be employed as necessary to further prevent such impacts occurring:

- During working hours, dust control methods will be monitored as appropriate, depending on the prevailing meteorological conditions;
- The name and contact details of a person to contact regarding air quality and dust issues will be displayed on the site boundary, this notice board should also include head/regional office contact details;
- Community engagement will be undertaken before works commence on-site explaining the nature and duration of the works to local residents and businesses;
- A complaints register will be kept on-site detailing all telephone calls and letters of complaint received in connection with construction activities, together with details of any remedial actions carried out;
- The contractor must demonstrate full compliance with the dust control conditions;
- At all times the procedures put in place are to be strictly monitored and assessed;
- Dust minimisation measures will be reviewed at regular intervals during the works to ensure the effectiveness of the procedures in place and to maintain the goal of minimisation of dust through the use of best practice and procedures. In the event of dust nuisance occurring outside the site

boundary, site activities will be reviewed, and satisfactory procedures implemented to rectify the problem;

- A speed restriction of 20 km/hr will be applied as an effective control measure for dust for on-site vehicles using unpaved haul roads;
- Bowsers or suitable watering equipment will be available during periods of dry weather throughout the construction period;
- Hard surface roads will be swept to remove mud and aggregate materials from their surface while any un-surfaced roads will be restricted to essential site traffic;
- Furthermore, any road that has the potential to give rise to fugitive dust must be regularly watered, as appropriate, during dry and/or windy conditions;
- During periods of very high winds (gales), construction activities likely to generate significant dust emissions should be postponed until the gale has subsided;
- Overburden material will be protected from exposure to wind by storing the material in sheltered regions of the Site. Where possible storage piles should be located downwind of sensitive receptors;
- Where feasible, hoarding will be erected around the site boundary. This will have the benefit of reducing the impact of larger particles on nearby sensitive receptors;
- Material handling systems and site stockpiling of materials will be designed and laid out to minimise exposure to wind. Water misting or sprays will be used as required if particularly dusty activities such as rock blasting or earthworks are necessary during dry or windy periods;
- Before entrance onto public roads, trucks will be adequately inspected to ensure there is no potential for dust emissions and will be cleaned as necessary;
- In the event of dust nuisance occurring outside the site boundary, movements of materials likely to raise dust will be curtailed and satisfactory procedures implemented to rectify the problem before the resumption of construction operations;
- Vehicles delivering or collecting material with potential for dust emissions will be enclosed or covered with tarpaulin at all times when practicable to restrict the escape of dust;
- At the main site traffic exit, a wheel wash facility will be installed. All trucks leaving the Site must pass through the wheel wash. In addition, public roads outside the site will be regularly inspected for cleanliness, as a minimum on a daily basis, and cleaned as necessary; and
- Exhaust emissions from vehicles and machinery will be minimised by avoidance of engines running unnecessarily as idle engines will not be permitted for excessive periods.

#### 9.6.1.2 Operational Phase

It has been determined that the Operational Phase air quality impact is negligible and therefore no site-specific mitigation measures are proposed.

#### 9.6.2 Climate

As negative climatic impacts associated with the Construction and Operational Phases of the Proposed Development are negligible, no mitigation measures are proposed. Best practice measures will be implemented to minimise exhaust emissions from construction

and operational vehicles and machinery by avoidance of engines running unnecessarily, as idle engines will not be permitted for excessive periods.

### 9.6.3 “Worst Case” Scenario

A worst-case scenario has been applied to the Construction Phase air quality assessment in terms of scale of the source and potential dust nuisances by considering the Proposed Development ‘major’ in scale. Therefore, it has been assumed that there is potential for significant dust soiling 100m from the Site as per Table 9.2.

It is expected that adequate mitigation measures, as outlined in Section 8.6.1.1, will assist in preventing nuisance dust from resulting in any significant effects. In the event of a failure of such measures, it is not considered that significant dust related effects will occur.

A worst-case scenario has been applied to the Operational Phase traffic emissions assessment in terms of traffic volumes experienced on the surrounding road network and associated air emissions. The worst-case contributions predicted by the tool are added to the existing background concentration to provide a worst-case predicted ambient concentration. The compliance of the Proposed Development with the relevant ambient air quality standards is subsequently assessed by comparison with the worst-case ambient concentrations. Associated impacts have been determined as negligible in this case.

## 9.7 Residual Impacts

The traffic generated by the Proposed Development has been assessed for its impact on air quality and the impact has overall been determined to not be significant impact in terms of local air quality for both the Construction and Operational Phases with the implementation of the proposed mitigation measures. Furthermore, it is considered that the effects of the Proposed Development on climate is considered to be not significant for both the Construction and Operational Phases. Therefore, no significant adverse residual impacts are anticipated from the proposed scheme in the context of air quality and climate during both the Construction and Operational Phases.

## 9.8 Monitoring

The monitoring of construction dust during the Construction Phase of the Proposed Development is recommended to ensure that impacts are not experienced beyond the Site boundary. Monitoring of dust can be carried out by using the Bergerhoff Method. This involves placing Bergerhoff Dust Deposit Gauges at strategic locations along the Site boundaries for a period of 30 +/- 2 days. The selection of sampling point locations should be carried out in consideration of the requirements of VDI 2119 with respect to the location of the samplers relative to buildings and other obstructions, height above ground, and sample collection and analysis procedures. After the exposure period is complete, the Gauges should be removed from the Site; the dust deposits in each Gauge will then be determined gravimetrically and expressed as a dust deposition rate in mg/m<sup>2</sup>/day in accordance with the relevant standard.

Due to the negligible impact on air quality and climate from the Operational Phase of the Proposed Development, no specific monitoring is recommended.

## 9.9 Interactions

Interactions between Air Quality and Climate and other aspects of this Environmental Impact Assessment Report have been considered and are detailed below.

#### **9.9.1 Population and Human Health**

Interactions between Air Quality and Population and Human Health have been considered as the Proposed Development has the potential to cause health issues as a result of impacts on air quality from dust nuisances and potential traffic derived pollutants. However, the mitigation measures employed at the Proposed Development will ensure that all impacts are compliant with ambient air quality standards and human health will not be affected. Furthermore, traffic-related pollutants have been assessed and the impact has been overall been determined to not be significant, therefore air quality impacts from the Proposed Development are not expected to have a likely significant effect on population and human health.

#### **9.9.2 Traffic**

There can be a significant interaction between air quality, climate and traffic. This is due to traffic-related pollutants that may arise. In the current assessment, traffic derived pollutants which may affect Air Quality and Climate have been deemed as not significant. Therefore, the impact of the interaction between traffic and air quality and climate is not significant.

#### **9.9.3 Biodiversity**

Interactions between Air Quality and Biodiversity have been considered as the Construction Phase has the potential to interact with flora and fauna in adjacent habitats and designated sites due to dust emissions arising from the construction works. However, the mitigation measures employed at the Proposed Development will ensure that the impacts to flora and fauna are not significant.

#### **9.10 Difficulties Encountered when Compiling**

No difficulties have been encountered while compiling this chapter.

#### **9.11 References**

- Air Pollution Act 2012 (S.I. No. 326 of 2012) Irish Statute Book.
- Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011) Irish Statute Book.
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Met Eireann (2023) Monthly Meteorological Data for Mullingar ASynoptic Weather Station.

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UK Highways Agency (2019) UK Design Manual for Roads and Bridges (DMRB), Volume 11, Environmental Assessment, Section 3 Environmental Assessment Techniques, Part 1 LA 105 Air Quality.

United Nations Framework Convention on Climate Change (1998) Kyoto Protocol to the UNFCCC.

United Nations Framework Convention on Climate Change (2012) The Doha Amendment to the Kyoto Protocol.

United Nations Framework Convention on Climate Change (2015) The Paris Agreement.

## 10 NOISE AND VIBRATION

### Executive Summary

Noise impacts associated with the proposed development has been considered in terms of the following:

- Design in order to protect future occupants from external noise.
- Construction phase impacts on existing residential dwellings.
- Additional traffic once the scheme is opened.

Design goals were set to ensure compliance with the County Westmeath Noise Action Plan. Various national and international guidance were used to define suitable acceptable noise criteria and information of the ambient acoustic environment was derived from Strategic Noise Maps and a comprehensive noise monitoring programme.

The main observations were:

- Construction noise and vibration levels would not exceeded the adopted criteria.
- Traffic associated with the scheme would not increase existing noise level perceptibly.
- Upgraded glazing and vents to some road-facing facades are recommended.

### 10.1 Introduction

The Cornamaddy site is located approximately 2km to the northeast of Athlone Town centre in the County of Westmeath and is on the western side of the N55 national secondary route.

The noise and vibration impact during both the construction and operational phases of the development is identified and assessed. The construction phase will likely result in increased levels for a relatively short period whereas a small increase in traffic volumes associated with the development is likely to be the only impact source once operational. The acoustic design considers the external noise levels for day and night periods and the effectiveness of the building's design to meet the required internal noise criteria.

This assessment was prepared in accordance with the EIA Directive 2014/52/EC, current EPA guidelines and best practice.

### 10.2 Statement of Authority

This chapter has been prepared by the following staff of Enfonc Ltd:

Gary Duffy, BEng, MIOA (Principal Consultant) is the managing director of Enfonc with over 25 years' experience as an acoustic engineer and consultant. He has extensive knowledge in the field of noise measurement, prediction, and impact assessment. He co-wrote the EPA's original guidance note on noise and represented the IOA on the technical advisory committee of the Department of the Environment's revision of Part E (Sound Insulation) of the Building Regulations. He is a founder member of the Irish branch of the Institute of Acoustics and a sitting member of the current committee

David Courtney, BEng, AMIOA (Consultant) qualified with IOA Diploma in Acoustics and Noise Control (2019) & Certificate in Environmental Noise Measurements (2017). He undertakes all types of noise and vibration surveys in relation to wind turbines planning and compliance, IPPC & IE compliance, BS4142, BS5228 and BS8233 assessments, traffic noise, construction, building acoustics and occupational assessments.

### 10.3 Guidelines and Methodology

This assessment has been prepared in accordance with appropriate national and international guidance including the following:

- BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites - Part 1 – Noise.
- BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites - Part 2 -Vibration.
- Treatment of Noise and Vibration in National Road Schemes Good Practice Guidance for the Treatment of Noise during the Planning of National Road Schemes 2014 (TII)
- Westmeath Noise Action Plan 2018-2023
- BS 7385-2:1993 Guide for measurement of vibrations and evaluation of their effects on buildings.
- World Health Organisation (WHO) Environmental Noise Guidelines for the European Region (2018).
- BS 8233:2014 Guidance on Sound Insulation and Noise Reduction for Buildings.
- ProPG: Professional Practice Guidance on Planning & Noise. New Residential Development. May 2017.
- EPA Advice Notes for Preparing Environmental Impact Statements (2022)
- EPA Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)
- ISO 1996: 2017: Acoustics - Description, Measurement and Assessment of Environmental Noise.

The study has been undertaken using the following methodology:

- Baseline Noise monitoring and an Environmental Noise Survey has been undertaken across the development area to quantify the range of noise levels.
- A review of the most applicable standards and guidelines has been conducted to set a range of acceptable noise and vibration criteria for the construction and operational phases of the proposed development.
- Predictive calculations have been performed to estimate the likely noise and vibration emissions during the construction phase of the project at the nearest sensitive locations (NSLs) to the site.
- Predictive calculations have been performed to assess the potential impacts associated with the development.
- An Acoustic Design Statement has been prepared setting out the required acoustic performance of the building façades.

#### 10.3.1 Noise Sensitive Location

The assessment criteria will apply to Noise Sensitive Locations (NSLs), the definition of which is given in the EPA NG4 document as:

“any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other facility or other area of high amenity which for its proper enjoyment requires the absence of noise at nuisance levels.”

#### 10.3.2 Construction Phase – Assessment Criteria (Noise)

There is no published statutory Irish guidance relating to the maximum permissible noise level that may be generated during the construction phase of a project.

To set appropriate construction noise limits for the development site, reference has been made to BS 5228 - 1:2009 +A1 2014 Code of practice for noise and vibration control on construction and open sites - Noise. This provides basic information on the prediction and measurement of noise from construction sites and operations such as mines and quarries. It also includes a large database of source noise levels for commonly used equipment and activities on construction sites.

The standard provides guidance on the 'threshold of significant effect' in respect of noise impact at dwellings. One suggested method for determining threshold noise levels is known as the 'ABC method'. This involves measuring existing ambient noise levels at noise sensitive locations and categorising them A, B or C accordingly, with the relevant threshold level derived from the category as set out in Table 10.1.

Assessment category and threshold value period ( $L_{Aeq}$ )	Threshold value, in decibels (dB)		
	Category A <sup>A)</sup>	Category B <sup>B)</sup>	Category C <sup>C)</sup>
Night-time (23.00–07.00)	45	50	55
Evenings and weekends <sup>D)</sup>	55	60	65
Daytime (07.00–19.00) and Saturdays (07.00–13.00)	65	70	75
<p>NOTE 1 A significant effect has been deemed to occur if the total <math>L_{Aeq}</math> noise level, including construction, exceeds the threshold level for the Category appropriate to the ambient noise level.</p> <p>NOTE 2 If the ambient noise level exceeds the threshold values given in the table (i.e. the ambient noise level is higher than the above values), then a significant effect is deemed to occur if the total <math>L_{Aeq}</math> noise level for the period increases by more than 3 dB due to construction activity.</p> <p>NOTE 3 Applied to residential receptors only.</p>			
A)	Category A: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are less than these values.		
B)	Category B: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are the same as category A values.		
C)	Category C: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are higher than category A values.		
D)	19.00–23.00 weekdays, 13.00–23.00 Saturdays and 07.00–23.00 Sundays.		

Table 10.1. BS 5228 - Example of significant effect at dwellings

In general, the noise impact due to the construction phase will be from the specific items of plant used, the duration and phasing of the construction methods, the time of day that each plant will be used and their location.

At this stage of the planning for the proposed development however, a definitive construction plan is not yet formalised. Typically, a worse-case scenario is adopted whereby the plant associated for each phase e.g., site preparations, demolition, piling, general construction etc, is assumed to operate simultaneously. This can then inform the construction management plan and be refined as required.

### 10.3.3 NRA/TII Guidelines

#### 10.3.3.1 Noise

The National Roads Authority (now TII) publication Good Practice Guidance for the Treatment of Noise during the Planning of National Road Schemes 2014 contains information on the permissible construction noise levels for various hours of operation. The noise level limits are similar to BS5228 and are outlined in Table 10.2.

Period	Noise Levels	
	$L_{Aeq(1hr)}$	$L_{AFmax}$
Monday to Friday 07:00 to 19:00hrs	70	80
Monday to Friday 19:00 to 22:00hrs	60*	65*
Saturdays 08:00 to 16:30hrs	65	75
Sundays & Bank Holidays 08:00 to 16:30hrs	60	65*
dB re. $2 \times 10^{-5} Pa$		
* Construction activity at these times, other than that required for emergency works, will normally require the explicit permission of the relevant local authority.		

Table 10.21. Maximum permissible noise levels at the façade of dwellings during construction.

It is appropriate to use these criteria to control construction noise from the proposed development.

#### 10.3.3.2 Vibration

The TII Guidance goes on to recommend that vibration levels are limited to the values set out in Table 10.3 to prevent cosmetic or structural damage to buildings.

Allowable vibration velocity (Peak Particle Velocity) at the closest part of any sensitive property to the source of vibration, at a frequency of:		
Less than 10Hz	10 to 50Hz	50 to 100Hz (and above)
8 mm/s	12.5 mm/s	20 mm/s

Table 10.3.. Summary of TII recommended construction vibration limits.

It is appropriate to use these criteria to control construction vibration from the proposed development. It is also appropriate to use these criteria for the assessment of vibration from passing trains.

#### 10.3.4 County Westmeath Noise Action Plan 2018-2023

The objectives of the County Westmeath Noise Action Plan are to avoid, prevent and reduce, where necessary, on a prioritised basis the harmful effects, including annoyance, due to long term exposure to environmental noise and following a balanced approach in the context of sustainable development. This will be achieved by taking a strategic approach to managing environmental noise and following a balanced approach in the context of sustainable development.

The action plan is concerned with noise in the vicinity of major roads, the levels of which are indicated by strategic noise maps. The guideline values of 70 dB Lden and 57 dB Lnight were used as a preliminary indicator of the need for noise assessment and possible mitigation activity.

It is the goal of Westmeath County Council to adopt a strategic approach to the management of environmental noise with a view to preventing and reducing environmental noise in priority areas and limit noise levels where they are considered harmful and protect quiet areas. The Council will aim to promote a high level of protection and environmental health in County Westmeath.

Specifically in relation to the proposed development; Westmeath County Council will consider using the Planning Process, where necessary:

- To integrate noise planning guidelines into planning processes to ensure that new developments take cognisance of noise pollution and noise mitigation.
- To ensure that future developments are designed and constructed in such a way as to minimise noise disturbances.

#### 10.3.5 Traffic

There are no external plant associated with the development and therefore an increase in road traffic has been identified as the only likely source of noise during the operational phase of the scheme. The most appropriate criteria for assessing disturbance or annoyance from noise arising from the site would be related to the significance of perceived changes in noise levels.

The Institute of Environmental Management and Assessment's (IEMA) 'Guidelines for Noise Impact Assessment' gives appropriate impacts which have been summarised with relevant guidance in Table 10.4.

Change in Noise Level (dB)	Subjective Reaction	Magnitude of Impact	EPA Glossary of Effects
0	No change	None	Imperceptible
0.1 to 2.9	Barely perceptible	Minor	Slight
3.0 to 4.9	Noticeable	Moderate	Moderate



5.0 to 9.9	Up to a doubling of loudness	Substantial	Significant
10+	More than a doubling of loudness	Major	Profound

Table 10.22. Summary of appropriate impact for changes in traffic noise levels.

A change in traffic noise of less than 2dBA is generally not noticeable to the human ear whilst a change of 3dBA is generally considered to be just perceptible. Changes in noise levels of 3 to 5 dBA would however be noticeable and, depending on the final noise level, there may be a slight or moderate noise impact. Changes in noise level in excess of 6dBA would be clearly noticeable, and depending on the final noise level, the impact may be moderate or significant.

The UK Design Manual for Roads and Bridges (DMRB, Volume 11, Section 3, Part 7) states that a change in noise level of 1dB LA10,18h is equivalent to a 25% increase or a 20% decrease in traffic flow, assuming other factors remain unchanged and a change in noise level of 3dB LA10,18h is equivalent to a 100% increase or a 50% decrease in traffic flow.

#### 10.3.6 WHO Guidelines

The World Health Organisation (WHO) in their 2018 publication entitled Environmental Noise Guidelines for the European Region has proposed new guidelines for community noise. In this guidance, a Lden threshold daytime noise limit of 53dB is suggested to protect against adverse health effects. Night Levels of 45dB or less are proposed at night-time to protect against adverse effects on sleep.

#### 10.3.7 BS 8233:2014

To assess the building envelope design, it is appropriate follow the guidance set out in BS 8233:2014 Guidance on sound insulation and noise reduction for buildings which is concerned with noise ingress into dwellings.

The recommended levels for indoor ambient noise in residential dwellings is summarised in Table 10.5.

Activity	Location	07:00 – 23:00 hours	23:00 – 07:00 hours
Resting	Living room	L <sub>Aeq,16hr</sub> 35dB	-
Dining	Dining room/area	L <sub>Aeq,16hr</sub> 40dB	-
Sleeping (daytime resting)	Bedroom	L <sub>Aeq,16hr</sub> 35dB	L <sub>Aeq,8hr</sub> 30dB L <sub>AFMax,8hr</sub> 45 <sup>1</sup> dB
1“For a good sleep, it is believed that indoor sound pressure levels should not exceed approximately 45 dB L <sub>AFmax</sub> more than 10-15 times per night”			

Table 10.23. BS 8233:2014 Recommended internal noise limits.

#### 10.3.8 ProPG

An Acoustic Design Statement methodology is set out in the Professional Practice Guidance on Planning and Noise (ProPG) which focuses on the adoption of Good Acoustic Design for dwellings when required as a result of high external noise levels.

ProPG also provides guidance on flexibility of the internal noise level targets set out in BS8233:2014. For instance, in cases where the development is considered necessary or desirable, then a relaxation of the internal LAeq values by up to 5dB can still provide reasonable internal conditions.

It also provides the following guidance regarding external noise levels for amenity areas in the development:

“The acoustic environment of external amenity areas that are an intrinsic part of the overall design should always be assessed and noise levels should ideally not be above the range 50-55dB LAeq,16hr.”

In addition, it offers flexibility on the amenity noise targets provided that residents have access to a quiet recreational environment.

### 10.3.9 Significance of Effects

The criteria for determining the significance of impacts and the effects used in this report are in line with the EPA Guidelines (Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports 2017).

The EPA guidelines do not quantify the impacts in decibel terms. In absence of such information, reference is made to “Guidelines for Environmental Noise Impact Assessment” from the Institute of Environmental Management and Assessment (IEMA), 2014.

Table 10.6 presents the degree of effect matrix from the IEMA guidelines and Table 10.7 presents the effect descriptions.

Magnitude / Scale of Change	Sensitivity of Receptor			
	High	Medium	Low	Negligible
Large	Very Substantial	Substantial	Moderate	None
Medium	Substantial	Substantial	Moderate	None
Small	Moderate	Moderate	Slight	None
Negligible	None	None	None	None

Table 10.6. Degree of Effect Matrix (IEMA, 2014)

Effect	Description
Very Substantial	Greater than 10 dB LAeq change in sound level perceived at a receptor of great sensitive to noise
Substantial	Greater than 5 dB LAeq change in sound level at a noise-sensitive receptor, or to a 5 to 9.9 dB LAeq change in sound level at a receptor of great sensitivity to noise

Moderate	A 3 to 4.9 dB LAeq change in sound level at a sensitive or highly sensitive noise receptor, or a greater than 5 dB LAeq change in sound level at a receptor of some sensitivity
Slight	A 3 to 4.9 dB LAeq change in sound level at a receptor of some sensitivity
None/Not Significant	Less than 2.9dB LAeq change in sound level and/or all receptors are of negligible sensitivity to noise or marginal to the zone of influence of the proposals.

Table 10. 24. Effect Descriptions (IMEA, 2014)

For this assessment, it has been assumed that dwellings have high sensitivity. Table 10.8 presents the impact scale adopted in this assessment as well as the corresponding significance of impact based on definitions the EPA guidance.

Noise Level change dB(A)	IEMA Guidelines	EPAs Significance of Effects
Less than 2.9	None/Not significant	Imperceptible
		Not Significant
3.0 – 4.9	Slight	Slight Effects
	Moderate	Moderate Effects
5.0 – 9.9	Substantial	Significant Effects
Greater than 10.0 dB	Very Substantial	Very Significant
		Profound Effects

Table 10.25. Effects Descriptions (IMEA-2014 and EPA-2017)

### 10.3.10 Guidance Summary

In summary, noise and vibration criteria adopted in this report are set out in Table 10.9.

Activity	Metric	Guidance	Criteria
Construction:			
Noise	L <sub>Aeq</sub>	BS5228	65-75dB Daytime
Vibration	PPV	TII	8-20mm/s
Dwellings:			
Bedroom	L <sub>Aeq</sub>	BS 8233	35dB Daytime

			30dB Night-time
	$L_{AFMax,8hr}$		45dB Night-time
Living Room	$L_{Aeq}$		35dB Daytime
Amenity Space	$L_{Aeq}$	ProPG	55dB Daytime
Operational:			
Traffic	$L_{Aeq}$	DMRB	$\Delta dB$

Table 10.26. Summary of noise criterion.

## 10.4 Receiving Environment

### 10.4.1 Development Description

The development will comprise of a residential development and public open space comprising the following: Construction of 177 no. residential units on a gross site area of 7.31 ha ranging in height from 2-3 storeys comprising detached, semi-detached, and terraced houses, maisonettes and 3 storey duplex apartments. 65 no. 2 bed houses, 71 no. 3 bed houses and 9 no. 4 bed houses will be provided. 24 no. 1 bed maisonette apartment units and 8 no. 3 storey duplex apartment units will be provided.

All associated private open space in the form of gardens/terraces. All pedestrian and vehicular access roads and footpaths including a section of the planned east/west distributor road connecting to a section of the distributor road permitted under WMCC Reg. Refs 14/7103/ ABP Ref. PL25.244826 and 22/253 and proposed under concurrent application WMCC Reg. Ref. 22/577 to the south east of the site. The proposed development includes amendments to permissions granted within the applicants landholding at Cornamaddy as follows: Minor modifications to the internal access road layout and open space permitted under WMCC Ref. 22/253 and minor modifications to a section of the distributor road proposed under concurrent application WMCC Ref. 22/577. Minor modifications to the road permitted for access to the creche facility granted under WMCC Reg. Ref. 22/340 to provide turning heads and access to parking associated with the proposed duplex units. Minor modifications to the rear private gardens of units no's. 061, 062 and 063 permitted under WMCC Ref. 22/253 to provide additional private open space. All associated site development works, services provision, drainage works, zoned open space/linear park (c.1.09ha), residential public open space areas (c.0.82ha in total), landscaping, communal open space serving the duplex apartments (c.0.02ha), landscaping, boundary treatment works, public lighting, associated esb substation cabinets, bin stores and car and bicycle parking provision. This development will form part of a larger phase of permitted and proposed development. This planning application is accompanied by an Environmental Impact Assessment Report and Natura Impact Statement. The application is available for public viewing at the following website: [www.cornamaddyld.ie](http://www.cornamaddyld.ie)

The layout for this phase of the development is presented in Figure 10.1.

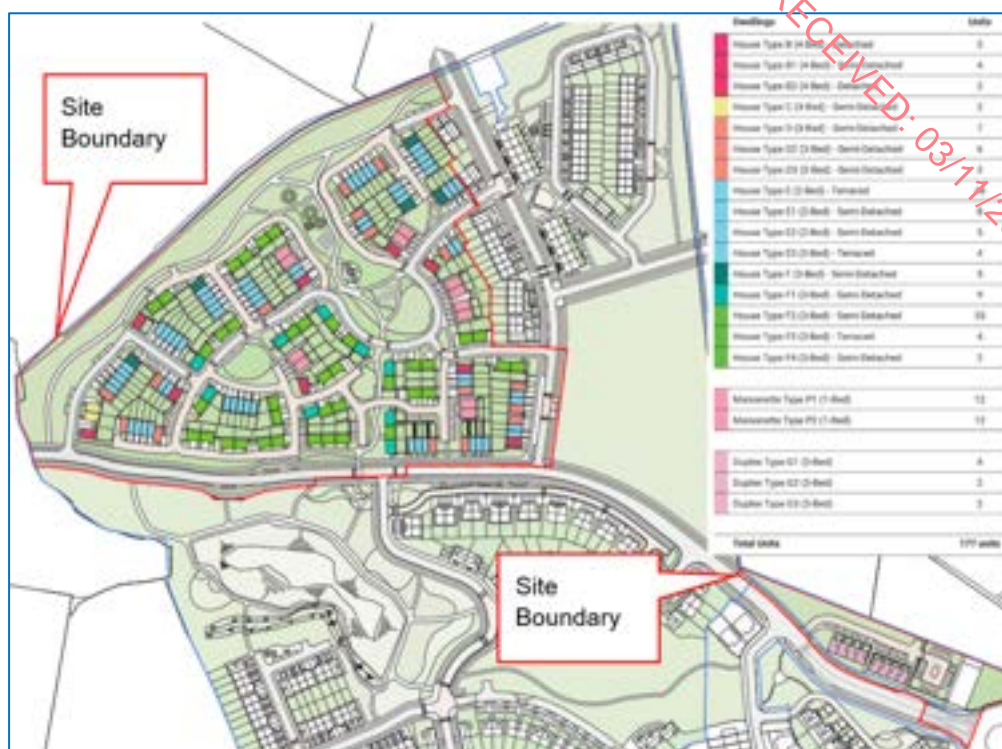






Figure 10.18. Monitoring Locations

The noise monitors were set to continuously log noise levels at 15-minute intervals between Oct 13-15, 2021. The weather conditions were dry and calm throughout.

The Sound Level Meters (SLMs) used were class 1 Bruel & Kjaer Type 2250s. Each SLM was calibrated prior to measurements and the sensitivity checked afterwards for any significant drift; none was found.

#### 10.4.3 Measurement Parameters

The noise survey results are presented in terms of the following parameters:

A-weighting	Frequency weighting scale to account for non-linear response of the human ear. Used so that the measured noise corresponds roughly to the overall level of noise that is discerned by the average human. Denoted by suffix A in parameters such as $L_{Aeq}$ , $L_{AF90}$ , etc.
$L_{Aeq, T}$	Equivalent continuous A-weighted sound pressure level. The value of the sound pressure level in decibels of continuous steady sound that, within a specified time interval, $T = t_2 - t_1$ , has the same mean-squared sound pressure as a sound that varies with time. Often described as the 'average' noise level.
$L_{AF90}$	The noise level exceeded for 90% of the measurement period, A-weighted and calculated by Statistical Analysis. Often used as a measure of background noise as it 'filters' the impact of individual noise events like passing vehicles.



A full glossary of acoustic terminology can be found at: <https://www.acoustic-glossary.co.uk/definitions-l.htm>

The measured noise data was subsequently compiled into average values for Daytime (07:00 – 23:00), Night-time (23:00 – 07:00), AM peak (08:00 – 09:00) and PM peak (17:00 – 18:00) periods for the purposes of comparison with the design criteria.

#### 10.4.4 Survey Results

The survey was conducted with the current and previous phases of the Cornamaddy development in mind. For phase 4 the results from NML North are the most appropriate and are reported herein. The results are given in Table 10.10.

Location	L <sub>Aeq</sub> (dB)	L <sub>A90</sub> (dB)	Period	Dominant Noise Source(s)
NML North	46	42	Daytime	Road Traffic Noise from the N55.
	39	32	Night-time	
dB re. 2x10 <sup>-5</sup> Pa				

Table 10.27. Summary of noise monitoring results.

The noise parameters above are used to assess the impact of various aspects of the development in line with the appropriate guidelines as follows:

- Operation traffic: Average LAeq for AM and PM Peak periods taken from the measured data.
- Construction noise: Daytime Ambient LAeq i.e. 46dB
- Noise ingress: Maximum LAeq i.e. 46dB (day), 39dB (night)

### 10.5 Impact Assessment

The potential noise and vibration impacts associated with the construction and operational phases of the proposed development are discussed in the following sections.

#### 10.5.1 Construction Phase

##### 10.5.1.1 Noise Limits

The expected operational times of the construction site are: 08:00 – 19:00 Mon-Fri. Following a review of the baseline noise survey results in Table 10 and the criteria detailed in Table 1, the appropriate noise limit at NSLs for construction noise are given in Table 10.11.

Ambient Noise Level Rounded to Nearest 5dB L <sub>Aeq</sub>	BS 5228-1 Category	Construction Noise Threshold Value (L <sub>Aeq,T</sub> )
50dB	A	65dB
50dB	A	65dB

Table 10.28. Defined Construction Noise Thresholds

### 10.5.1.2 Construction Plan & Site Noise Limits

In the absence of specific construction information regarding the construction schedule, construction noise impacts cannot be fully quantified at this point. However, as a working hypothesis the assessment will assume phases of typical construction operations and associated plant.

BS 5228 provides details of plant items and their associated noise levels that are anticipated for various phases of a typical construction programme. Noise levels are generally given at a distance of 10m from the item of plant.

A Construction Environmental Management Plan (CEMP) has yet to be drafted but as a working hypothesis the impact of assumed typical construction phases of work has been assessed.

Not all plant will operate simultaneously, and further guidance in BS 5228 provides for the calculation of Activity  $L_{Aeq}$ <sup>9</sup> which has been calculated as: -26dB for this site.

Table 10.12 outlines the assumed plant items and associated noise levels and compares these to the criteria from Table 10.11.

Activity	Item of Plant (BS5228 Ref)	Total Noise Level @10m
Site Preparation (Phase 1)	Wheeled loader - 52kW (D3.3)	74
	Tracked loader 56kW (D3.17)	85
	Dozer - 239kW (D3.27)	81
	Grader - 168kW (D3.75)	84
	Tipper Lorry - 75kW (D3.112)	85
	Activity Correction:	-26
Total:		64
65dB Limit exceeded?		No
General Construction (Phase 2)	Dump Truck -29t (C2.30)	79
	Tracked excavator 22t (C2.21)	71
	Compressor (D7.08)	70
	Telescopic Handler -4t (C4.54)	79
	Diesel Generator (C4.76)	61

<sup>9</sup> F.2.2 Method for activity  $L_{Aeq}$

	Activity Correction:	-26
	Total:	57
	65dB Limit exceeded?	No
Roadworks / Landscaping (Phase 3)	Asphalt Paver & Tipping Lorry 112 Kw (C5.30)	75
	Electric Water Pump - 15kW (C5.40)	68
	Vibratory Roller -89kW (C5.20)	75
	Activity Correction:	-26
	Total:	52
	65dB Limit exceeded?	No
dB re. $2 \times 10^{-5} \text{Pa}$		

Table 10.29. Predicted noise levels at 10m from construction plant.

The calculated total noise levels above assume all sources operate simultaneously. In reality this will likely not be the case with a subsequent reduction in the noise levels expected.

The assessment indicates that the criteria will be met at almost all of the nearby existing residential locations. However, the criterion may not be met for short periods of time during the site preparation phase at the few dwellings immediately adjacent to the site. When the CEMP is drafted it will set the appropriate noise criteria above and include guidance from BS 5228 to manage and control the noise sources so that the criteria is satisfied. Section 4.1.5 below sets out appropriate mitigation measures that may be included in the CEMP.

The construction phase noise impact is therefore expected to be negative, moderate and short-term.

#### 10.5.1.2 Construction Phase – Vibration

BS 5228-2:2009 Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration provides empirical vibration levels from various activities. Without a detailed construction plan it is prudent to assess the likely vibration levels at the nearby dwellings from the most severe activities as set out in Table 10.12 as all other sources of vibration will be below this level.

A review of the predicted vibration levels from the typical construction programme set out above, indicates that the resultant vibration levels at noise sensitive locations are expected to be well below a level that would cause disturbance to building occupants and there is also no risk of building damage.

The construction phase vibration impact is therefore expected to be **neutral** and **imperceptible**.

### 10.5.1.3 Construction Phase – Traffic Noise

Consideration should also be given to the addition of construction traffic along the site access routes. Access to the development site for construction traffic will be via the N55 and the Drumaconn/Cornamaddy Distributor Road. The lowest existing  $L_{Aeq}$  noise level was measured as 46dB from Table 10.10.

It is possible to calculate the noise levels associated with passing vehicles using the following formula:

$$L_{Aeq,T} = L_{AX} + 10\log_{10}(N) - 10\log_{10}(T) + 10\log_{10}(r_1/r_2) \text{ dB}$$

Where:

$L_{Aeq,T}$  is the equivalent continuous sound level over the time period T seconds.

$L_{AX}$  is the "A-weighted" Sound Exposure Level of the event considered (dB).

N is the number of events over the course of time period T.

$r_1$  is the distance at which  $L_{AX}$  is expressed.

$r_2$  is the distance to the assessment location

The mean value of  $L_{AX}$  for truck moving at low to moderate speeds (i.e., 15 to 45km/hr) is of the order of 82dB at a distance of 5 metres from the vehicle. The distance from the façade of the nearest dwelling along the site access route is c50m.

It has been calculated that a maximum of 12 trucks per hour will result in a noise level at or below the existing level which will result in an imperceptible increase in noise levels at the dwelling. This is considerably below the number of truck movements expected during the construction phase.

The existing daytime noise environment is dominated by road traffic and the noise generated by construction traffic is not expected to change the character of the existing noise environment significantly.

Any impact is therefore expected to be neutral and imperceptible.

### 10.5.1.4 Ameliorative, Remedial or Reductive Measures

The impact assessment conducted for the construction activity during the construction phase has highlighted that the predicted construction noise levels are within the adopted criterion for almost all NSLs. However, the following mitigation measures may be considered during certain construction activities in order to further reduce the noise and vibration impact to nearby noise sensitive areas.

As part of these mitigation measures it is recommended that the Contractor should compile a Construction Environmental Management Plan (CEMP) which will deal specifically with management processes and strategic mitigation measures to remove or reduce significant noise and vibration impacts, and cumulative noise and vibration impacts from the construction works. The Plan will also define noise and vibration monitoring and reporting. The CEMP will also include method statements for each phase of the works, the associated specific measures to minimise noise and vibration in so far as is reasonably practicable for the specific works covered by each plan and a detailed appraisal of the resultant construction noise and vibration generated.

The contractor will provide proactive community relations and will notify the public and vibration sensitive premises before the commencement of any works forecast to generate appreciable levels of noise or vibration, explaining the nature and duration of the works.

The contractor will distribute information circulars informing people of the progress of works and any likely periods of significant noise and vibration.

With regard to potential mitigation measures during construction activities, the standard planning condition typically issued by The Westmeath Noise Action Plan states:

*“In the case of other planning applications, a general requirement may be added such as ‘Noise is kept to a minimum, in so far as is practical’ during the construction phase of the development.”*

BS5228 includes guidance on several aspects of construction site mitigation measures, including, but not limited to:

- selection of quiet plant;
- control of noise sources;
- screening;
- hours of work;
- liaison with the public, and;
- monitoring.

Noise control measures that will be considered include the selection of quiet plant, enclosures, and screens around noise sources, limiting the hours of work and carrying out noise/vibration monitoring as required.

A suitable site hoarding would protect the residents immediately adjacent to the construction site.

## 10.5.2 Operational Phase

The operational phase of the development has been assessed with regard to Westmeath County Council in their role as designated Action Planning Authority under Article 7 of the Environmental Noise Regulations 2006.

### 10.5.2.1 Noise Sources

It is important to consider the noise sources associated with the operation of the development. There are no external mechanical plant servicing the development but there will be some increase to associated traffic. No significant sources of vibration are associated with the operational phase.

### 10.5.2.2 Associated Traffic Noise

It is appropriate to consider the increase in traffic noise level that may arise as a result of vehicular movements related to the development.

The trip rates which have been set out in the traffic impact assessment are used to predict the corresponding increase in noise levels. Trip rates are given in terms of AM peak (08:00 – 09:00) and PM peak (17:00 – 18:00) and the corresponding measured  $L_{Aeq}$  levels for these periods are 47.1dB and 42.7dB respectively.

The resultants increase in noise level associated with proposed development is give in Table 10.13.

Period	Existing Traffic Flows	Development Trip Rate	% Increase	Existing $L_{Aeq}$ noise level	Traffic Noise Increase

AM peak	1594	31	1.9	47.1dB	0.1dB
PM peak	1664	73	4.4	42.7dB	0.2dB

Table 10.30. Summary of traffic related noise increase

The predicted noise level increases of 0.1dB – 0.2dB are imperceptible. The Peak periods represent periods of maximum traffic flows therefore the impact outside of these periods will be less.

The traffic noise impact is therefore expected to be slight and long-term.

## 10.6 Building Envelope Specification

As part of a robust planning application, the acoustic design of the building envelope should consider the external noise levels with a view to achieving the internal design goals.

The façade of the building includes several critical elements including glazing, walls, ventilation and where appropriate the roof/ceiling. By calculating the combined effect of these it's possible to predict the internal noise level based on the known external levels for a given building design.

The acoustic performance of the individual building element is usually rated in terms of the Weighted Sound Reduction Index (Rw) which is a number used to rate the effectiveness of a soundproofing system or material. Increasing the Rw by one translated to a reduction of approximately 1dB in transmitted noise level. Therefore, the higher the Rw number, the better the sound insulation.

The Rw+Ctr parameter is a variation which should be used when the incident noise on the building is primarily from road traffic. It is therefore appropriate to use it here.

### 10.6.1 Acoustic Design Statement

By applying the guidelines in ProPG and BS8223, an Acoustic Design Statement (ADS) will provide the predicted interior noise levels based on the proposed construction and inform the building design. It will also present options to achieve the attenuation required should the predicted internal noise level exceed the required criteria.

The ADS does not consider the sound attenuation of internal elements such as walls and floor/ceiling or other acoustic topics; these are covered by Building Regulations, Technical Guidance Document, Part E.

### 10.6.2 Design Criteria

The daytime and night-time criteria are defined as  $L_{Aeq}$  noise levels over 16hrs and 8hrs respectively. A summary of the internal noise criteria is given in Table 10.14.

Period	Parameter	Internal Criteria (dB)
Daytime (07:00 – 23:00)	$L_{Aeq, 16hrs}$	35
Night-time (23:00 – 07:00)	$L_{Aeq, 8hrs}$	30



	L <sub>AFMax</sub>	45
"For a good sleep, it is believed that indoor sound pressure levels should not exceed approximately 45 dB L <sub>AFmax</sub> more than 10-15 times per night".		

Table 10.31. Summary of internal noise criteria.

### 10.6.3 Noise Propagation Model

The external façade levels are dependent on their orientation and proximity to the roads and a noise propagation model was created to plot façade noise levels across the site. The measured noise levels are used to 'calibrate' the noise levels at the measurement location from N55 traffic and estimates of traffic flows within the Cornamaddy site were used elsewhere. From the predicted levels the glazing and ventilator specifications can be derived to achieve the criteria.

The proprietary software used, Type 7810-C Predictor, calculates noise levels in accordance with ISO 9613:1996 Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation.

The resultant noise levels are calculated considering a range of factors affecting the propagation of the sound, including:

- The magnitude of the noise source in terms of road traffic flows in accordance with CRTN
- The distance between the source and the receiver
- The presence of obstacles such as buildings in the propagation path.
- Topography of the site and area
- The presence of reflecting surfaces
- The acoustic property of the intervening ground between the source and the receiver
- Attenuation due to atmospheric absorption

The results of the noise propagation model are used to assess façade noise levels and thus calculate glazing and ventilator acoustic performance to achieve the internal noise level criteria.

### 10.6.4 Glazing Specification

From the noise propagation model the incident façade noise levels for daytime and night-time periods were established. The most stringent criteria was found to be the daytime levels and the noise propagation contour plots together with a marked up the required glazing performance is given in Figure 10.3.

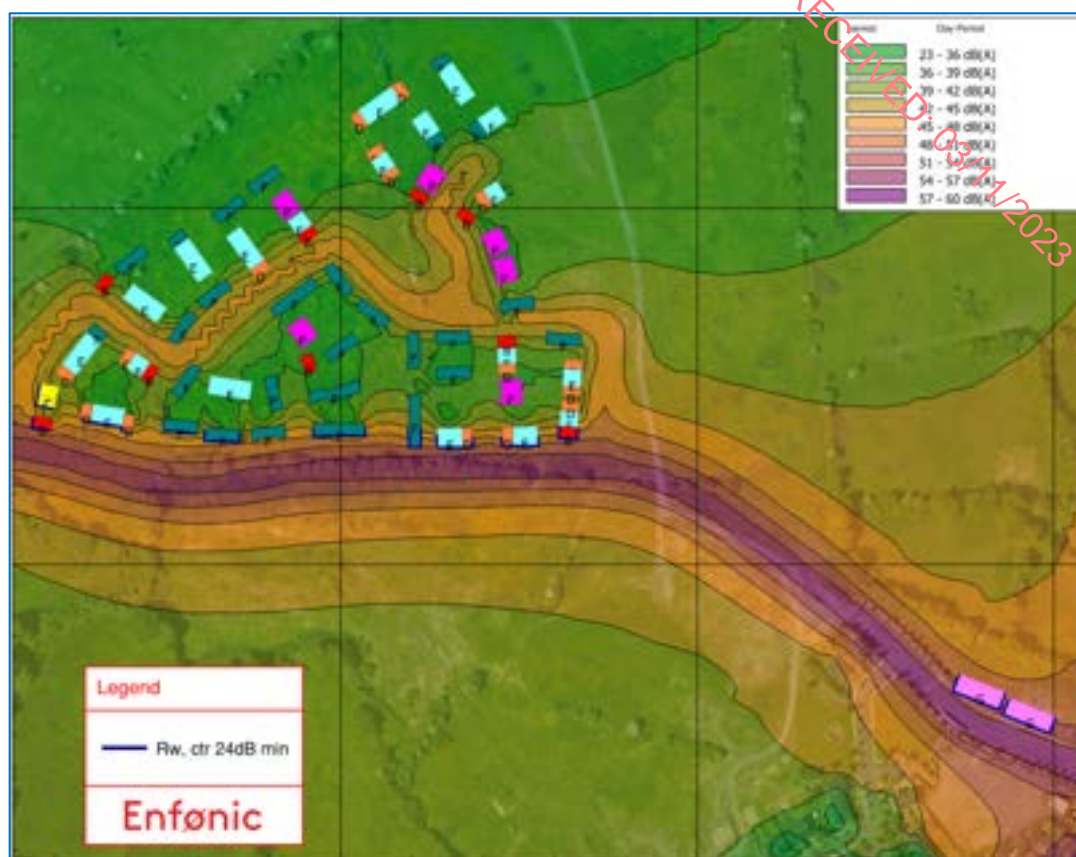


Figure 10.19. Noise Contour Plot and Marked-up Glazing Performance Specification.

It can be seen, the dominant source is the local road to the south of the site followed by the distributor roads internal to the proposed development.

Table 10.15 below sets out typical glazing for the marked-up façades illustrated above.

Minimum Required $R_{w, ctr}$	Glazing Unit	Typical Construction
24dB	Double	4 – 20 argon – 4
Assumed: Room volume = 45m <sup>3</sup> , Window area = 2.4m <sup>2</sup> , RT = 0.5s		

Table 10.32. Glazing acoustic performance for identified façades.

The required glazing performance of façades not marked up above will be achieved with any double-glazed unit.

#### 10.6.5 Windows open

Opening a window will compromise the acoustic performance of the façade but it is a desirable feature or necessary to provide purge ventilation. Following the ProPG/BS8233 guidelines, the performance of the façade with windows open should be considered initially.

The World Health Organisation (WHO) Environmental Noise Guidelines for European Region [2] document describes the typical reduction of an open window as being 15dB.

It was found that with an open window, the design goals will be satisfied at all façades.

#### **10.6.6 Ventilation**

Standard un-treated trickle ventilators into habitual rooms should be avoided for the marked-up facades above. Upgraded ventilators with a minimum  $D_{n,e,w}$  of 32dBA should be provided at the marked-up facades into habitable rooms

#### **10.6.7 Amenity areas**

Amenity areas consist of outdoor spaces associated with the dwellings. The predicted noise levels across the site are below the maximum criterion of 55dB set out in ProPG.

#### **10.6.8 Wall Construction**

In general, all wall constructions, i.e. block work or concrete, offer a high degree of sound insulation, much greater than that offered by the glazing or ventilation systems. Therefore, noise intrusion via the wall construction will be minimal.

The calculated internal noise levels across the building façade have assumed a minimum sound reduction index of 51dB  $R_w$  for this construction.

#### **10.6.9 Conclusion**

The relatively small amount of additional traffic associated with the development's operational phase will not give rise to a perceived increase in noise levels.

In addition, following the principles of Good Acoustic Design set out in ProPG, acceptable internal noise levels can be achieved by providing suitable glazing and ventilators at the effected dwellings.

## 11 LANDSCAPE AND VISUAL IMPACT ASSESSMENT

### 11.1 Introduction

This Landscape and Visual Impact Assessment (LVIA) describes the landscape at the location of the proposed development in Cornamaddy, Athlone, Co. Westmeath, and assesses the likely impacts of the proposed development on landscape and visual amenity. It was informed by a desktop study and site survey carried out in November 2022.

This chapter of the EIAR has been prepared by Declan O’Leary and Prithvi Gowda Lingaraju of Cunnane Stratton Reynolds Ltd (CSR), landscape architects and town planners.

Declan O’Leary holds B.Agr Sc. Land. Hort., Dip LA., CLI, MILI., Declan has over 30 years’ experience in the design and analysis of landscape and the impacts of change, including the preparation of landscape and visual impact assessments for Environmental Impact Assessment Reports.

Prithvi Gowda holds B.Arch., MScUD&P, CPM.Dip. Prithvi Gowda has over 5 years’ experience working in a multi-disciplinary role within landscape and planning teams and has been involved in the preparation of numerous landscape and visual impact assessments over that period.

### 11.2 Methodology

#### 11.2.1 Definition of Landscape

Ireland is a signatory to the European Landscape Convention (ELC). The ELC defines landscape as ‘an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors’. This definition is important in that it expands beyond the idea that landscape is only a matter of aesthetics and visual amenity. It encourages a focus on landscape as a resource in its own right - a shared resource providing a complex range of cultural, environmental and economic benefits to individuals and society.

As a cultural resource, the landscape functions as the setting for our day-to-day lives, also providing opportunities for recreation and aesthetic enjoyment and inspiration. It contributes to the sense of place experienced by individuals and communities and provides a link to the past as a record of historic socio-economic and environmental conditions.

As an environmental resource, the landscape provides habitat for fauna and flora. It receives, stores, conveys and cleans water; and vegetation in the landscape stores carbon and produces oxygen. As an economic resource, the landscape provides the raw materials and space for the production of food, materials (e.g. timber, aggregates) and energy (e.g. carbon-based fuels, wind, solar), living space and for recreation and tourism activities.

#### 11.2.2 Forces for Landscape Change

Landscape is not unchanging. Many different pressures have progressively altered familiar landscapes over time and will continue to do so in the future, creating new landscapes. For example, within the receiving environment, the environs of the proposed development have altered over the last thousand years, from wilderness to agriculture and settlement or townscape.

Many of the drivers of change arise from the requirement for development to meet the needs of a growing population and economy. The concept of sustainable development recognises that change must and will occur to meet the needs of the present, but that it should not compromise the ability of future generations to meet their needs. This involves finding an appropriate balance between economic, social and environmental forces and values.

The reversibility of change is an important consideration. If change must occur to meet a current need, can it be reversed to return the resource (in this case, the landscape) to its previous state to allow for development or management for future needs.

Climate change is one of the major factors likely to bring about future change in the landscape, and it is accepted to be the most serious long-term threat to the natural environment, as well as economic activity (particularly primary production) and society. The need for climate change mitigation and adaptation, including the management of water and more extreme weather and rainfall patterns, is part of this.

### 11.2.3 Guidance

LVIA is a tool used to identify and assess the significance of and the effects of change resulting from development on both the landscape as an environmental resource in its own right and on people's views and visual amenity.

The methodology for assessment of the landscape and visual effects is informed by the following key guidance documents, namely:

Guidelines for Landscape and Visual Impact Assessment, 3rd Edition 2013, published by the UK Landscape Institute and the Institute of Environmental Management and Assessment (hereafter referred to as the 'GLVIA');

Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, 2022, published by the Environmental Protection Agency (hereafter referred to as the 'EPA guidelines');

Westmeath County Development Plan 2021-2027;

Athlone Town Development Plan 2014-2020; and

Cornamaddy Action Area Plan, 2004.

The GLVIA (3rd Edition) outlines the assessment process, which combines judgements on the sensitivity of the resource and the magnitude of the change which it will undergo as a result of the proposed development. These are then combined to reach an assessment of the importance (or significance) of the effect. This guidance is authored by the Landscape Institute in the UK and the IEMA which contains a network of members in UK and Ireland and internationally. The guidance was prepared within the parameters of relevant EU directives at the time and is updated where necessary by Landscape Institute bulletins online. The GLVIA 3rd edition is used internationally and is the industry standard for LVIA in Ireland.

The EPA guidance (2022) refers to the use of topic specific guidance and specifically references the GLVIA 3 in relation to professional judgement. 3.7.2 Documenting the Process recognises that:

*“Some uncertainty is unavoidable in EIA, especially about matters that involve an element of judgement, such as assigning a level of significance to an effect. Such judgements should be explicit and substantiated rather than presented as objective fact. This is best done using agreed referable approaches, e.g. the Guidelines on Landscape and Visual Impacts Assessment provide guidance on what constitutes a severe visual effect”.*

#### **11.2.4 Key Principles of the GLVIA**

The GLVIA advises that the terms ‘impact’ and ‘effect’ should be clearly distinguished and consistently used in the preparation of an LVIA. ‘Impact’ is defined as the action being taken. In the case of the proposed development, the impact would include the construction of the buildings and associated boundaries and external areas. ‘Effect’ is defined as the change or changes resulting from those actions, e.g. a change in landscape character, or changes to the composition, character and quality of views in the receiving environment. This report focusses on these effects.

#### **11.2.5 Assessment of both ‘Landscape’ and ‘Visual’ Effects**

Another key distinction to make in a LVIA is that between landscape effects and the visual effects of development.

‘Landscape’ results from the interplay between the physical, natural and cultural components of our surroundings. Different combinations of these elements and their spatial distribution create distinctive character of landscape in different places. ‘Landscape character assessment’ is the method used in LVIA to describe landscape, and by which to understand the potential effects of a development on the landscape as ‘a resource’. Character is not just about the physical elements and features that make up a landscape, but also embraces the aesthetic, perceptual and experiential aspects of landscape that make a place distinctive.

‘Views’ and ‘visual amenity’ refer to the interrelationship between people and the landscape. The GLVIA prescribes that effects on views and visual amenity should be assessed separately from landscape, although the two topics are inherently linked. Visual assessment is concerned with changes that arise in the composition of available views, the response of people to these changes and the overall effects on the area’s visual amenity.

#### **11.2.6 Methodology for Landscape Assessment**

In Section 11.8 of this Chapter, the landscape effects of the proposed development are assessed. The nature and scale of changes to the landscape elements and characteristics are identified, and the consequential effect on landscape character and value are discussed. Trends of change in the landscape are taken into account. The assessment of significance of the effects takes account of the sensitivity of the landscape resource and the magnitude of change to the landscape which resulted from the development.

Definitions and descriptions of sensitivity, magnitude of change and quality and longevity of effects are derived from the GLVIA. The GLVIA does not set out specific definitions of descriptions used but contains key widely used principles and case studies / examples that are intended to inform a professionals methodology, supported by their experience and judgements in relation to landscape and landscape change. These descriptions expand and complement the EPA guidelines as intended in relation to topic specific guidance.



#### 11.2.6.1 Sensitivity of the landscape Resource

Landscape values can be identified by the presence of landscape designations or policies which indicate particular values, either on a national or local level. In addition, a number of criteria are used to assess the value of a landscape.

Landscape susceptibility is defined in the GLVIA as the ability of the landscape receptor to accommodate the proposed development without undue consequences for the maintenance of the baseline scenario and/or the achievement of landscape planning policies and strategies. Susceptibility also relates to the type of development – a landscape may be highly susceptible to certain types of development but have a low susceptibility to other types of development.

Sensitivity is therefore a combination of Landscape Value and Susceptibility.

The sensitivity of the landscape is a function of its land use, landscape patterns and scale, visual enclosure and the distribution of visual receptors, and the value placed on the landscape. The nature and scale of the development in question is also taken into account. For the purpose of assessment, five categories are used to classify the landscape sensitivity of the receiving environment.

Sensitivity	Description
<b>Very High</b>	Areas where the landscape exhibits a very strong, positive character with valued elements, features and characteristics that combine to give an experience of unity, richness and harmony. The character of the landscape is such that its capacity for accommodating change in the form of development is very low. These attributes are recognised in landscape policy or designations as being of national or international value and the principle management objective for the area is protection of the existing character from change.
<b>High</b>	Areas where the landscape exhibits strong, positive character with valued elements, features and characteristics. The character of the landscape is such that it has limited/low capacity for accommodating change in the form of development. These attributes are recognised in landscape policy or designations as being of national, regional or county value and the principle management objective for the area is conservation of the existing character.
<b>Medium</b>	Areas where the landscape has certain valued elements, features or characteristics but where the character is mixed or not particularly strong or has evidence of alteration to / degradation / erosion of elements and characteristics. The character of the landscape is such that there is some capacity for change in the form of development. These areas may be recognised in landscape policy at local or county level and the principle management objective may be to consolidate landscape character or facilitate appropriate, necessary change.
<b>Low</b>	Areas where the landscape has few valued elements, features or characteristics and the character is weak. The character of the landscape is such that it has capacity for change; where development would make no significant change or would make a positive change. Such landscapes are generally unrecognised in policy and where the principle management objective is to facilitate change through development, repair, restoration or enhancement.

<b>Negligible</b>	Areas where the landscape exhibits negative character, with no valued elements, features or characteristics. The character of the landscape is such that its capacity for accommodating change is high; where development would make no significant change or would make a positive change. Such landscapes include derelict industrial lands or extraction sites, as well as sites or areas that are designated for a particular type of development. The principle management objective for the area is to facilitate change in the landscape through development, repair or restoration.
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Table 11.33: Categories of Landscape Change

#### 11.2.6.2 Magnitude of Landscape Change

The magnitude of change is a function of the scale, extent and degree of change imposed on the landscape with reference to its key elements, features and characteristics (also known as 'landscape receptors'). Five categories are used to classify magnitude of landscape change.

<b>Magnitude of Change</b>	<b>Description</b>
<b>Very High</b>	Change that is large in extent, resulting in the loss of or major alteration to key elements, features or characteristics of the landscape and/or introduction of large elements considered totally uncharacteristic in the context. Such development results in fundamental change in the character of the landscape.
<b>High</b>	Change that is moderate to large in extent, resulting in major alteration to key elements features or characteristics of the landscape and/or introduction of large elements considered uncharacteristic in the context. Such development results in change to the character of the landscape.
<b>Medium</b>	Change that is moderate in extent, resulting in partial loss or alteration to key elements features or characteristics of the landscape, and/or introduction of elements that may be prominent but not necessarily substantially uncharacteristic in the context. Such development results in change to the character of the landscape.
<b>Low</b>	Change that is moderate or limited in scale, resulting in minor alteration to key elements features or characteristics of the landscape, and/or introduction of elements that are not uncharacteristic in the context. Such development results in minor change to the character of the landscape.
<b>Negligible</b>	Change that is limited in scale, resulting in no alteration to key elements features or characteristics of the landscape key elements features or characteristics of the landscape, and/or introduction of elements that are characteristic of the context. Such development results in no change to the landscape character.

**Table 11.34: Categories of Landscape Change**

### 11.2.6.3 Significance of Effects

In order to classify the significance of effects (both landscape and visual), the predicted magnitude of change is measured against the sensitivity of the landscape/viewpoint, using the following guide. There are seven classifications of significance provided in the EPA guidelines, namely: (1) imperceptible, (2) not significant, (3) slight, (4) moderate, (5) significant, (6) very significant, (7) profound (refer to Table 1.4 in Chapter 1 (Introduction)).

The matrix in Table 11.3, below, is used as a guide only. Table 11.3 expands the number of classifications to a total of 25 classifications providing for more accuracy in describing the significance of effects and their relative or comparative value. The assessor also uses professional judgement informed by their expertise, experience and common sense, to arrive at a classification of significance that is reasonable and justifiable.

Landscape effects are also classified as beneficial (positive), neutral or adverse (negative) (see definitions in Section 11.2.8.1). Development has the potential to improve the environment as well as damage it. In certain situations, there might be policy encouraging a type of change in the landscape, and if a development achieves the objective of the policy the resulting effect might be positive, even if the landscape character is profoundly changed.

		Sensitivity of the Landscape or Visual Resource				
		Very High	High	Medium	Low	Negligible
Magnitude of Change	Very High	Profound	Profound - Very Significant	Very Significant - Significant	Moderate	Slight
	High	Profound - Very Significant	Very Significant	Significant	Moderate - Slight	Slight - Not Significant
	Medium	Very Significant - Significant	Significant	Moderate	Slight	Not Significant
	Low	Moderate	Moderate - Slight	Slight	Not significant	Imperceptible
	Negligible	Slight	Slight-Not Significant	Not significant	Imperceptible	Imperceptible

**Table 11.35: Guide to Classification of Significance of Landscape and Visual Effects**

The matrix above is used as a guide only. The assessor also uses professional judgement informed by their expertise, experience and common sense to arrive at a classification of significance that is reasonable and justifiable.

#### 11.2.6.4 The Nature of Landscape Effects

Landscape effects are also classified as positive, neutral or negative/adverse. Development has the potential to improve the environment as well as damage it. In certain situations, there might be policy encouraging a type of change in the landscape, and if a development achieves the objective of the policy the resulting effect might be positive, even if the landscape character is profoundly changed.

#### 11.2.7 Methodology for Visual Assessment

In Section 11.8.3 of this report, the visual effects of the proposed development are assessed. Visual assessment considers the changes to the composition of views, the character of the views, and the visual amenity experienced by visual receptors. The assessment is made for a number of viewpoints selected to represent the range of visual receptors in the receiving environment. The significance of the visual effects experienced at these locations is assessed by measuring the viewpoint sensitivity against the magnitude of change to the view resulting from the proposed development.

Definitions and descriptions of sensitivity, magnitude of change and quality and longevity of effects are derived from the GLVIA. The GLVIA does not set out specific definitions of descriptions used but contains key widely used principles and case studies / examples that are intended to inform a professionals methodology, supported by their experience and judgements in relation to visual effects and landscape change. These descriptions expand and complement the EPA guidelines as intended in relation to topic specific guidance.

Sensitivity	Description
<b>Very High</b>	Viewers at iconic viewpoints - towards or from a landscape feature or area - that are recognised in policy or otherwise designated as being of high value or national value. This may also include residential viewers who are focussed to a large extent on the view.
<b>High</b>	Viewers at viewpoints that are recognised in policy or otherwise designated as being of value, or viewpoints that are highly valued by people that experience them regularly (such as views from houses or outdoor recreation features) and views which are highly valued by the local community. This may also include tourist attractions, and heritage features of regional or county value, and viewers travelling on scenic routes.
<b>Medium</b>	Viewers considered of medium susceptibility, such as locations where viewers are travelling at slow or moderate speeds through or past the affected landscape in cars or on public transport, where they are partly but not entirely focused on the landscape, or where the landscape has some valued views. The views are generally not designated, but which include panoramic views or views judged to be of some scenic quality, which demonstrate some sense of naturalness, tranquillity or some rare element in the view.
<b>Low</b>	Viewers at viewpoints reflecting people involved in activities not focused on the landscape e.g. people at their place of work or engaged in similar activities such as shopping, etc. The view may present an attractive backdrop to these activities but there is no evidence that the view is valued, and not regarded as an important element of these activities.

	Viewers travelling at high speeds (e.g. motorways) may also be generally considered of low susceptibility.
<b>Negligible</b>	Viewpoints reflecting people involved in activities not focused on the landscape e.g. people at their place of work or engaged in similar activities such as shopping where the view has no relevance or is of poor quality and not valued.

**Table 11.36: Categories of Viewpoint Sensitivity**

#### 11.2.7.1 Magnitude of Change to the View

Classification of the magnitude of change takes into account the size or scale of the intrusion of development into the view (relative to the other elements and features in the composition, i.e. its relative visual dominance), the degree to which it contrasts or integrates with the other elements and the general character of the view, and the way in which the change will be experienced (e.g. in full view, partial or peripheral, or glimpses). It also takes into account the geographical extent of the change, the duration and the reversibility of the visual effects. Five categories are used to classify magnitude of change to a view are described in Table 11.5 below;

<b>Magnitude of Change</b>	<b>Description</b>
<b>Very High</b>	Full or extensive intrusion of the development in the view, or partial intrusion that obstructs valued features or characteristics, or introduction of elements that are completely out of character in the context, to the extent that the development becomes the dominant the composition and defines the character of the view and the visual amenity.
<b>High</b>	Extensive intrusion of the development in the view, or partial intrusion that obstructs valued features, or introduction of elements that may be considered uncharacteristic in the context, to the extent that the development becomes co-dominant with other elements in the composition and affects the character of the view and the visual amenity.
<b>Medium</b>	Partial intrusion of the development in the view, or introduction of elements that may be prominent but not necessarily uncharacteristic in the context, resulting in change to the composition but not necessarily the character of the view or the visual amenity.
<b>Low</b>	Minor intrusion of the development into the view, or introduction of elements that are not uncharacteristic in the context, resulting in minor alteration to the composition and character of the view but no change to visual amenity.
<b>Negligible</b>	Barely discernible intrusion of the development into the view, or introduction of elements that are characteristic in the context, resulting in slight change to the composition of the view and no change in visual amenity.

**Table 11.37: Categories of Visual Change**

#### 11.2.7.2 Significance of Visual Effects

In order to classify the significance of visual effects, the magnitude of change to the view is measured against the sensitivity of the viewpoint, using the guide in Table 11.3.

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### 11.2.8 Quality and Timescale

#### 11.2.8.1 Quality

The predicted impacts are also classified as beneficial (positive), neutral or adverse (negative). This is not an absolute exercise. In particular, visual receptors' attitudes to development, and thus their response to the impact of a development, will vary. However, the methodology applied is designed to provide robust justification for the conclusions drawn. These qualitative impacts/effects are defined as follows:

- **Adverse (Negative):** Scheme at variance with landform, scale, pattern. Would degrade, diminish or destroy the integrity of valued features, elements or their setting or cause the quality of the landscape (townscape) / view to be diminished;
- **Neutral:** Scheme complements the scale, landform and pattern of the landscape (townscape) / view and maintains landscape quality;
- **Beneficial (Positive):** Scheme improves landscape (townscape) / view quality and character, fits with the scale, landform and pattern and enables the restoration of valued characteristic features or repairs / removes damage caused by existing land uses.

#### 11.2.8.2 Timescale

Impacts / effects are also categorised according to their longevity or timescale:

Definition of duration of effects		
	Duration	Description
CONSTRUCTION STAGE*	Temporary	Effects lasting one year or less
	Early Short Term	Effects lasting one to two years
	Mid Short Term	Effects lasting three to four years
OPERATIONAL STAGE	Later Short Term	Effects lasting five to seven years
	Medium Term	Effects lasting seven to fifteen years
	Long Term	Effects lasting fifteen to sixty years
	Permanent	Effects lasting over sixty years

Table 11.38: Duration of Effects

\*Estimated Construction stage length for this project.

The construction phase is forecast to last several years, however works will be taking place in different parts of the site at different times, some parts may be complete and in



Operational Stage whilst Construction is ongoing elsewhere. Some views may experience a short construction period and move to operational stage whilst construction is commencing or continuing in other views. The interpretation of this is dealt with in the site specific descriptive text for the assessment where appropriate.

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### **11.3 Characteristics of the Proposed Development**

#### **11.3.1 Cornamaddy Lands/ EIA Assessment Area**

The EIA assessment area is the entirety of the masterplan area outlined in Figure 11.1 below. The development of the landholding has two no. extant planning permissions (WMCC Ref: 14107102 and Ref:177724) and the remainder of the landholding is spilt into a number of phases. The extant permission are partly developed on site. Phase 1 has been granted planning permission under WMCC Ref:22253. Phase 2 is undergoing the planning process under WMCC Ref: 22340. Planning decision is due for Phase 3 decision due on 31/10/2023. Phase 4 is the application site.

#### **11.3.2 Proposed Development Site**

The proposed site is Phase 4 of the Cornamaddy Lands / Client's landholding development. The proposal is for a residential development with open space provision and associated site works. There are two parcels, the larger parcel located to the western / northern-western end of the masterplan area and south and east of Custume Pitch and Putt club Athlone. The smaller parcel located along the distributor road and north of the Drumaconn neighbourhood.



Figure 11.20: Phase 4 Application site and Applicant's landholding

#### 11.3.2.1 Development Description

The development will comprise of a residential development and public open space comprising the following: Construction of 177 no. residential units on a gross site area of 7.31 ha ranging in height from 2-3 storeys comprising detached, semi-detached, and terraced houses, maisonettes and 3 storey duplex apartments. 65 no. 2 bed houses, 71 no. 3 bed houses and 9 no. 4 bed houses will be provided. 24 no. 1 bed maisonette apartment units and 8 no. 3 storey duplex apartment units will be provided.

#### 11.3.2.2 Aspects Relevant to this Assessment

Key elements of the proposed development most relevant to this assessment of landscape and visual effects are the following:

- The change from the existing semi-rural landscape in transition to a new built form, townscape and sub-urb.
- Layout and scale of new buildings and form, and their potential impact locally as well as on the wider sensitive visual receptors.

- Impacts / loss of trees and vegetation locally on the site.
- Creation of a new urban Place or Neighbourhood in accordance with local policy and good practice.
- Interfaces with surroundings and the wider sub-urban area.
- Significant new landscape structure, features and amenities / habitats including tree cover.

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#### **11.4 Receiving Environment**

This section sets out a review of landscape related Planning Policy as set out in the Westmeath County Development Plan and associated documents, and a description of the study area informed by desktop assessment.

The local planning and other policy in the Westmeath County Development Plan are reviewed which identify development objectives and trends and also constraints on development in terms of protections and sensitivities. Precedent planning decisions may be described if appropriate.

The receiving environment is described in terms of its character, physical characteristics and the various elements that make up the landscape, including cultural, recreational, residential and other amenity values.

Cumulatively this analysis informs a description of the landscape in terms of values that support its protection and conservation and/or its enhancement or change. This reflects best practice guidance under the GLVIA.

##### **11.4.1 Relevant Planning Policy**

###### **11.4.1.1 Westmeath County Development Plan 2021 - 2027**

Chapter 12 of the Development Plan Covers Natural Heritage and Green Infrastructure.

###### Natural Heritage

The Plan sets out to contribute towards the protection of designated ecological sites including Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), Ramsar Sites, Flora Protection Order Sites, Wildlife Sites (including Nature Reserves), certain entries to the Water Framework Directive Register of Protected Areas, Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs), Wildfowl Sanctuaries (see S.I. 192 of 1979) and Tree Preservation Orders (TPOs).

Lough Ree is about 1km north of the proposed site. Lough Ree is designated as a SAC, SPA and pNHA.



**Figure 11.21: Lough Ree SAC, SPA and pNHA (indicative site boundary)**

Relevant policies;

- 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).
- 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 12.13 Protect, manage and enhance the natural heritage, biodiversity, landscape and environment of County Westmeath, in recognition of its importance as both a nonrenewable 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.

#### Sites of Biodiversity Value and Non-designated Sites

There are many important wildlife habitats; rivers and river banks, ponds, small woods and hedgerows which are essential to the migration, dispersal and genetic exchange of wild species. It is policy to encourage the management of features of the landscape which are of major importance for wild flora and fauna. Relevant objectives;

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.

#### Trees, Woodlands and Hedgerows

Trees, woodlands and hedgerows are an important natural and landscape asset. There are no Tree Preservation Orders. Many of the historical field boundaries have been retained on-site, however substantially altered in the immediate surroundings by urban developments. There are no townlands boundaries within the site. Policy Objectives;

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 12.43 Encourage the protection of the trees which are considered an important component of demesne landscapes.

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.

#### Green Infrastructure Policy Objectives:

CPO 12.75 Identify, protect and enhance existing and planned Green Infrastructure assets and to facilitate, in consultation with relevant stakeholders, the development of Green Infrastructure that recognises the benefits that can be achieved with regards to the following: • Provision of open space amenities • Sustainable management of water • Protection and management of biodiversity • Protection of cultural heritage • Protection of protected landscape sensitivities

CPO 12.76 Ensure green infrastructure responds to and reflects landscape character including historic landscape character, conserving and enhancing the existing landscapes and townscapes of Westmeath which contribute to a distinctive sense of place.



Chapter 13 Landscape and Lake Management covers Westmeath's Landscape Character Assessment, Areas of High Amenity and Lake Amenities.

#### Westmeath Landscape Character Assessment

The proposed site falls within the 'Lough Ree/Shannon Corridor' Landscape Character Area (LCA) and relatively in close distance to 'Western Lowlands' LCA. Landscape and Lake Amenities Policy Objectives;

- CPO 13.2 Protect the distinctiveness, value and sensitivity of County Westmeath's landscapes and lakelands by recognising their capacity to sustainably integrate development.
- CPO 13.3 Support and implement objectives contained in any Regional Landscape Character Assessment.
- CPO 13.4 Conserve and enhance the high nature conservation value of the Landscape Character Areas in order to create/protect ecologically resilient and varied landscapes.
- CPO 13.5 Identify and integrate new green and blue infrastructure networks within the existing landscape character areas in the interests of biodiversity and climate change and in recognition of the tourism potential of these assets.
- CPO 13.6 Require that development is sensitively designed, so as to minimise its visual impact on the landscape, nature conservation, archaeology and groundwater quality.



**Figure 11.22: Landscape Character Areas**

Landscape Character Area 6 Lough Ree/Shannon Corridor, within which the proposed site and masterplan land lies, is described as (Section 13.12 of the Plan);

*“This area includes Lough Ree, the Shannon corridor both north and south of Athlone and associated callows. To the east of the area, Waterstown Lake, Lough Mareegan and the lakeside villages of Ballykeeran, Glasson and Tubberclare are also included. Areas of pastureland are scattered throughout the remainder of the area along with small patches of inland marshes, coniferous forestry and other agricultural uses. A*



significant area of intact bog remains to the southeast of Athlone and worked out peatland areas are located to the north and south of the Character Area, adjacent to the callows and Lough Ree.

The area has significant conservation status, as SPA, SAC and NHA are all present therein. The Shannon and Lough Ree are important in terms of their recreational and amenity value, as well as their natural heritage importance, thus the quality of these assets must be protected. As development pressure increases around the lakeshore and floodplain, the risk of landscape deterioration also increases.”

Landscape Character Area 7 Western Lowlands, lies south of the N55 and at a distance from the site, is defined as (Section 13.13 of the Plan);

*“The character of this area contains a variety of landscape features including eskers, lakes and bogs. This landscape is generally low-lying but is characterised by a gently undulating topography, particularly around Mount Temple and to the northwest of Moate. Visual containment in the landscape is created by elevated areas and glacial kames, irregular ridges or mounds of gravel deposited by melting glaciers feature at intervals. Low-lying areas, however, are generally contained visually due to high quality, species rich hedges that dominate field boundaries in the area, limiting the extent of views across the landscape. This area includes the settlements of Moyvore, Ballymore, Mount Temple, Moate and Ballinahown and is bounded to the east by the change in topography that characterises the South-Central Hills Character Area at Ballymore and west of Rosemount.”*

The proposed development would not physically impact on this LCA. This is noted because of the proximity of the site to this LCA. The Cornamaddy area is not representative of the wider LCA 6 and its sensitivity.

#### Areas of High Amenity

The proposed site does not fall within an ‘Area of High Amenity’. The Lough Ree Areas of High Amenity lies in close proximity to the site. Relevant Policies;

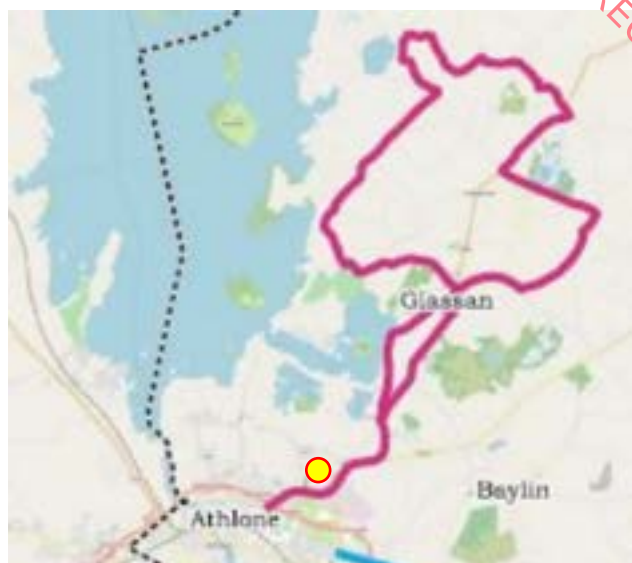
- CPO 13.20 Protect High Amenity areas from inappropriate development and reinforce their character, distinctiveness and sense of place.
- CPO 13.21 Protect and preserve designated High Amenity Areas from inappropriate urban generated housing development or any other development which would be injurious to or detract from the natural amenity of Areas of High Amenity.
- CPO 13.22 Protect lakeshores from any inappropriate development which would detract from the natural amenity of the area.
- CPO 13.23 Protect and enhance the special landscape character and exceptional landscape value of the Lough Ree Islands, including their significant archaeological, cultural and natural heritage value. Support the preparation for a Plan for the Islands in conjunction with the National Monuments Service and the National Parks and Wildlife Service.



An aerial photograph of a bog area, likely in Ireland, showing a network of paths and vegetation. A prominent red diagonal stamp reads "RECEIVED: 03/11/2023". The text "Ballaghkeeran" and "BALLAGHKEERAN BIG" are visible on the map. A green "NO" is also present.

## An aerial photograph of a bog area, likely in Ireland, showing a network of paths and vegetation. A prominent red diagonal stamp reads "RECEIVED: 03/11/2023". The text "Ballaghkeeran" and "BALLAGHKEERAN BIG" are visible on the map. A green "NO" is also present.

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**Figure 2.24: Lough Ree Driving Route**

Due to existing developments and vegetation the proposed and client landholding is screened from this route. Viewpoints have been identified along this route to assess any visual impact.

#### Built Heritage

The site does not lie within or close to an Architectural Conservation Area. There are no Protected Structures, Recorded Monuments or Zone of Archaeological Potential within the site or in its immediate vicinity.

#### Section 2.9 Regional Growth Centre – Athlone

One of the key priority of the development plan, is the preparation and adoption of a Joint Urban Area Plan for Athlone by Westmeath County Council and Roscommon County Council in collaboration with EMRA and NWRA. Core Strategy Policy;

CPO 2.3 Prepare a joint statutory Joint Urban Area Plan (UAP) for Athlone with Roscommon County Council in collaboration with EMRA and NWRA.

#### **11.4.1.2 Athlone Town Development plan 2014-2020**

The Athlone Town Development Plan 2014-2020 (Town Plan) is expected to be replaced by Athlone Urban Area Plan (UAP), which would be jointly prepared by Westmeath and Roscommon County Council.



**Figure 11.25: Open Space and Recreation zoning**

#### 10.12.2 Provision of Amenity, Open Space & Recreation in Athlone

P-AOR9 To prohibit development that would significantly prejudice the form, character or setting of any recreational amenity, open space, walk or cycle way, or any other identifiable or scheduled amenity asset.

P-AOR10 To integrate and link open space amenities within the town and to the surrounding countryside.

P-AOR11 To seek to ensure the provision of sufficient and appropriate active and passive recreational facilities to meet the needs of the towns population and which are of a scale and quality to attract and retain a critical mass of population in the Gateway Town.

P-AOR12 To develop and facilitate the provision of public open spaces in accordance with standards prescribed in the Sustainable Residential Development in Urban Areas – Guidelines for Planning Authorities 2009.

#### 11.3 Natural Heritage

P-NH1 To protect, manage and enhance the natural heritage, biodiversity, landscape and environment of Athlone, in recognition of its importance as a non-renewable resource, unique identifier and as a natural resource asset.

P-NH4 To ensure as far as possible that development does not adversely impact on wildlife habitats and species.

P-NH9 To protect and conserve wild bird species and their habitats, especially rare or vulnerable species and regularly occurring migratory species.

P-NH11 To protect and conserve Natural Heritage Areas and proposed Natural Heritage Areas.

P-NH14 To apply the precautionary principle in relation to development proposals in areas identified as being of local nature conservation interest by requiring a scientific/ecological

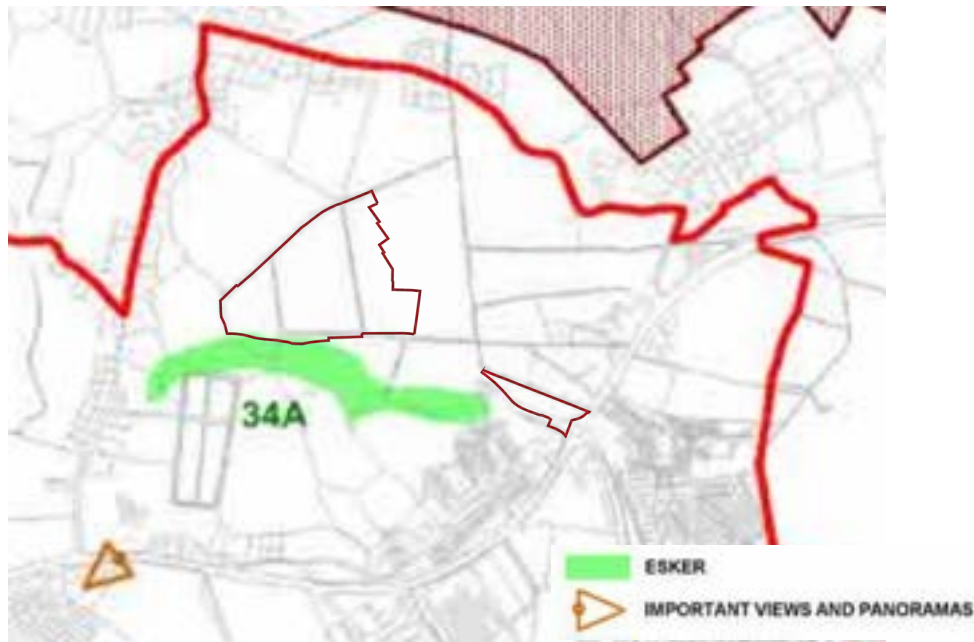
risk assessment to ensure that the development will not impact on the integrity and habitat value of the site.

P-NH17 To promote the provision of green infrastructure in Athlone, in the form of linear parks, nature trails, wildlife corridors and urban woodlands.

#### Section 11.8 and 11.9 Esker Policy and Objectives

The town Plan has identified an esker system in Cornamaddy area of Athlone.. Site 34A – Cornamaddy Low Hill lies within the proposed site.

P-ESK1 To protect and conserve the landscape, natural heritage and geodiversity value of esker systems in Athlone.



**Figure 11.26: Esker sites**

A viewpoint has been identified in the Town Plan. This 'Important Views and Panoramas' is oriented towards the town and not towards the site.

#### Trees, Woodlands and Hedgerows

P-TWH4 To preserve and enhance the amenity and biodiversity value of the town by preserving as far as possible trees, woodlands and hedgerows.

#### Chapter 6, Transportation and Movement

Road Objective: O-TM20 Cornamaddy - Coosan Link Provision of Cornamaddy - Coosan Link passes through the proposed site.





Figure 11.27: Roads objective – distributor road runs along the northern boundary of the proposed site

#### Land Use Zoning

The proposed site has split and multiple zoning, as 'Proposed Residential', 'Open Space' and 'Mixed-use'.

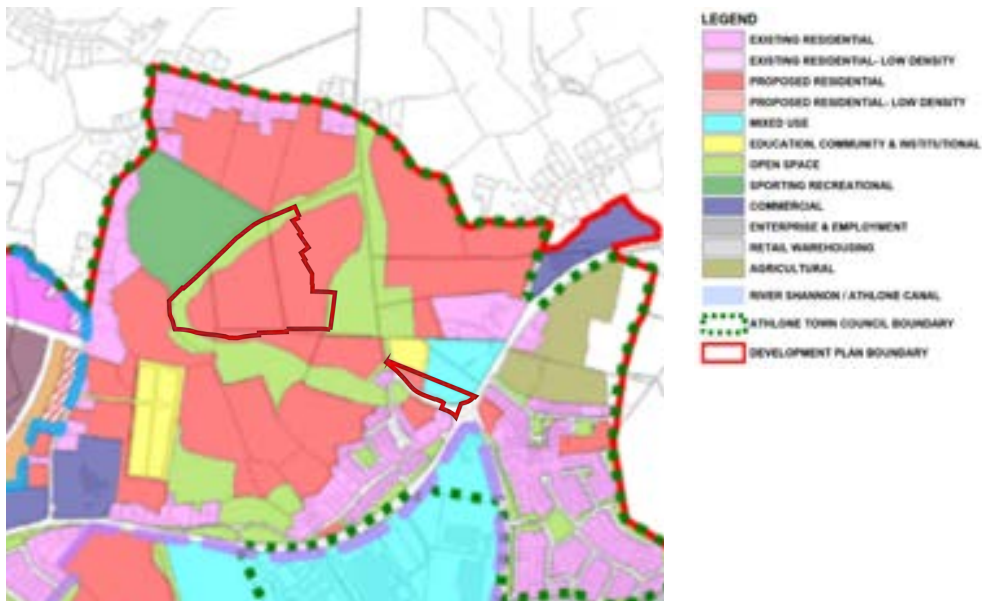


Figure 11.28: Land-use zoning

#### 11.4.1.3 Cornamaddy Action Area Plan 2004

The Cornamaddy Action Area Plan 2004 (AAP) was adopted in 2004. The AAP sets out framework for physical development of Cornamaddy Area in accordance to Athlone and Environs Town Plan 2002-2008.

Although an outdated plan, the AAP sets out development objectives for the application site along with client's landholding and other land parcels in Cornamaddy.

The Normandy AAP land boundary is aimed to be developed to accommodate;

- Residential development of mixed types and sizes
- Two Neighbourhood Centres
- Childcare facilities
- The existing cemetery



- The plan will consider environmental parameters, access and circulation for all modes of transport, the local context and integration with surrounding land uses.

Regarding Landscape Section 3.7 highlights the approach of the LAP;

*“The LAP involves the urbanisation of land that was previously used for agricultural purposes. This will result in a depletion of agricultural land. However, in line with population projections this is deemed to be acceptable as the future population growth needs to be accommodated and the land is zoned and in close proximity to the existing built environment of Athlone town. Those lands and areas that represented the most important ecological habitats and landscape features have been reserved in the interests of bio-diversity, visual amenity and public open space. Careful consideration was given to those lands that have the highest contour levels so as to maintain them free from development.”*

The Figure 11.10 below shows the Cornamaddy AAP land boundary in red. The indicative alignment of proposed Distributor Road through the Cornamaddy AAP lands are shown in magenta colour.



Figure 11.29: Cornamaddy AAP Site Location Map (extract from AAP)

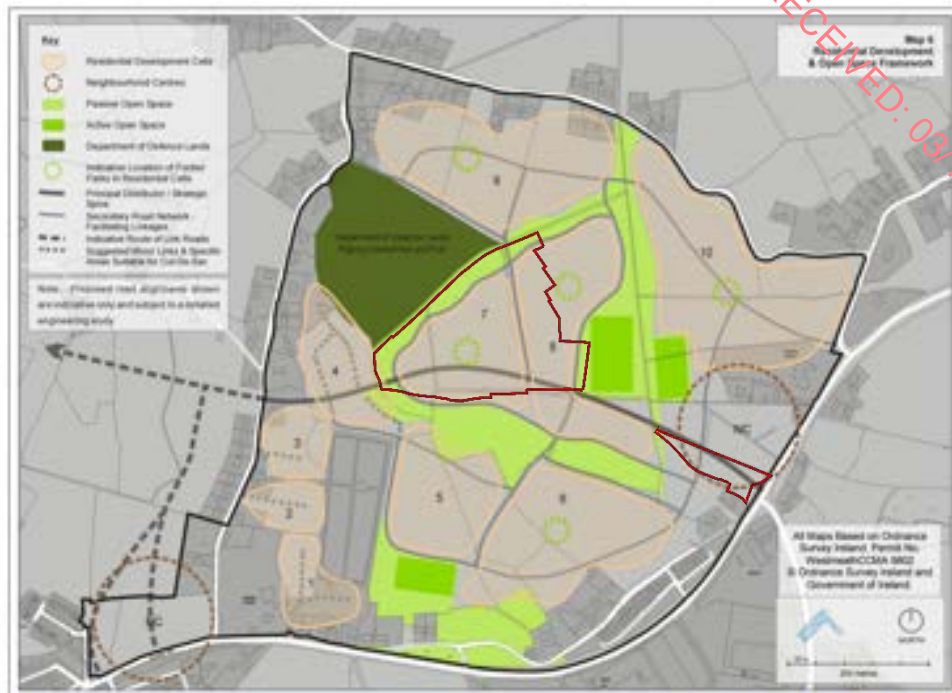


Figure 11.30: Environmental Parameters Map (extract from AAP)

The figure above shows the environmental parameters of the Cornamaddy AAP lands. The parameters shown are trees and hedgerows of value, watercourses/ditches and ridges/elevated lands within the AAP lands.

The figure 11.12 below the residential development and open space framework for the AAP lands.

The site is zoned partly as residential and partly as open space as per AAP. The site lies within Phase 1 of the AAP (Map 10 of the AAP) as per the implementation of the plan.

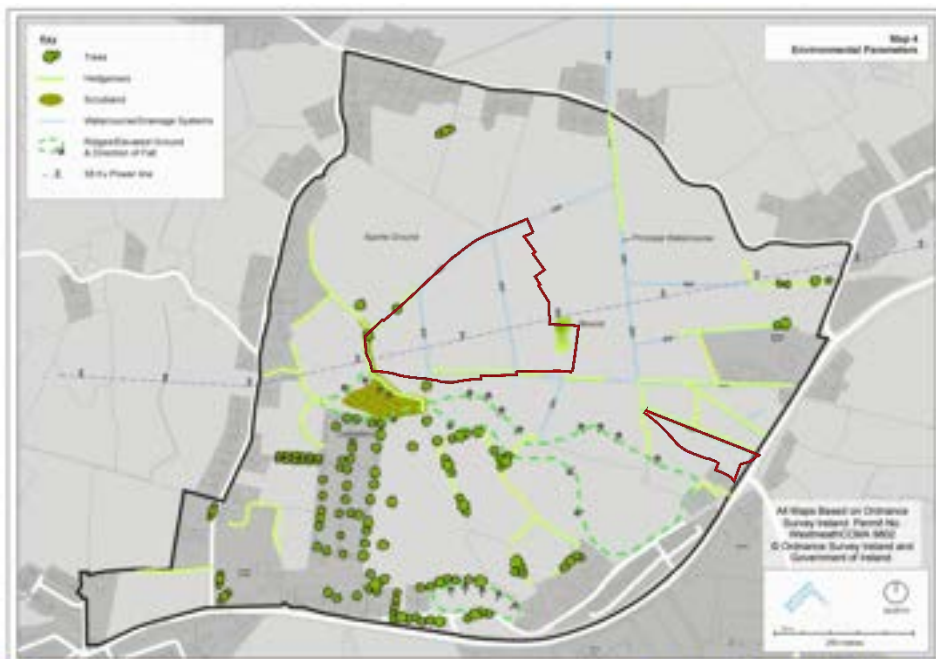


Figure 11.31: Residential Development and Open Space Framework (extract from AAP)

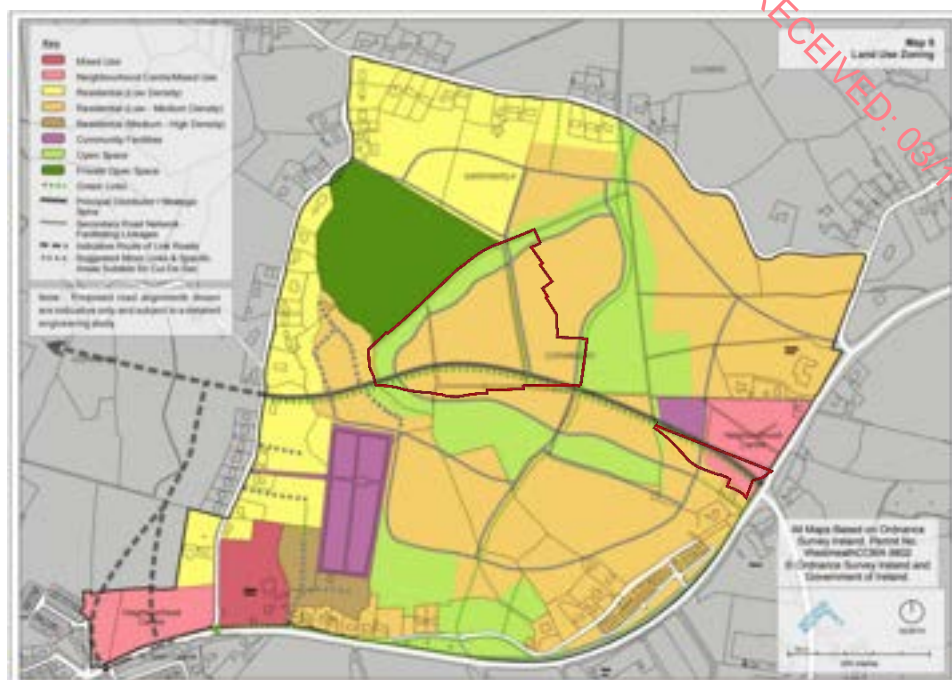


Figure 11.32: Land use Zoning Map (extract from AAP)

The AAP sets out details for residential development, the protection of existing landscape features and outlines strategy for the Cornamaddy AAP lands.

#### 11.4.2 Relevant Planning History

These phases and planning permission are identified in Figure 11.1 above.

Phase / Development	WMCC Ref:	Development	Status
Extant Permission	147103	The construction of 98 no. new dwellings to include 11 no. 4/5 bedroom detached houses, 28 no. 4/5 bed semi-detached houses, 8 no. 3 bedroom detached houses, 34 no. 3 bedroom semi-detached houses, 8 no. 2/3 bedroom terraced houses, 3 no. 2 bedroom houses and 6 no. 2-bedroom bungalow houses. The development to include the provision of all associated site development works including road networks, services, landscaping and boundary treatments. A ten year permission is being sought.	Granted with Conditions
Extant Permission	177224	The Development of 7 no new dwellings to include 3 no 5 bedroom detached houses and 2 no 4 bedroom detached houses with optional fifth bedroom/study and 2 no 4 bedroom semi detached houses with optional fifth bedroom/study and all associated site development works including road networks,	Granted with Conditions

		services, landscaping, and boundary treatments. A ten year permission is being sought.	
Phase 1	22253	<p>The development will consist of the following: • Construction of 75 no. residential units comprising: 51 no. 2 storey semi-detached and terraced houses (consisting 4 no. 2 bed houses and 47 no. 3 bed houses, ranging in size from c.78 sq.m – 120 sq.m each), and 24 no. 3 storey apartment/duplex units (consisting 12 no. 2 bed apartments and 12 no. 3 bed duplexes, ranging in size from 84sq.m to 121 sq.m each), with associated private gardens and east/west facing terraces; • All pedestrian and vehicular access roads and footpaths including a section of the planned east/west distributor road connecting to a section of the distributor road permitted under WMCC Reg. Ref. 14/7103/ ABP Ref. PL25.244826 to the south east of the site. • All associated site development works, services provision, drainage works, residential open space (c.o.28ha) and public open space (c.o.82ha), landscaping, boundary treatment works, public lighting, 1 no. esb substation cabinets, bin stores, car and bicycle parking provision; • Provision of a new detention basin on the eastern portion of the site designed to cater for the proposed development, in lieu of the drainage works permitted under WMCC Reg. Ref. 14/7103 / ABP Ref. PL 25.244826; • This development will form part of a larger/future phase of the development; • No changes to the existing pumping station located outside the northern site boundary; A Natura Impact Statement has been prepared in respect of this application.</p>	Granted with Conditions
Phase 2	22340	<p>1) Construction of a two Storey childcare facility, including classrooms, reception, kitchen, associated staff areas and office, toilets, storage, plant rooms, circulation areas and photovoltaic panels at roof level (c.668sqm total gross floor area) 2) The proposed facility includes a secure outdoor play area(c. 595 sqm), 18 no. car parking spaces and 20 no. bicycle parking spaces. 3) Existing vehicular access onto the existing link road and provision of an internal access road, footpaths and 2 no. pedestrian access points. 4) All associated site development works, service provision, drainage works, landscape and boundary treatment works and public lighting. 5) This development will form part of a larger/future phase of the development. 6) A Natura Impact Statement has</p>	Granted with Conditions



		been prepared in respect of this planning application.	
Phase 3	22/577	<p>The development will consist of a residential development and public open space comprising the following:</p> <ul style="list-style-type: none"> <li>Amendments to permitted application WMCC reg Ref. 14/7103/ ABP Ref. PL25.244826 for the removal of 38 no. permitted units (not constructed) to be replaced by: Construction of 70 no. residential units comprising: 4 no. 2 bed terraced houses (78 sq.m), 60 no. 3 bed semidetached (96-116 sq.m) and 6 no. 4 bed semidetached houses (147 sq.m) with associated private gardens.</li> <li>The creche facility, public open spaces, landscaping, roads layouts, car parking, boundary treatment works, public lighting and all associated site works associated with the 87 no. remaining units retained as permitted under WMCC Reg Ref. 14/7103 ABP Ref. PL25.244826 will remain unchanged.</li> <li>All pedestrian and vehicular access roads and footpaths including a section of the planned east/west distributor road connecting to a sections of the distributor road permitted under WMCC Reg. Refs 14/7103/ ABP Ref. PL25.244826 and 22/253 to the east of the site.</li> <li>All associated site development works, services provision, drainage works, public open space (c.1.03ha), landscaping, boundary treatment works, public lighting, associated esb substation cabinets, bin stores, car and bicycle parking provision.</li> <li>This development will form part of a larger/future phase of the development.</li> </ul>	Decision due 31/10/2023
Phase 4	-	S247 Meeting was held on 06 December 2022. The Council advised on a number of design changes included block sizes, DMURS compliance and linkages etc. The layout is at an early design stage.	Current Application

**Table 11.39: Relevant Planning History (outlined in Figure 11.1)**

Summary of Planning Section and Planning History;

- The site is zoned for residential, open space and mixed-use.
- The site does not lie within a protected site or ACAs and does not house any protected structures.
- No protected views are orientated towards the site.

- Scenic Route (along N55) passes in close proximity to the subject site.
- There are no tree preservation orders.
- Strategic Road Improvement from Cornamaddy and Coosan Link offers access to the site. The site falls within Lough Ree and Shannon Corridor Landscape Character Area 6.
- The lands are subject to Cornamaddy Action Area Plan 2004.
- Planning applications have been lodged for Phase 1 and Phase 2 parcels within the Client landholding. Phase 1 has been granted planning permission. Further Information was requested for Phase 2 planning application.
- Planning decision is expected on 31/10/2023 for Phase 3 development.
- The proposed application site is Phase 4. There are other approved planning permission in the masterplan area included existing permissions that are not implemented on site.

### 11.4.3 Description Receiving Environment

#### 11.4.3.1 Cornamaddy Lands and Environs

##### Context

Cornamaddy is located northeast of Athlone, about 2.4kms from Athlone town centre and within the townland of Cornamaddy. The site is strategically located near N55, a national route linking Cavan in the north and Athlone to the south. The R916 adjoins the N55 and runs southwards connecting with the Athlone Relief Road.



Figure 11.33: Site Context and Area Analysis Map

##### Land Uses



The land uses vary in the surroundings, from a mix of existing residential, new residential zoned lands, educational and recreational uses, business and employment areas and agricultural lands. Some of these are identified in map 2.14 above.

The lands south of the N55 are more developed and urban in nature. The Mr. Price warehouse and store; Medtronic, a pharmaceutical company; and Department of Education and Skills are large developments found south of the N55. The Woodville Grange residential neighbourhood lies south of N55 and east of R916. Further south along R916 lies Blyry Business & Commercial Park.

The lands north of the N55, i.e., Cornamaddy is more mixed in nature. The area is partly developed immediately north of the N55; the Drumaconn residential neighbourhood, Fernhill Garden Centre and Keane Park lies immediately north of the N55. Further north there are large agricultural fields and sparse development in the form of ribbon development along the local roads. The area is mostly rural in nature.

The Cornamagh Cemetery and Costume Pitch and Putt Club are local points in Cornamaddy.

#### Topography

The masterplan lands and wider landscape to the north of Athlone is characterised by its undulating esker formations, generally as small pasture fields enclosed with mature hedgerows and tree lines. The esker landscape does not give rise to clearly defined valleys and hilltops but rather a somewhat flatter landscape with prominent localised dry hillocks of gravel deposits (otherwise known as eskers) alongside lower depressions that can become wet and boggy in places where water is unable to drain freely.

In broad terms the landscape of this area is relatively consistent and unassuming, but on a site specific scale, these esker hills can form strong and somewhat dominating features that can define the character of a site.

#### Field Boundaries, Vegetation and Drainage

As described above the esker landscape of western Westmeath (north of Athlone) is defined by its strongly undulating pasture fields enclosed with hedgerows, often mature hedgerows and tree lines. Tree lines and hedgerows are often associated with drainage ditches that were created to improve the quality of pasture in the lower depressions which would otherwise be boggy and wet. Ditches often contain a combination of slowly moving water and native trees and hedgerow species, making these valuable corridors for biodiversity, particularly those that are well established and mature.

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#### 11.4.3.2 The Subject Site



**Figure 11.34: Application Site Boundary**

##### Location

The masterplan lands are located within the Cornamaddy townland. The townland of Cornamaddy is adjoined by the townlands of Tullycross (east), Clonagh (north), Cornamagh (west) and Lissywollen (south). Lands at Lissywollen are zoned residential and commercial; Tullycross consists of residentially zoned lands. The townlands to the west and north are unzoned / zoned agriculture and consist of a limited number of residential dwellings.

The masterplan lands are bounded by Custume Pitch and Putt Club and agricultural fields to the north; Comer's Lands and agricultural fields to the east; Drumaconn residential neighbourhood to the south; and agricultural fields to the west.

The proposed Phase 4 site is within the client's landholding and are tow parcels. Zone 1 / Parcel 1 forms the north-western part of the masterplan lands. This site area comprises three large fields (with a prominent esker formation) to the south of site and coupled with smaller parts of two neighbouring fields. Zone 2 / Parcel 2 is located north of the Drumaconn neighbourhood. This zone is bound by the distributor road to the south, masterplan lands to the east and thick hedgerow and trees along the northern boundary and the N55 and roundabout to the east.

### Site Description

The subject site comprises agricultural fields categorised by mature native hedgerows and tree lines, particularly on the western and northern boundary. Currently, the site is under pasture with areas of scrub due to recent lack of grazing.

The fields are characterised by distinctive esker formations, in particular one large formation at the centre of the masterplan area which is to the north of the subject site. These landforms are visually distinctive and characteristic of the wider landscape of Westmeath, offering its own identity and a 'sense of place'.



*Plate 1: View from raised esker to the south of subject site, looking west towards phase 3 lands*

### Access

The site, in private landholding, is currently in agricultural use and access to and from the site from the immediate surroundings is limited. The Masterplan lands can be accessed through the partly developed new distributor road leading from the N55 and R916 roundabout opposite the Cornamaddy National School.

A new distributor road is proposed to connect the roundabout to the Cornamagh Road to the north-west through the masterplans lands. This divides the masterplan lands into two large parcels (north and south).

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*Plate 2: View eastwards towards the existing site access*

### Topography

The landscape of the subject site is distinctly undulating and characterised by a single large esker (mounds formed from glacial deposits) to the south. Surrounding these eskers are localized depressions which are drained by ditches that slope gently northwards, although this is generally undetectable when on site.

The esker feature is visually prominent on the site, measuring about 600m in length and of varying width (from 30m to 150m). It dominates the southern portion of the site, at the centre of the masterplan lands.



*Plate 3: Topographical undulations visible from an elevated location to the centre of the masterplan lands*

### Field Boundaries, Vegetation and Drainage

The masterplan lands comprise 8 no. pasture fields enclosed with hedgerows, with those to the south and west being more mature with established trees. The most valuable vegetation on the site is located along the northern, western and southern field boundaries.



The fields are mostly covered in long grass as pasture, with areas of scrub vegetation emerging through lack of grazing pressure in recent years. The full length of the western and northern boundaries are townland boundaries.



Plate 4: Established mature tree lines forming the western boundary (view looking north-west)

The proposed site is made up of 2-3 partial fields. The site partly bound by fields and by townland boundary to the north; fields to the east and to the south and townland / field boundary to the west.

The field boundaries are generally also established drainage features. Water accumulates within the natural depressions between the eskers and drains into these ditches gently making its way northwards. There is a network of established drainage channels across the site. The water eventually joins other principal watercourses to the north and flows into the 'inner lakes', Ballaghkeeran Bay, part of the Lough Ree Catchment.



Plate 5: Established trees to the south of the esker formation (view looking north)

#### Views

Whilst the wider landscape is gently rolling (without notable hills and valleys), the immediate landscape is undulating, with localised elevated areas formed from historic glacial activities. These elevated areas provide locations from where views of the surroundings areas are available. There are longer distance uninterrupted views towards

the site and wider masterplan area from these elevated locations to the north-east. Otherwise views of the site are generally fairly restricted, with glimpses available from surrounding elevated locations.



Plate 6: Looking east from site's western boundary

#### 11.4.4 Summary of Landscape Characteristics and Values

The values and characteristics of the site are listed below and can be categorised in two ways – values which should be conserved, and those that provide opportunity for enhancement. These values are summarised below:

##### Conservation Values

The values to be conserved indicate those aspects of the receiving environment which are valued and sensitive and could be negatively impacted on by the proposed development. These include:

- Landscape resource and elements – esker, matured hedgerows, trees and ditches.
- The interface between existing communities and the site in terms of views, boundary treatments and character.

##### Enhancement Values

The enhancement values reflect change that is occurring in the landscape and its inherent robustness - The values to be enhanced represents the site's capacity to accommodate change. These include:

- Extensive policy, objectives and actions underway for Cornamaddy area resulting in the lands changing from rural/agricultural to urban.
- Zoning of lands for residential development, open space and mixed-use in the development plan and Athlone Town Development plan.
- The site's location on the edge of an urban area and partially developed urban landscape / area in transition.



- Poor landscape / urban structure and sense of place.
- Objectives to support compact, well-connected, high-quality urban development with a strong sense of place.
- Recent permissions in the environs of the site.
- Roads objective for development to improve public access to open space and unlock access to future residential areas.
- The site and environs is not representative of the wider LCA and its sensitivity.

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### 11.5 Do Nothing Scenario

The ‘do-nothing’ impact refers to the non-implementation of the proposed development. The primary effect of this would be that the impacts and effects identified above would not directly occur. In this regard, the following issues are relevant.

In the absence of the proposed development, this site would continue to operate as an open network of fields. Its landscape, biodiversity and recreational values would continue to change and it would detract from the evolving urban area. Depreciation and reduced activity could see the increase of antisocial behaviour and fly tipping on the site. The objectives of the Development Plan and Athlone Town Development Plan would not be realised in relation to the site.

### 11.6 Potential Impacts

Landscape and architectural proposals are part of the design quality of the development i.e. elevations of buildings, materials, tree planting, open space amenity etc are an intrinsic part of the development and its value. They are a requirement for planning (residential amenity / development quality) and Green Infrastructure provision. The overall composition of these elements enhances views or reduces/softens/enhances the landscape / visual impact or effect.

Mitigation is not required in addition to the final design proposals. Therefore potential landscape and visual impacts are the same as the predicted impacts in Section 11.8 below. In this regard mitigation is an integral part of good design (Mitigation by design) but is not a list of issues to which a specific mitigation solution is proposed but a consequence of many individual design decisions to ensure the development meets residential quality and amenity criteria, greening and local appropriateness, whilst also incorporating environmental protection measures.

#### 11.6.1 Construction Phase

##### 11.6.1.1 Landscape Impact

The potential construction phase landscape impact is the same as the predicted landscape impact and described in Section 11.8 below.

##### 11.6.1.2 Visual Impact

The potential construction phase visual impact is the same as the predicted landscape impact and described in Section 11.8 below.

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## **11.6.2 Operational Phase**

### **11.6.2.1 Landscape Impact**

The potential operational phase landscape impact is the same as the predicted landscape impact and described in Section 11.8 below.

### **11.6.2.2 Visual Impacts**

The potential operational phase visual impact is the same as the predicted landscape impact and described in Section 11.8 below.

### **11.6.3 Cumulative Impacts**

The potential cumulative landscape and visual impact is the same as the predicted landscape and visual impact and described in Section 11.8 below.

## **11.7 Mitigation Measures**

### **11.7.1 Incorporated Design Mitigation**

The proposed development has been prepared in accordance with best practice national and regional guidelines and policies, including the 'Best Practice Urban Design Manual' (Department of Environment, Heritage and Local Government, 2009) and the 'Design Manual for Urban Roads and Streets' (Department of Transport, Tourism and Sport & Department of Housing, Planning and Local Government, 2015). The proposed overall development with other phases have been laid out to retain and enhance existing landscape features such as tree groups, green infrastructure (water movement) and urban surroundings.

### **11.7.2 Construction Phase**

During construction, there will be a change to the landscape and there will be negative visual impacts for residents and visitors to the areas adjacent to the site associated with construction activity.

The measures proposed revolve around the implementation of appropriate site management procedures – such as the control of site lighting, storage of materials, placement of compounds, delivery of materials, car parking, etc. Visual impact during the construction phase will be mitigated somewhat through appropriate site management measures and work practices to ensure the site is kept tidy, dust is kept to a minimum, and that public areas are kept free from building material and site rubbish.

Site hoarding will be appropriately scaled, finished and maintained for the period of construction of each section of the works as appropriate. To reduce the potential negative impacts during the construction phase, good site management and housekeeping practices will be adhered to. The visual impact of the site compound and scaffolding visible during the construction phase are of a temporary nature only and therefore require no remedial action other than as stated above. It is noted that a Construction Environmental Management Plan (CEMP) has been prepared by Paul Mc Grail Consulting Engineers, as submitted under separate cover.

Existing trees and woodlands to be retained and are shown in the Landscape Design Report prepared by CSR (included under separate cover as part of this planning

application) and Arboricultural Impact Assessment & Method Statement and associated drawings prepared by Charles Mccorkell Arboricultural Consultancy (included under separate cover as part of this planning application). Existing trees to be retained are particularly sensitive to negative impacts during the construction phase if proper protection measures are not adhered to. With regard to the protection of the retained trees on site during proposed construction works, reference should be made to 'BS5837: Trees in relation Design, Demolition and Construction – Recommendations' (BSI, 2012). Tree protection details have been included in the Arboricultural Impact Assessment & Method Statement and associated drawings (included under separate cover as part of this planning application).

Adverse impacts both during construction and operational phases could be mitigated through undertaking appropriate measures listed under Table 13.11, in order to soften and screen views as early on as possible.

Reducing the footprint of all construction works wherever feasible and ensuring the remainder of the land is retained as green field will also limit any adverse effects during the construction phase.

Character of potential impact	Mitigation measure
Visual impact of construction works	Follow appropriate site management procedures, including control of site lighting, storage of materials, placement of compounds, delivery of materials, car parking, etc.
Landscape character	Maintain the character of the site by installing proposed planting in accordance with the proposed landscape plans by CSR Landscape Architects, included separately as part of this planning application.
Existing vegetation	To protect trees to be retained, fell adjacent trees to be removed and grind out stumps in accordance with BS5837:2012. Tree / hedgerow protection works to be carried out in accordance with Arboricultural Impact Assessment & Method Statement and associated drawings prepared by Mccorkell Arboricultural Consultancy (included under separate cover as part of this planning application).

**Table 11.40: Mitigation Measures – Construction Stage**

### 11.7.3 Operational Phase

The design of the proposed development incorporates significant consideration in respect of best practice layouts and to successful integration into the receiving environment. The architectural layout aims to address visual impacts by proposing variety in scale and massing of buildings. Elevations and materiality complement local styles and character.

The retention of hedgerows and trees, where feasible, and the planting of additional trees and shrubs throughout the site and open spaces, where possible, will reduce the visual mass of the buildings, soften and partially screen the development over time from various viewpoints, as identified in the assessment, thereby minimising the visual impacts while creating quality of place and residential amenity.

Landscape works necessary for the creation of a development of quality are proposed with the effect of also avoiding or minimising adverse effects generated due to the proposed development. The planting of substantial numbers of new trees and other planting in the open spaces, the site boundaries and internal roads, both native and

ornamental varieties, will enhance the overall appearance of the proposed development and compensate for the removal of hedgerows and trees, where needed, for the construction works, and increase the overall landscape capacity of the site to accommodate development. Native and appropriate planting for biodiversity has been incorporated into the scheme in accordance with the advice of the Project Ecologist (refer to Chapter 8 – Biodiversity).

Public open spaces have been designed as part of an overall design strategy that focuses on creating a ‘sense of place’ and individual character for the development area. The quality of the public realm scheme is of a high standard and the quality of materials proposed is similarly high and robust.

Best practice horticultural methods will be applied to ensure that mitigation measures establish and grow appropriately. Landscape tender drawings and specifications will be produced to ensure that the landscape work is implemented in accordance with best practice. This document will include tree work procedures, soil handling, planting and maintenance.

In conclusion, mitigation is adequately delivered as an integral part of the design of the proposed development, without the need for further mitigation measures to address residual effects.

#### 11.7.4 ‘Worst Case’ Scenario

The ‘worst-case’ scenario would be if the proposed developments failed to safeguard any of the existing valued landscape features or was laid out in a way that failed to respond to surrounding landscape and townscape character, scale, sensitivities and views. Similarly, if the proposed developments are approved but failed to integrate proposed green infrastructure and if the positive attributes of the design and mitigation measures were not carried through in full or enforced by the Local Authority.

### 11.8 Residual Impact Assessment

The sites enhancement values (as set out in Section 11.4.4, above) reflect a body of policy that is supportive of landscape change at this location (and its environs) as part of general town expansion of Athlone as a growth town, and change that is already underway.

The site’s conservation values (as set out in Section 11.4.4, above) predominantly reflect the core elements of the local landscape designations and the landscape resource.

Overall, the impact of the proposed development is the change of the site from its current agricultural lands (albeit lands that are currently under-utilised) to a high-quality residential neighbourhood.

#### 11.8.1 Landscape Sensitivity

The receiving environment consists of;

- The Subject Site and Cornamaddy Masterplan Lands, and;
- LCA 6 Lough Ree and Shannon Corridor (within which the masterplan lands lie).

The proposed site falls within 'LCA 6 – Lough Ree and Shannon Corridor'. The lakes and lakeshore areas has significant conservation status, as SPA, SAC and NHA. A significant area of the LCA is also recognised as an 'Area of High Amenity'. As such, the landscape sensitivity around the lake, lakeshore and floodplains are 'high' and is of 'high' landscape value.

The value and sensitivity of the LCA in the development plan covers the entirety of the LCA. The LCA as defined in the development plan stresses that the lakes, lakeshores and floodplains are 'highly sensitive', but does not consider urban areas and urban fringe areas of Athlone to be of same sensitivity. The urban fringe areas are zoned for development and is under pressure of development. Therefore the receiving environment is not representative of the wider LCA as described above. The value and sensitivity attached are more reflective of more lakeshore areas rather than the urban area.

The proposed site lies within the Athlone Town Boundary. The proposed site can be characterised as falling within an urban fringe area. The site is zoned for development. The site does not fall within 'designated sites or protected sites' and 'areas of high amenity', and lies about 1km away from the lakeshore. Therefore, the proposed site and immediate environs are not representative of the wider LCA and its sensitivity.

The site's zoning is supportive of development on this site. The immediate surroundings along with the site are zoned for residential and open space uses. Some of the lands in Cornamaddy have already been developed and some with existing planning permission for development. There are other undeveloped land parcels in Cornamaddy that are either under design process or planning process. Therefore, the area is under rapid transition and is reflective of the zoning of the lands.

Therefore, the landscape sensitivity of the receiving environment (reflecting its zoning within the wider LCA) is classified as '**Medium**' - *Areas where the landscape has certain valued elements, features or characteristics but where the character is mixed or not particularly strong... The character of the landscape is such that there is some capacity for change in the form of development. These areas may be recognised in landscape policy at local or county level and the principle management objective may be to consolidate landscape character or facilitate appropriate, necessary change.*

A review of the extent to which the development will affect the views experienced from adjacent landscapes are examined in Section 11.8.3.

## 11.8.2 Landscape Impacts and Effects

### 11.8.2.1 Construction Phase

Construction will be programmed and phased over and up to 4 years resulting in ongoing infrastructure, building and related works for that period of time. These are generally visually adverse in nature.

Nonetheless during construction the site and views would be dominated by works and activity.

For the purposes of assessment the Construction Phase Impacts are categorised as Temporary or Early Short Term.

The landscape sensitivity of the receiving environment is described in Section 11.8.1 above i.e. **Medium**.

The magnitude of change during construction phase would be '**Medium**'. This would change the character of the landscape and generate a landscape effect that would be of **Moderate significance**.

Qualitatively, it is expected that all construction works would have an **Adverse** landscape impact. Although valued features would be protected, the works would change the landscape until they are re-made into the proposed neighbourhood.

#### 11.8.2.2 Operational Phase

The site's enhancement values (as set out in Section 11.4.4, above) reflect a significant body of policy that is supportive of major landscape change at this location to form a new residential community. Despite its attractive rural qualities, the site is currently surrounded by landscape change and the urbanisation of its setting – it is an area in transition and increasingly an anomaly in this context. Nonetheless, it offers attractive characteristics to contribute to this new environment (reflected in its conservation values, as set out in Section 11.4.4, above).

The impact of the proposed development would be the change of the site from open agricultural landscape to a new residential and sub-urban neighbourhood. Locally, some trees and hedgerows will be affected; however, the proposed development has been laid out to incorporate many of these existing landscape 'green infrastructure' features within its landscape structure of open spaces and networks. The northern most section, where the esker lies is zoned for open space and a large portion of the site is an open space with landscaped areas.

The proposed development has been prepared in accordance with best practice national and regional guidelines and policies, including the Westmeath County Development Plan 2021 – 2027, the 'Best Practice Urban Design Manual' (Department of Environment, Heritage and Local Government, 2009) and the 'Design Manual for Urban Roads and Streets' (Department of Transport, Tourism and Sport & Department of Housing, Planning and Local Government, 2013). The proposed Masterplan development has been laid out to reflect existing landscape features such as topography and urban grain.

The proposed development would impact the full extent of the site (and the wider LCA), resulting in the loss of the agricultural lands. The proposal would introduce residential development into the landscape and associated open space, which, although may be new and prominent, is not uncharacteristic of the area. The proposed development achieves local policy objectives of Westmeath County Council and is in keeping with local land use zoning for residential and open space uses.

The magnitude of change would be **Medium** i.e., *Change that is moderate in extent, resulting in partial loss or alteration to key elements features or characteristics of the landscape, and/or introduction of elements that may be prominent but not necessarily substantially uncharacteristic in the context. Such development results in change to the character of the landscape.*

The effect is of **Moderate Significance**.

Qualitatively the landscape effect is **Neutral**, i.e., *Scheme complements the scale, landform and pattern of the landscape(townscape)/view and maintains landscape quality.*

This recognises that, whilst the change in character from open field site in a sub-urban context is complementary to the existing land uses, reflects development potential as set out in statutory plans for the site and has been applied to the site as per the best practice



in terms of urban design and Green Infrastructure policy, i.e., retained existing landscape and green infrastructure to form open space network and amenity.

Overtime the new landscape structure will evolve to integrate the new residential area as part of its wider landscape setting and be a **‘Beneficial’** permanent change.

### 11.8.3 Zone of Visual Influence and Visual Receptors

Based on the assessment of the landscape characteristics, values and sensitivities, 10 representative viewpoints were selected to assess visual impact and effects. These are scheduled and mapped below.

Existing photographs and proposed photomontages are provided by GNET, submitted under separate cover as part of the planning application. The booklet of photomontages should be reviewed in conjunction with this section. The landscape architect’s site survey and verified views were captured in August 2023.

The assessed viewpoints (VP) are shown in Figure 11.16, overleaf, and are listed in Table 11.9, below. A sensitivity rating has been ascribed to each visual receptor based on the definitions provided in Table 11.7. A rationale for the sensitivity rating is provided under the description of each existing view below.

VP	Description of viewpoint	Rationale for selection
1	Cornamaddy National School	<ul style="list-style-type: none"> <li>Representing road users</li> <li>Representing school and residential receptors</li> </ul>
2	Site Entrance, Drumaconn (Adjacent to Property no. 1)	<ul style="list-style-type: none"> <li>Representing residential receptors</li> <li>Representing road users</li> </ul>
3a	Looking north-west from Drumaconn open space	<ul style="list-style-type: none"> <li>Representing residential receptors and open space users</li> </ul>
3b	Looking south-east from Drumaconn open space	<ul style="list-style-type: none"> <li>Representing residential receptors and open space users</li> </ul>
4	Drumaconn (Adjacent to Property no. 64)	<ul style="list-style-type: none"> <li>Representing residential receptors</li> </ul>
5	The Orchard	<ul style="list-style-type: none"> <li>Representing residential receptors</li> <li>Representing road users and Scenic Route</li> </ul>
6	Blyry Court (Colum Quinn BMW Athlone)	<ul style="list-style-type: none"> <li>Representing road users</li> </ul>
7	Garnafeiliagh (L5479) Field gate entrance	<ul style="list-style-type: none"> <li>Representing residential receptors</li> <li>Representing road users</li> </ul>
8	Garnafeiliagh (L5479) Field gate entrance	<ul style="list-style-type: none"> <li>Representing residential receptors</li> <li>Representing road users</li> </ul>
9	Custume Pitch Putt Club Athlone	<ul style="list-style-type: none"> <li>Representing residential receptors and open space users</li> <li>Representing road users</li> </ul>

10	Cornamagh (L1475)	<ul style="list-style-type: none"> <li>Representing residential receptors</li> <li>Representing road users</li> </ul>
11	Cornamagh Cemetery	<ul style="list-style-type: none"> <li>Representing cemetery users</li> </ul>
12	Local Road (Cul-de-sac)	<ul style="list-style-type: none"> <li>Representing elevated views</li> <li>Representing residential receptors</li> </ul>
13	The Bullet Road	<ul style="list-style-type: none"> <li>Representing elevated views</li> <li>Representing road users and residential receptors</li> </ul>

**Table 11.41: List of Viewpoints (EIA assessment area identified with a yellow line)**



**Figure 11.35: Viewpoint Location**

### 11.8.3.1 Photography and Presentation of Viewpoints

Each viewpoint is illustrated by a photograph showing the existing view and the photomontage showing the proposed development.

Photomontages have been produced by GNET and are presented in a separate booklet as part of the planning application, with a map of their locations. Verified photographs and photomontages have been taken with a wide angle focal length (FL) and prime lens to allow representation of the development within its context. In all visualisations, the extent of the 50mm FL view has been indicated for reference, which is broadly equivalent to the c.40 degree Horizontal Field of View (HFOV) and is representative of what the human eye perceives and reflects the requirements of the Landscape Institute 'Technical Guidance Note on Visual Representation' (2019).

To correctly view the photomontage at the correct scale, the extents of the 50mm lens or 40 degree angle of view should be extended to A3 in size and viewed at arms length. This can be done by printing a hard copy or, more easily, digitally on screen, allowing reference back to the wider angle to understand the context.

Each viewpoint is described below in its existing condition and the effects of the proposed development. The descriptions, including of the change / effects, focus primarily on the extent of the 50mm image but refer to the context, as appropriate, to inform analysis.

#### 11.8.4 Visual Impacts and Effects

The viewpoints are described below. The impacts and effects during the Construction and the Operational Stage of the development (i.e. post-completion and the use / occupation of the development and the establishment and maturing of landscape works over time) are assessed below.

##### 11.8.4.1 Viewpoint 1: Cornamaddy National School/ N55

<i>Description</i>	<p>The existing view is from the N55 in front of the Cornamaddy National School. The viewpoint is looking north and is located close to the site boundary. The view is situated on the footpath along the N55 and south side of the N55 and R916 roundabout. The views are representative of views enjoyed by road users (pedestrians and vehicular) and school pupils.</p> <p>In the view, the N55 road corridor and the N55 and R916 roundabout is clearly visible in the foreground and middle ground. In the background, to the left, the roof of a dwelling is visible; in the middle the Distributor Road leading to the site/client landholding is visible; to the right, a stone wall and trees are visible.</p> <p>The view is of a roundabout and road infrastructure and is not particularly distinct.</p> <p>Viewers are considered to be involved in activities and or travelling on the road. This is generally considered of low susceptibility.</p>
<i>Sensitivity</i>	<b>Medium</b>
<i>Visual Impacts and Effects</i>	
<i>Construction Phase</i>	The proposed works would be visible in the background of the view.
	<i>Magnitude of Change</i> <b>Low</b>
	<i>Importance of Effect</i> <b>Slight</b>
	<i>Quality</i> Adverse
	<i>Duration</i> Temporary
<i>Operational Phase</i>	The proposed development would be visible in the background of the view. The roofs of the duplex residential block is visible in the middle of the background, partly hidden by existing trees.
	<i>Magnitude of Change</i> <b>Low</b>
	<i>Importance of Effect</i> <b>Slight</b>
	<i>Quality</i> Neutral
	<i>Duration</i> Permanent

11.8.4.2 Viewpoint 2: Distributor Road, Drumaconn (adjacent to Open Space)

<b>Description</b>	<p>The existing view is the junction of Distributor Road and local road leading to Drumaconn residential neighbourhood. The viewpoint is looking north and is located about 300m to the east of the site. The view is situated along the footpath at the junction of Distributor Road and Drumaconn local road, and adjacent to a local open space. The views are representative of views enjoyed by road users (pedestrians and vehicular) and local open space users.</p> <p>In the view, the distributor road and local road junction is visible in the foreground. In the middle ground, a residential dwelling and trees are visible to the left; the distributor road in the middle; and Phase 2 lands and tree row are visible to the right. In the background, a fence and gate leading to the client lands are visible, beyond this is the client lands and further back thick vegetation and tree tops are visible.</p> <p>The view is from a roadside in a residential setting. The view is pleasant with the most attractive landscape features are the trees and vegetation framing the view.</p>	
<b>Sensitivity</b>	<b>Medium</b>	
<b>Visual Impacts and Effects</b>		
<b>Construction Phase</b>	The proposed works would be partially visible in the middle of the background of the view.	
	<i>Magnitude of Change</i>	<b>Low</b>
	<i>Importance of Effect</i>	<b>Slight</b>
	<i>Quality</i>	Adverse
	<i>Duration</i>	Temporary
<b>Operational Phase</b>	The proposed development would be visible in the middle of the background of the view.	
	There residential terrace blocks are partially visible from this view and are situated a long distance from this location.	
	<i>Magnitude of Change</i>	<b>Low</b>
	<i>Importance of Effect</i>	<b>Slight</b>
	<i>Quality</i>	Neutral
	<i>Duration</i>	Permanent

11.8.4.3 Viewpoint 3 Drumaconn Open Space

**Viewpoint 3a: Looking west from Drumaconn open space**

<b>Description</b>	<p>The existing view is from the local open space in Drumaconn residential neighbourhood. The view is looking west and is situated about 230 east from the proposed site. The view is representative of views enjoyed by open space users and by local residents.</p>
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	<p>In the foreground, the open space and footpath along the open space is visible. In the middleground, the local road leading to Drumaconn residential neighbourhood is visible. In the background, the lands are slightly elevated and local open space with stone features and associated landscaping (shrubs and trees) and a fence are visible. Behind the fence is the client lands.</p> <p>This is an attractive view from a local open space.</p>	
<b>Sensitivity</b>	<b>High</b>	
<b>Visual Impacts and Effects</b>		
<b>Construction Phase</b>	The proposed works would not be visible in the view.	
	<i>Magnitude of Change</i>	<b>No change</b>
	<i>Importance of Effect</i>	-
	<i>Quality</i>	-
	<i>Duration</i>	-
<b>Operational Phase</b>	The proposed development would not be visible in the view.	
	<i>Magnitude of Change</i>	<b>No change</b>
	<i>Importance of Effect</i>	-
	<i>Quality</i>	-
	<i>Duration</i>	-

**Viewpoint 3b: Looking south-east from Drumaconn open space**

Description	<p>The existing view is from the local open space in Drumaconn residential neighbourhood. The view is looking south-east and is situated close to the proposed site. The view is representative of views enjoyed by open space users and by local residents.</p> <p>In the view, you seen the local green to the right and construction related to one of the extant permission in the view. In the background to the right a new 2-storey dwelling is seen behind the fence and to the left, the trees along the distributor road are visible, which us screening the proposed site.</p> <p>To the right of the view and behind the view, is Drumaconn residential neighbourhood and not visible in the view.</p> <p>This is an attractive view from a local open space.</p>	
Sensitivity	High	
Visual Impacts and Effects		
Construction Phase	The proposed works and construction activity would be barely visible.	
	Magnitude of Change	Negligible
	Importance of Effect	Slight – Not Significant
	Quality	Neutral

	Duration	Temporary
Operational Phase	The proposed duplex residential block is barely visible to the left of the view.	
	Magnitude of Change	Negligible
	Importance of Effect	Slight – Not Significant
	Quality	Neutral
	Duration	Permanent

#### 11.8.4.4 Viewpoint 4: Drumaconn Residential Neighbourhood

Description	<p>The existing view is from the Drumaconn residential neighbourhood. The view is looking north and is located 150m east of the proposed site. The view is located along the footpath within a residential setting. The views are representative of views enjoyed by local residents in a residential setting. Currently, the view of a construction site.</p> <p>In the foreground, the local road is visible and beyond it a fenced area where construction is taking place. In the middle-ground to the left a 2-storey dwelling is visible, to the middle the ground works and construction activity is visible and to the right some landscaping and tree is visible.</p> <p>The view is of construction site. However the view will further change as permitted development entirely built with landscaping and related infrastructure.</p>	
Sensitivity	<b>Medium</b> i.e., Although a residential setting suggests high susceptibility, the outlook is of a landscape in transition.	
Visual Impacts and Effects		
Construction Phase	Construction activity such as cranes and equipment are expected to be visible in the long distance in the centre of view. In the view, construction activity is already visible.	
	Magnitude of Change	Low
	Importance of Effect	Slight
	Quality	Neutral
	Duration	Temporary
Operational Phase	The proposed development would be visible in the background of the view. The roofs of the duplex residential blocks are visible in the middle of the background and at a distance.	
	Magnitude of Change	Low
	Importance of Effect	Slight
	Quality	Neutral
	Duration	Permanent



11.8.4.5 Viewpoint 5: The Orchard

Description	<p>The existing view is from The Orchard, local residential road leading to a residential neighbourhood and a cul-de-sac . The view is looking north and is about 475m east of the proposed site. The view is located along the footpath within a residential setting. The views are representative of views enjoyed by road users (pedestrians and vehicular) and residential receptors.</p> <p>The view is looking at the local road and footpaths in the foreground. In the middle ground, the N55 National Road and stone wall piers are visible. In the background mature vegetation is visible. The existing vegetation in the view screens long distance views from this location.</p> <p>The outlook of the view is pleasant and is from a residential setting.</p>	
Sensitivity	High	
Visual Impacts and Effects		
Construction Phase	The proposed development would not be visible from this location.	
	Magnitude of Change	No change
	Importance of Effect	-
	Quality	-
	Duration	-
Operational Phase	The proposed development would not be visible from this location.	
	Magnitude of Change	No change
	Importance of Effect	-
	Quality	-
	Duration	-

11.8.4.6 Viewpoint 6: Blyry Court (Colum Quinn BMW Athlone)

Description	<p>The existing view is from the Blyry Court , local road connecting N55 and The Bullet Road. The view is looking west and is located about 600m from the proposed site. The view is located along the footpath of the local road and adjacent to the entrance of Colm Quinn Car dealership complex. The complex itself is behind the viewpoint. The views are representative of views enjoyed by road users and Colum Quinn complex users.</p> <p>In the foreground, the local road and hedgerow along the road is visible. The hedgerow is screening views in to an agricultural land zoned for residential development.</p> <p>In the backdrop of the view, there is more vegetation and some of existing dwellings along Cornamagh Road are visible within gaps in the vegetation. There is evidence of constriction activity and vehicles in the view.</p>	
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	The view is mixed and not particularly strong.	
Sensitivity	<b>Low</b>	
Visual Impacts and Effects		
Construction Phase	Construction activity is expected to be partially visible through gaps in the vegetation and will be visible in the background of the view.	
	Magnitude of Change	<b>Medium</b>
	Importance of Effect	<b>Slight</b>
	Quality	Adverse
	Duration	Temporary
Operational Phase	Most of the proposed development is not visible or hidden by vegetation in the view. The visible elements are two residential terrace blocks in the middle of the background.	
	Magnitude of Change	<b>Low</b>
	Importance of Effect	<b>Not significant</b>
	Quality	Neutral
	Duration	Permanent

#### 11.8.4.7 Viewpoint 7: Garnafeiliagh (L5479) Field Gate Entrance

Description	The existing view is from a local road (L5479) in the Cornamaddy area. The views is looking south-west and is located 450m from the proposed site. The view is situated along the local road in front of a field entrance where there is gap in the vegetation. The views are representative of views enjoyed by farmers and local road users.	
	In the foreground, the agricultural fields zoned for residential development (3 <sup>rd</sup> party owners) are visible. In the middle ground thick hedgerow field boundaries are visible. In the background, earthworks, construction activity (client landholding) and vehicles are visible along some vegetation. The lands are undulating and an esker / elevated grounds are also visible in the background. An overhead electric line runs through the landscape.	
	The view is mixed and although a rural setting there is evidence of construction activity and the view is expected to change.	
Sensitivity	Medium	
Visual Impacts and Effects		
Construction Phase	The proposed works would be clearly visible from this location and will be visible to the middle and right in the background of the view.	
	Magnitude of Change	Medium
	Importance of Effect	Moderate
	Quality	Adverse
	Duration	Temporary

<i>Operational Phase</i>	The proposed development is clearly visible from this location. The landscape changes from a rural setting to a partly rural and urban setting. In the view, the residential terraces and duplex blocks are clearly visible. Overtime as proposed landscaping is matured, the visibility of the built elements is expected to drop.	
	<i>Magnitude of Change</i>	<b>Medium</b>
	<i>Importance of Effect</i>	<b>Moderate</b>
	<i>Quality</i>	Neutral
	<i>Duration</i>	Permanent

#### 11.8.4.8 Viewpoint 8: Garnafeiliagh (L5479) Field Gate Entrance

Description	<p>The existing view is from a local road (L5479) in the Cornamaddy area. The views is looking south and is located 500m from the proposed site. The view is situated along the local road in front of a field entrance and adjacent to a residential dwelling. The views are representative of views enjoyed by local residences along the local road.</p> <p>In the foreground, the agricultural field zoned for residential development (3<sup>rd</sup> party owners) is visible. In the middle ground, to the left of the view, a hedge and roof of a residential dwelling are visible; in the middle the agricultural filed is visible and to the left thick hedgerow is visible. The lands are noticeably sloping upwards and this limits long distance views. In the background, over the ridge some tree tops are visible.</p> <p>The view is of a rural landscape setting. The view is through a field gate entrance along a local road adjacent to residential receptors.</p>	
Sensitivity	Medium	
Visual Impacts and Effects		
Construction Phase	The proposed works would not be visible from this location.	
	Magnitude of Change	No change
	Importance of Effect	-
	Quality	-
	Duration	-
Operational Phase	The proposed works would not be visible from this location.	
	Magnitude of Change	No change
	Importance of Effect	-
	Quality	-
	Duration	-

#### 11.8.4.9 Viewpoint 9: Custume Pitch and Putt Club Athlone

Description	<p>The existing view is from the Custume Pitch Putt Club. The view is looking east and located 150m from the proposed site. The view is situated in the parking area of the Club. The views are representative of views enjoyed by users of the club.</p> <p>In the foreground, the parking area, low wooden fence and the Custume Pitch and Putt Club sign are visible. In the middle ground, the playing pitch is visible and to the right a tree group is visible. Behind the pitch is a hedgerow field boundary beyond which lies undeveloped lands within the client landholding.</p> <p>The field boundary along client landholding / the Club field boundary is a ditch and is lower than the rest of the landscape.</p> <p>In the background the developers landholding is visible, the undulating landscape and presence of an esker is also visible. Construction activity within the client landholding is clearly visible in the background with partially completed dwellings and a crane. The existing Drumaconn Residential neighbourhood acts as a backdrop to the view to the right.</p> <p>The view is mixed and not particularly strong and the users would be involved in activities and would not be entirely focused on the view.</p>
Sensitivity	<b>Medium</b>
Visual Impacts and Effects	
Construction Phase	The construction works would be clearly visible from this location. Construction activity is already visible in the landscape.
	Magnitude of Change <b>Medium</b>
	Importance of Effect <b>Moderate</b>
	Quality Adverse
	Duration Short-term
Operational Phase	<p>The proposed development would be clearly visible in the background of the view and will be across the view. The proposed residential terrace dwellings are visible in the view and form an attractive grouping of new houses in keeping with the local built styles.</p> <p>As proposed landscaping matures, the visibility of the built elements are expected to diminish over time and therefore the quality of the view is expected to improve.</p>
	Magnitude of Change <b>Medium</b>
	Importance of Effect <b>Moderate</b>
	Quality Neutral
	Duration Permanent

#### 11.8.4.10 Viewpoint 10: Cornamagh Local Road (L1475)

Description	<p>The existing view is from the Cornamagh Local Road. The view is looking east and is located 400m from the site boundary. The view is situated along the local road and adjacent to and in front of residential</p>
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	<p>RECEIVED 23/7</p> <p>dwelling. The views are representative of views enjoyed by road users and residential receptors.</p> <p>The existing view is from an elevated position. In the foreground, an empty field / site with thick hedgerow and vegetation around the site is visible. The lands slopes down are at a lower elevation compared to the viewpoint. The In the middle ground, thick vegetation covers the area and medium range views are limited or the agricultural fields are partially visible within gaps in the vegetation. To the right of the middle ground, the vegetation (mature trees ) within the Cornmagh Cemetery are visible.</p> <p>The elevated lands and tree line acts as a backdrop to the view.</p> <p>The overall view is mixed.</p>	
Sensitivity	<b>Medium</b>	
Visual Impacts and Effects		
Construction Phase	Construction activity and elements such as tall cranes may be visible from here.	
	Magnitude of Change	<b>Low</b>
	Importance of Effect	<b>Slight</b>
	Quality	Neutral
	Duration	Temporary
Operational Phase	The proposed development would not be visible from this location.	
	Magnitude of Change	<b>No change</b>
	Importance of Effect	-
	Quality	-
	Duration	-

#### 11.8.4.11 Viewpoint 11 Cornamagh Cemetery

<b>Description</b>	<p>The existing view is from Cornamagh Cemetery lands. The view is looking east towards the site and is located about 150m from the proposed site. The view is representative of views experienced by visitors of the cemetery.</p> <p>In the foreground, the cemetery and gravestones is visible. A stone wall demarks the edge of the cemetery and there is row of mature trees along this boundary.</p> <p>The matures limit any long distance views from this location. The viewers would be involved in activities and not necessarily focused on the landscape.</p>
<b>Sensitivity</b>	<b>Medium</b>
<b>Visual Impacts and Effects</b>	

Construction Phase	The proposed works would not be visible from this location.	
	Magnitude of Change	<b>No change</b>
	Importance of Effect	-
	Quality	-
	Duration	-
Operational Phase	The proposed works would not be visible from this location.	
	Magnitude of Change	<b>No change</b>
	Importance of Effect	-
	Quality	-
	Duration	-

#### 11.8.4.12 Viewpoint 12: Local Road (Cul De Sac)

Description	<p>The existing view is a local road within Cornamaddy Area. The view is looking north towards the site and is about 150m to the south of the site. The viewpoint is located on higher ground compared to the immediate surroundings. The views are representative of views experienced by local road users and from elevated lands.</p> <p>In the foreground and middle ground, the field and associated field boundaries are visible. In the background of the view, the land slopes down northwards and there are long distance views available due to elevated viewpoint. There is some evidence of built elements in the view where there are gaps in the vegetation.</p> <p>This is a pleasant view of the landscape.</p>	
Sensitivity	Medium	
Visual Impacts and Effects		
Construction Phase	The proposed development would not be visible from this location.	
	Magnitude of Change	No change
	Importance of Effect	-
	Quality	-
	Duration	-
Operational Phase	The proposed development would not be visible from this location.	
	Magnitude of Change	No change
	Importance of Effect	-
	Quality	-
	Duration	-

#### 11.8.4.13 Viewpoint 13: The Bullet Road

Description	The existing view is from the Bullet Road, a local road adjacent to residential developments. The view is looking west at the Cornamaddy
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	<p>area and the viewpoint is located about 1km from the proposed site. The view is from an elevated position overlooking the area. The views are representative of view enjoyed by local road users and the local residents.</p> <p>In the view, the Bullet Road, grass verge and fencing is visible. In the middle ground, a local residence is visible to the right of the road with associated trees. In the background, in the middle of the view, trees and layering of hedgerows are visible, screening long distance views and to the right side, the rural landscape setting and houses in the area are visible.</p> <p>This is pleasant view from an elevated location.</p>	
Sensitivity	High	
Visual Impacts and Effects		
Construction Phase	The proposed development would not be visible from this location.	
	Magnitude of Change	No change
	Importance of Effect	-
	Quality	-
	Duration	-
Operational Phase	The proposed development would not be visible from this location.	
	Magnitude of Change	No change
	Importance of Effect	-
	Quality	-
	Duration	-

## 11.9 Cumulative Impacts

A number of permitted and proposed developments in the vicinity of the proposed development site are highlighted in Section 11.4.2 of this chapter.



**Figure 11.36: Phases of development and Permitted Development within Cornamaddy Area**

This would reflect the change on the lands and the receiving environment (site and immediate settings of Cornamaddy). The Cornamaddy area is already partly developed along the northern section of N55. There are other land parcels either with planning permission for development or in the planning process for permission. Therefore, the transition of the area has already begun. Overall, the Cornamaddy area is transforming to be developed as a sustainable residential neighbourhood.

#### 11.9.1 Landscape Impacts and Effects

The masterplan lands along with other land parcels in the Cornamaddy area are zoned for development. Some of the land parcels have acquired planning permission and others in either in design process or in planning process.

There will be landscape change from existing agricultural lands to a residential neighbourhood.

Therefore, the cumulative landscape change on the receiving environment would be **High** i.e., *Change that is moderate to large in extent, resulting in major alteration to key elements features or characteristics of the landscape... Such development results in change to the character of the landscape.*

The sensitivity of the landscape was identified in Section 11.4.5, i.e., **Medium**. The resulting cumulative effect would be **Moderate – Significant**, depending in the proximity to the change.

Qualitatively the landscape effect is **Neutral** i.e., *Scheme complements the scale, landform and pattern of the landscape (townscape)/view and maintains landscape quality.*

This recognises that, whilst the change in character from agricultural lands to a residential neighbourhood in a sub-urban context is complementary to the existing land uses, reflects development potential as set out in statutory plans for the site and has been applied to the site as per the best practice in terms of urban design, open space development and Green Infrastructure policy.

Overtime the new landscape structure will evolve to integrate the new residential area as part of its wider landscape setting and be a '**Beneficial**' permanent change.

### 11.9.2 Visual Impacts and Effects

The viewpoints were described in detail and visual sensitivities were identified in Section 11.8.2 above. The cumulative visual impacts and effects are assessed below, that is the cumulative impact of the proposed development with permitted development and proposed developments in the area / client landholding.

#### 11.9.2.1 Viewpoint 1: Cornamaddy National School/ N55

Sensitivity	<b>Low</b>	
Cumulative Visual Impacts	The Creche development as part of the Phase 2 development within the Client landholding would be visible to the north of the roundabout and at the corner of N55 and Distributor Road.	
	The duplex block as part of the proposed development would be partially visible behind the creche.	
	The cumulative view would represent the urbanisation of the area. Other phases would not be visible in the view.	
	Magnitude of Change	<b>Medium</b>
	Importance of Effect	<b>Slight</b>
	Quality	Neutral
	Duration	Permanent

#### 11.9.2.2 Viewpoint 2: Distributor Road, Drumaconn (adjacent to open space)

Sensitivity	<b>Medium</b>
Cumulative Visual Impacts	The change to the view would include the distributor road in the middle beyond the fenceline. Phase 1 development would be visible to the right and background of the view; the roofs of the duplex units are visible. The extant permission is screened by existing developments. The proposed development is partially visible in the middle of the background and behind Phase 1. Most of the landscape features of interest are retained.

	Magnitude of Change	<b>Medium</b>
	Importance of Effect	<b>Moderate</b>
	Quality	Neutral
	Duration	Permanent

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### 11.9.2.3 Viewpoint 3 Drumaconn Open Space

#### Viewpoint 3a: Looking west from Drumaconn open space

Sensitivity	High	
Cumulative Visual Impacts	The cumulative change would include the extant permission visible in the background of the view, which is already under construction. The roofs of some residential dwellings will be visible over the ridge. Most of the permitted development will be screened due to topography change and vegetation in this view. Most of the landscape features of interest are retained.	
	Magnitude of Change	Low
	Importance of Effect	Moderate - Slight
	Quality	Neutral
	Duration	Permanent

#### Viewpoint 3b: Looking south-east from Drumaconn open space

Sensitivity	High	
Cumulative Visual Impacts	The cumulative change would include the proposed duplex block and creche of the Phase 2 development. The developments are partially visible in the gap in the vegetation and is not prominent.	
	The view would also include the extant permission ref: 177224, under construction in the foreground behind the fence.	
	Most of the landscape features of interest are retained, i.e., the developments are framed within the landscape.	
	Magnitude of Change	Low
	Importance of Effect	Moderate - Slight
	Quality	Neutral
	Duration	Permanent

### 11.9.2.4 Viewpoint 4: Drumaconn Residential Neighbourhood

Sensitivity	<b>Medium</b> i.e., Although a residential setting suggests high susceptibility, the outlook is of a landscape in transition.
	The cumulative change would include the extant permission (ref: 147013) in the middle ground which is already under construction. A

<i>Cumulative Visual Impacts</i>	new local road and footpath will be visible in the middle of the view leading to this permitted development area.	
	The view would change to include the already permitted and partially constructed development. Other phases of development would not be visible from the location or will be screened by existing development or vegetation which is yet to be completed on site.	
	The roof of two residential dwellings are visible in the background. However, this will be hidden when the extant permission (WCC ref: 147103) is constructed.	
	Most of the landscape features are retained.	
	<i>Magnitude of Change</i>	<b>High</b>
	<i>Importance of Effect</i>	<b>Significant</b>
	<i>Quality</i>	Neutral
	<i>Duration</i>	Permanent

#### 11.9.2.5 Viewpoint 5: The Orchard

<i>Sensitivity</i>	<b>High</b>	
<i>Cumulative Visual Impacts</i>	The cumulative change would include the Phase 1 development in the background of the view. The roofs of few dwellings of Phase 1 development are partially visible in the gaps in the vegetation. Other phases are not visible.	
	Most of the landscape features are retained.	
	<i>Magnitude of Change</i>	<b>Negligible</b>
	<i>Importance of Effect</i>	<b>Slight – Not significant</b>
	<i>Quality</i>	Neutral
	<i>Duration</i>	Permanent

#### 11.9.2.6 Viewpoint 6: Blyry Court (Colum Quinn BMW Athlone)

<i>Sensitivity</i>	<b>Low</b>	
<i>Description</i>	The hedgerow screens of the view. Beyond the hedgerow is an agricultural field zoned for residential development. Construction activity is visible on the client lands in the middle of the background also zoned for residential and open space development. There is major landscape change expected at this location.	
<i>Cumulative Visual Impacts</i>	The foreground is expected to change from agricultural fields to a residential setting. Overtime, when these lands are developed the views towards the masterplan lands will diminish.	
	Currently, the cumulative change would include the Phase 1 development in the middle and right of the background. The change will include terraced houses and duplexes of the proposed	

	development in the middle of the view. Overtime as landscaping proposals mature the developments will be partially screened.	
	Other phases of development within the client landholding are not visible.	
	<i>Magnitude of Change</i>	<b>Medium</b>
	<i>Importance of Effect</i>	<b>Slight</b>
	<i>Quality</i>	Neutral
	<i>Duration</i>	Permanent

#### 11.9.2.7 Viewpoint 7: Garnafeiliagh (L5479) Field Gate Entrance

<i>Sensitivity</i>	<b>Medium</b>	
<i>Description</i>	The agricultural fields visible in the view are zoned for residential development. The client lands are visible in the middle of the background also zoned for residential and open space development.	
<i>Cumulative Visual Impacts</i>	<p>The foreground is expected to change from agricultural fields to a residential setting. Overtime, when these lands are developed the views towards the client landholding will diminish.</p> <p>Currently, the cumulative change would include partially visibility of the Phase 1 development to the right of the background of the view. The proposed development will be visible in the middle of the view and to the left of Phase 1. Overtime as landscaping proposals mature within Phase 1, this development will be partially screened.</p> <p>Other phases of development within the client landholding are not visible.</p>	
	<i>Magnitude of Change</i>	<b>Medium</b>
	<i>Importance of Effect</i>	<b>Moderate</b>
	<i>Quality</i>	Adverse in short term and Neutral in medium – long term
	<i>Duration</i>	Permanent

#### 11.9.2.8 Viewpoint 8: Garnafeiliagh (L5479) Field Gate Entrance

<i>Sensitivity</i>	<b>Medium</b>	
<i>Description</i>	The agricultural field visible in the view is zoned for residential development. The masterplan lands are at a distance is not visible from this location due to elevated lands in the foreground.	
<i>Cumulative Visual Impacts</i>	<p>The foreground is expected to change from agricultural field to a residential setting. Overtime, when these lands are developed the views towards the client landholding will diminish.</p> <p>Currently, the cumulative change would include partial visibility of 2 no. roofs of dwellings within Phase 1 development to the left of the background of the view over the crest. Most of the other</p>	



	developments are screened behind existing developments and due to the topography.	
	<i>Magnitude of Change</i>	<b>Negligible</b>
	<i>Importance of Effect</i>	<b>Not significant</b>
	<i>Quality</i>	Neutral
	<i>Duration</i>	Permanent

#### 11.9.2.9 Viewpoint 9: Costume Pitch and Putt Club Athlone

<i>Sensitivity</i>	<b>Medium</b>	
<i>Cumulative Visual Impacts</i>	<p>The cumulative change would the proposed development in the middle ground. There is partially visibility of the Phase 1 and Phase 2 developments.</p> <p>Overtime, landscaping proposals and as existing landscape matures, the visibility of the residential developments are expected to be a backdrop to the activities.</p> <p>The cumulative view would change from a semi-rural setting to an urban setting.</p>	
	<i>Magnitude of Change</i>	<b>Medium</b>
	<i>Importance of Effect</i>	<b>Moderate</b>
	<i>Quality</i>	Neutral
	<i>Duration</i>	Permanent

#### 11.9.2.10 Viewpoint 10: Cornamagh Local Road (L1475)

<i>Sensitivity</i>	<b>Medium</b>	
<i>Description</i>	The lands visible in the foreground are zoned for residential development. The lands are subject to landfill and there is an expected landscape change from rural setting to sub-urban setting.	
<i>Cumulative Visual Impacts</i>	<p>The cumulative change would include partially visibility of roofs of some of the residential dwellings proposed between gaps in the vegetation. Most of the developments are screened by existing vegetation. Other phases or developments are not visible from this location. Over time as landscaping proposals mature the development will be mostly screened. Most of the landscape features are retained.</p>	
	<i>Magnitude of Change</i>	<b>Low</b>
	<i>Importance of Effect</i>	<b>Slight</b>
	<i>Quality</i>	Neutral
	<i>Duration</i>	Permanent

#### 11.9.2.11 Viewpoint 11: Cornamagh Cemetery

<i>Sensitivity</i>	<b>Medium</b>
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<i>Description</i>	The field visible adjacent to the Cemetery lands are zoned for development. Overtime the lands visible will change for agricultural fields in a rural landscape setting to sub-urban residential setting.	
<i>Cumulative Visual Impacts</i>	The proposed development along with other phases are not visible in this view. The landscape features and characteristics visible are maintained. Therefore, there will be no cumulative impact.	
	<i>Magnitude of Change</i>	<b>No change</b>
	<i>Importance of Effect</i>	-
	<i>Quality</i>	-
	<i>Duration</i>	-

**11.9.2.12 Viewpoint 11: Local Road (Cul De Sac)**

<i>Sensitivity</i>	<b>Medium</b>	
<i>Cumulative Visual Impacts</i>	The proposed development sits to the background of the view behind the existing vegetation.  However, none of the phases or developments are not visible in the view. The landscape features and characteristics visible are maintained. Therefore, there will be no cumulative impact.	
	<i>Magnitude of Change</i>	<b>No change</b>
	<i>Importance of Effect</i>	-
	<i>Quality</i>	-
	<i>Duration</i>	-

**11.9.2.12 Viewpoint 13: The Bullet Road**

<i>Sensitivity</i>	<b>Medium</b>	
<i>Cumulative Visual Impacts</i>	The proposed and permitted developments would not be visible from this location.	
	<i>Magnitude of Change</i>	<b>No Change</b>
	<i>Importance of Effect</i>	-
	<i>Quality</i>	-
	<i>Duration</i>	-

**11.10 Summary****11.10.1 Landscape Impacts and Effects**

Phase	Landscape Sensitivity	Magnitude of Change	Significance	Quality	Timescale	Comments
<b>Construction Phase</b>	<b>Medium</b>	Medium	<b>Moderate</b>	Adverse	Temporary / Early Short Term	It is expected that all construction works would have an adverse landscape impact. Although valued features would be protected, the works would change and degrade the lands until they are re-made into the proposed development. The construction works are expected to take up to two years and, therefore, are considered as temporary in duration.
<b>Operational Phase</b>		Medium	<b>Moderate</b>	Neutral in Short Term Beneficial in Long Term	Permanent	The proposed development achieves local policy objectives of WMCC and is in keeping with local land use zoning. Its scale and effect would be transformational along the edge Cornamaddy, Athlone, but important to be so, in order to contribute to local place-making.
<b>Cumulative Effects</b>		High	<b>Moderate - Significant</b>	Neutral in Short Term Beneficial in Long Term	Permanent	A number of permitted and proposed developments in the Cornamaddy Area. The developments achieves local policy objectives of WMCC and is in keeping with local land use zoning. This would reflect the change on client's landholding and other lands in the area. The transition of the area has already begun.

**11.10.2 Visual Impacts and Effects**

VP	Location	Viewpoint Sensitivity	Construction Phase			Operational Phase			Cumulative Effects		
			Degree of Change	Significance	Quality and Timescale	Degree of Change	Significance	Quality and Timescale	Degree of change	Significance	Quality and Timescale
1	Cornamaddy National School	Medium	Low	Slight	Neutral and Temporary	Low	Slight	Neutral and Permanent	Medium	Slight	Neutral and Permanent
2	Site Entrance, Drumaconn (Adjacent to Property no. 1)	Medium	Low	Slight	Adverse and Temporary	Low	Slight	Neutral and Permanent	Medium	Moderate	Neutral and Permanent
3.a	Looking north-west from Drumaconn open space	High	No change	-	-	No change	-	Neutral and Permanent	Low	Moderate - Slight	Neutral and Permanent
3.b	Looking south-east from Drumaconn open space	High	Negligible	Slight - Not Significant	Neutral and Temporary	Negligible	Slight - Not Significant	Neutral and Permanent	Low	Moderate - Slight	Neutral and Permanent
4	Drumaconn (Adjacent to Property no. 64)	Medium	Low	Slight	Neutral and Temporary	Low	Slight	Neutral and Permanent	High	Significant	Neutral and Permanent
5	The Orchard	High	No change	-	-	No change	-	-	Negligible	Slight – Not Significant	Neutral and Permanent
6	Blyry Court (Colum Quinn BMW Athlone)	Low	Medium	Slight	Adverse and Temporary	Low	Not Significant	Neutral and Permanent	Medium	Slight	Adverse in short term and Neutral in long term; and Permanent
7	Garnafeiliagh (L5479) Field gate entrance	Medium	Medium	Moderate	Adverse and Temporary	Medium	Moderate	Neutral and Permanent	Medium	Moderate	Neutral and Permanent
8	Garnafeiliagh (L5479) Field gate entrance	Medium	No change	-	-	No change	-	-	Negligible	Not significant	Neutral and Permanent
9	Custume Pitch Putt Club Athlone	Medium	Medium	Moderate	Adverse and Short-term	Medium	Moderate	Neutral and Permanent	High	Moderate	Neutral and Permanent
10	Cornamagh (L1475)	Medium	Low	Slight	Neutral and Temporary	No change	-	-	Medium	Moderate	Neutral and Permanent
11	Cornamagh Cemetery	Medium	No change	-	-	No change	-	-	No change	-	-
12	Local Road (Cul-de-sac)	Medium	No change	-	-	No change	-	-	No change	-	-
13	The Bullet Road	High	No change	-	-	No change	-	-	No change	-	-

## **11.11 Monitoring**

### **11.11.1 Construction Phase**

The contract works will be supervised by a suitably qualified landscape architect. The planting works will be undertaken in the next available planting season after completion of the main civil engineering and building work.

### **11.11.2 Operational Phase**

This will consist of weed control, replacement planting, pruning etc. All landscape works will be in an establishment phase for the initial three years from planting. The company or public agency responsible for site management of the scheme will be responsible for the ongoing maintenance of the site after this three-year period is complete.

### **11.11.3 Reinstatement**

The proposed landscape development works in the form of tree and shrub planting will be used to re-instate the site, post-construction. These works will be carried out by an appointed landscape contractor and will be supervised by a suitably qualified landscape architect or manager.

## **11.12 Interactions**

The pertinent environmental interactions for landscape and visual are with:

- Chapter 5: Population & Human Health; and
- Chapter 8: Biodiversity;

In this regard, landscape proposals for the scheme have been developed in consultation with the Project Ecologist and the cultural heritage consultants.

For a detailed description of the biodiversity at the site, refer to Chapter 8 (Biodiversity).

In the preparation of Chapter 5 (Population & Human Health), regard has been had to results of the LVIA, as impacts on landscape and visual amenity can in turn negatively affect residential amenity in affected areas.

No significant impacts are predicted in relation to any of the above-listed interactions.

## **11.13 Difficulties Encountered**

There were no specific difficulties encountered during the preparation of the landscape and visual impact assessment.

## **11.14 References**

- Guidelines for Landscape and Visual Impact Assessment, 3rd Edition 2013, published by the UK Landscape Institute and the Institute of Environmental Management and Assessment (hereafter referred to as the GLVIA).
- Guidelines on the Information to be Contained in Environmental Impact Statements, May 2022, published by the Environmental Protection Agency.
- Westmeath County Development Plan 2021-2027.

- Athlone Town Development Plan 2014-2020.
- Cornamaddy Action Area Plan 2004.

RECEIVED: 03/11/2023

## 12 ARCHITECTURAL, ARCHAEOLOGICAL AND CULTURAL HERITAGE

### 12.1 Introduction

This chapter assesses the impacts of the proposed development, as described in Chapter 2, on the known and potential cultural heritage resource. The term ‘Cultural Heritage’ encompasses heritage assets relevant to both the tangible resource (archaeology and architectural heritage); and non-tangible resources (history, folklore, tradition, language, placenames, etc.). The recorded and potential cultural heritage resource within a study area encompassing the proposed development site and the lands extending for 1km from its boundary, was reviewed in order to compile a comprehensive cultural heritage baseline for the assessment.

The chapter was prepared by Tony Cummins, a Senior Archaeologist with John Cronin and Associates who holds primary and post-graduate qualifications in Archaeology (B.A. and M.A. University College Cork, 1992/1994). He has accumulated 29 years’ industry experience and has prepared numerous archaeological, architectural and cultural heritage impact assessments during this time.

### 12.2 Methodology

The methodology used for this assessment is based on guidelines presented in the *Guidelines for Information to be Contained in EIAR* (Environmental Protection Agency (EPA) 2022), *Framework and Principles for the Protection of Archaeological Heritage* (Department of Arts, Heritage, Gaeltacht and the Islands 1999), *Architectural Heritage Protection Guidelines for Local Authorities* (Department of Arts, Heritage and the Gaeltacht 2011) and *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties* (International Council on Monuments and Sites (ICOMOS) 2011).

The assessment was based on a programme of desk-based research and a field-walking survey of the proposed development site. These studies were undertaken to identify any known or potential features of archaeological, architectural or cultural heritage significance likely to be impacted by the proposed development.

#### 12.2.1 Desktop Research

A desktop review of the archaeological, architectural heritage and cultural heritage environment within the study area was carried out in order to compile a baseline for the assessment. This information has provided an insight into the development of the study area over time and also assisted in an evaluation of the potential presence of unrecorded cultural heritage sites or features within the proposed development site. The principal sources reviewed for the assessment of the recorded archaeological resource were the Sites and Monuments Record (SMR) and the Record of Monuments and Places (RMP) maintained by the National Monuments Service, Department of Housing, Local Government and Heritage (DHLGH). The current Westmeath County Council’s Record of Protected Structures (RPS) and the National Inventory of Architectural Heritage (NIAH) were consulted to assess the designated architectural heritage resource. Summaries of the legal and planning frameworks designed to protect these elements of the cultural heritage resource are also provided within Section 12.3.2 of this chapter.

Other sources consulted as part of the assessment included the following:

**Development Plans:** The relevant development plans for the study area are the *Westmeath County Development Plan 2021-2027* and the *Athlone Town Development Plan 2014-2020*. These identify the Protected Structures and Architectural Conservation Areas



within the administrative areas and outline the Council's policies for the protection of the archaeological and architectural heritage resource.

**Database of Irish Excavation Reports:** The Database of Irish Excavation Reports contains summary accounts of licensed archaeological excavations carried out in Ireland (North and South) from 1969 to present. Current data was accessed via [www.excavations.ie](http://www.excavations.ie) in September 2023.

**Literary Sources:** Various published literary sources were consulted in order to assess the archaeological, historical, architectural heritage and folklore record of the study area and these are listed in Section 12.7 of this chapter.

**Historic Maps:** Available cartographic depictions of the study area dating from the 17th century onward were reviewed as part of the assessment.

**Aerial/Satellite/LiDAR Imagery:** A review of available online imagery of the proposed development site was undertaken in order to ascertain if any traces of unrecorded archaeological sites were visible.

**Irish Heritage Council Heritage Map Viewer:** This online mapping source ([www.heritagemaps.ie](http://www.heritagemaps.ie)) collates various cultural heritage datasets sourced from, among others, the National Monuments Service, National Museum of Ireland (find spots), local authorities, the Royal Academy of Ireland and the Office of Public Works.

**Irish National Folklore Collection:** Transcribed material from the National Folklore Collection archive has been digitised and published online at [www.duchas.ie](http://www.duchas.ie).

**Placenames Database of Ireland:** This online database ([www.logainm.ie](http://www.logainm.ie)) provides a comprehensive management system for data, archival records and place names research conducted by the State.

**UNESCO designated World Heritage Sites and Tentative List:** There are two world heritage sites in Ireland and a number of other significant sites are included in a Tentative List (2022) that has been put forward by Ireland for inclusion. None are located within the environs of the proposed development.

#### **12.2.2 Field Inspection**

A systematic field-walking inspection of the proposed development site was carried out to assess whether surface traces of previously undetected archaeological sites or structures of architectural heritage significance were present. A photographic record of the field inspection was compiled and extracts are presented in Appendix 12.1.

#### **12.2.3 Methodology for Assessment of Impacts**

The following provides a summary of the criteria used to assess impacts in order to concisely outline the methodology specifically applied to the cultural heritage resource which has been informed by relevant EPA and ICOMOS guidelines.

##### Duration of Effects

The duration of effects is assessed based on the following criteria, as defined in the EPA (2022) EIAR Guidelines:

- Momentary Effects: Seconds to Minutes.
- Brief Effects: Less than a day.
- Temporary Effects: Less than a year
- 'Short-term Effects: Lasting 1 to 7 years
- Medium-term Effects: Lasting 7 to 15 years

- Long-term Effects: Lasting 15 to 60 years
- Permanent Effects: Lasting over 60 years.

#### Type of Effect

The type of effect on the cultural heritage resource can be any of the following, as per the EPA (2022) EIAR Guidelines.

- Indirect Effects (Secondary or Off-site Effects): Effects on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway.
- Cumulative Effects: The addition of many minor or significant effects, including effects of other projects, to create larger, more significant effects
- ‘Worst case’ Effects: The effect arising from a project in the case where mitigation measures substantially fail
- Indeterminable Effects: When the full consequences of a change in the environment cannot be described
- Reversible Effects: Effects that can be undone by mitigation or remediation
- Irreversible Effects: When the character, distinctiveness, diversity or reproductive capacity of an environment is permanently lost
- Residual Effects: The degree of environmental change that will occur after the proposed mitigation measures have taken effect.

#### Quality of Effect

The quality of an effect on the cultural heritage resource can be positive, neutral or negative:

- Positive Effect: a change which improves the quality of the cultural heritage environment (e.g., increasing amenity value of a site in terms of managed access, signage, presentation etc. or high-quality conservation and re-use of an otherwise vulnerable derelict structure)
- Neutral Effect: no change or effects that are imperceptible, within the normal bounds of variation for the cultural heritage environment
- Negative Effect: a change which reduces the quality of the cultural heritage resource (e.g., visual intrusion on the setting of an asset, physical intrusion on features/setting of a site etc.)

#### Magnitude of Effect

This is based on the degree of change, incorporating any mitigation measures, on a cultural heritage asset and can be negative or positive. The magnitude is ranked without regard to the value of the asset according to the following scale: High; Medium; Low and Negligible and has been informed by criteria published in the International Council on Monuments and Sites Guidance on Heritage Impact Assessments for Cultural World Heritage Properties (ICOMOS 2011) (Table 12.1).

MAGNITUDE	DESCRIPTION
<b>High</b>	<p>Most or all key archaeological or architectural materials affected such that the resource is totally altered</p> <p>Comprehensive changes to setting</p> <p>Changes to most or all key historic landscape elements, parcels or components; extreme visual effects; fundamental changes to use or access; resulting in total change to historic landscape character</p> <p>Major changes to area that affect Intangible Cultural Heritage activities or associations or visual links and cultural appreciation</p>
<b>Medium</b>	<p>Changes to many key archaeological or historic building materials/elements such that the resource is clearly/significantly modified.</p>

MAGNITUDE	DESCRIPTION
	<p>Considerable changes to setting that affect the character of the archaeological asset.</p> <p>Changes to the setting of a historic building, such that it is significantly modified.</p> <p>Change to many key historic landscape elements, parcels or components, visual change to many key aspects of the historic landscape, considerable changes to use or access, resulting in moderate changes to historic landscape character.</p> <p>Considerable changes to area that affect the Intangible Cultural Heritage activities or associations or visual links and cultural appreciation.</p>
<b>Low</b>	<p>Changes to key archaeological materials/historic building elements, such that the resource is slightly altered/slightly different.</p> <p>Slight changes to setting of an archaeological monument.</p> <p>Change to setting of a historic building, such that it is noticeably changed.</p> <p>Change to few key historic landscape elements, parcels or components; slight visual changes to few key aspects of historic landscape; slight changes to use or access; resulting in limited change to historic landscape character</p> <p>Changes to area that affect the Intangible Cultural Heritage activities or associations or visual links and cultural appreciation.</p>
<b>Negligible</b>	<p>Very minor changes to key archaeological materials or setting.</p> <p>Slight changes to historic building elements or setting that hardly affect it.</p> <p>Very minor changes to key historic landscape elements, parcels or components; virtually unchanged visual effects; very slight changes to use or access; resulting in very small change to historic landscape character.</p> <p>Very minor changes to area that affect the Intangible Cultural Heritage activities or associations or visual links and cultural appreciation.</p>

Table 12.1: Magnitude of Impact Assessment Indicators for Cultural Heritage Assets

#### Value Assessment

While various national and local authority statutory designations exist for elements of the Irish cultural heritage resource (see Section 12.3.2), there are currently no formal criteria for grading the values of individual elements of this resource. Given the absence of formal criteria the evaluations used in this assessment have been informed by guidelines presented in the *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties* (ICOMOS 2011). The evaluation of the values of cultural heritage assets is not intended as definitive but rather as an indicator which contributes to a wider judgment based the individual circumstances of each asset. The application of values included a consideration of their legal designations (e.g., National Monuments), condition, preservation, historical significance, group value, rarity, visibility in the landscape, fragility/vulnerability and amenity value on a case-by-case basis. It is noted that archaeological monuments, whether extant or levelled, have the potential to possess sub-surface attributes, such as artefacts, human burials or other archaeological remains, that may possess values that cannot be discerned without recourse to archaeological excavation but are unlikely to be affected in the absence of direct negative impacts. The value of all known or potential assets that may be impacted by development are ranked according to the following scale as defined by ICOMOS: Very High; High; Medium; Low, Negligible, Unknown (Table 12.2). The values assigned to relevant cultural heritage assets

within the area were determined following the completion of the desktop research combined with subsequent site inspections and are outlined in Section 12.3.10.

VALUE	DESCRIPTION
<b>Very High</b>	World Heritage Sites (including Tentative List properties) Sites, buildings or landscapes of acknowledged international importance Intangible associations with individuals or innovations of global significance
<b>High</b>	Nationally designated sites, buildings and landscapes of significant quality, rarity, preservation and importance Undesignated assets of the quality and importance to be designated Assets that can contribute significantly to acknowledged national research objectives Archaeological Landscapes with significant group value Intangible associations with individuals or innovations of national significance
<b>Medium</b>	Designated or undesignated assets that can contribute significantly to regional research objectives, including buildings that can be shown to have exceptional qualities in their fabric or historical associations Conservation Areas and historic townscapes containing buildings that contribute significantly to its historic character Intangible associations with individuals or innovations of regional significance
<b>Low</b>	Assets compromised by poor preservation and/or poor survival of contextual associations Assets of limited value, but with potential to contribute to local research objectives Historic Townscape or built-up areas of limited historic integrity in their buildings and settings Intangible associations with individuals or innovations of local significance
<b>Negligible</b>	Assets with very little or no surviving archaeological interest Landscapes with little or no significant historical interest Buildings or urban areas of no architectural or historical note; buildings of an intrusive character
<b>Unknown</b>	Assets whose importance has not been ascertained Buildings with some hidden (i.e., inaccessible) potential for historic significance

Table 12.2: Indicative Factors for Assessing the Value of Cultural Heritage Assets (after ICOMOS 2011)

#### Significance of Effects

This is assessed based on a consideration of the Magnitude of the Impact (graded from High to Negligible, based on a consideration of character, duration, probability and consequences) combined with the Value (graded from High to Negligible, based on a consideration of significance/sensitivity) of the cultural heritage asset. The Significance

can be described as Profound, Very Significant, Significant, Moderate, Slight, Not Significant or Imperceptible (Table 12.3 and Table 12.4).

<b>SIGNIFICANCE</b>	<b>DESCRIPTION</b>
<b>Imperceptible</b>	An effect capable of measurement but without significant consequences
<b>Not Significant</b>	An effect which causes noticeable changes in the character of the environment but without significant consequences
<b>Slight</b>	An effect which causes noticeable changes in the character of the environment but without affecting its sensitivities
<b>Moderate</b>	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends
<b>Significant</b>	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment
<b>Very Significant</b>	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment
<b>Profound</b>	An effect which obliterates sensitive characteristics

*Table 12.3: Significance of Effects (per EPA EIAR Guidelines 2022)*

<b>MAGNITUDE</b>	<b>High</b>	Not Significant/ Slight	Moderate/ Significant	Significant/ Very Significant	Very Significant/ Profound
	<b>Medium</b>	Not Significant	Slight	Moderate/ Significant	Significant/ Very significant
	<b>Low</b>	Not Significant/ Imperceptible	Slight/ Not Significant	Slight	Moderate
	<b>Negligible</b>	Imperceptible	Not Significant/ Imperceptible	Not Significant/ Slight	Slight
		<b>Negligible</b>	<b>Low</b>	<b>Medium</b>	<b>High/Very High</b>
<b>VALUE OF CULTURAL HERITAGE ASSET</b>					

*Table 12.4: Significance of Effects Matrix (per EPA EIAR Guidelines 2022)*

### 12.3 Receiving Environment

#### 12.3.1 Summary Description of Proposed Development Location

The proposed development site is situated within Cornamaddy townland in an area of agricultural land located c.2km outside the archaeological Zone of Potential surrounding the historical core of Athlone town as designated by the National Monuments Service of the Department of Housing, Local Government and Heritage. The lands within the proposed development site comprise pastureland which is sub-divided into sub-rectangular shaped vacant fields. The soil profiles within the general area consist of a mix of peats and fine loamy drift with limestones, while the underlying geology is composed of pale-grey massive limestone. Lough Ree is located c. 2km to the north and the River Shannon is c. 3.3km to the west.

#### 12.3.2 Legal and Planning Context

This section presents a concise summary of the legal and planning policy frameworks relevant to this assessment in order to provide a context for the statutory protection assigned to the cultural heritage resource.

The management and protection of cultural heritage in Ireland is achieved through a framework of national laws and policies which are in accordance with the provisions of the Valetta Treaty (1995) (formally the European Convention on the Protection of the Archaeological Heritage, 1992) ratified by Ireland in 1997; the Granada Convention (1985) (formally the European Convention on the Protection of Architectural Heritage), ratified by Ireland in 1997; and the UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage, 2003, ratified by Ireland in 2015. The locations of World Heritage Sites (Ireland) and the Tentative List of World Heritage Sites submitted by the Irish State to UNESCO were reviewed and none are located within the environs of the proposed development.

The national legal statutes and guidelines relevant to this assessment include:

- National Monuments Acts 1930, as amended
- Heritage Act 1995
- National Cultural Institutions Act 1997
- The Architectural Heritage (National Inventory) and Historic Monuments (Misc.) Provisions Act 1999
- Planning and Development Act 2000, as amended
- Department of Arts, Heritage and Gaeltacht 2011 *Architectural Heritage Protection: Guidelines for Planning Authorities*.
- Department of Arts, Heritage, Gaeltacht and the Islands 1999 *Framework and Principles for the Protection of Archaeological Heritage*

#### Archaeological Legal and Planning Context

The National Monuments Act 1930 and its Amendments, the Heritage Act 1995 and relevant provisions of the National Cultural Institutions Act 1997 are the primary means of ensuring the satisfactory protection of archaeological remains. There are a number of mechanisms under the National Monuments Acts that are applied to secure the protection of archaeological monuments. These include the designation of National Monument status for sites deemed to be of national significance, the Register of Historic Monuments (RHM), the Record of Monuments and Places (RMP), the Sites and Monuments Record (SMR), and the placing of Preservation Orders and Temporary Preservation Orders on endangered sites.

Section 2 of the National Monuments Act, 1930 defines a National Monument as a monument or the remains of a monument, the preservation of which is a matter of national importance. The State may acquire or assume guardianship of examples through agreement with landowners or under compulsory orders. Archaeological sites within the ownership of local authorities are also deemed to be National Monuments. The prior written consent of the Minister is required for any works at, or in proximity to, a National Monument or at archaeological sites which are subject to a Preservation Order. There are no National Monuments in State Care or monuments assigned Preservation Orders located within the study area.

The RMP was established under Section 12 (1) of the National Monuments (Amendment) Act, 1994 and was based on the earlier SMR and RHM records. It comprises lists and maps of all known archaeological monuments and places for each county in the State and all listed archaeological sites receive statutory protection under the National Monuments Act 1994. No works can be undertaken at their locations or within their surrounding designated Zones of Notification without providing two months advance notice to the NMS. There are no recorded archaeological sites located within the proposed development site while there is one example within the surrounding 1km study area. This monument is described in Section 12.3.3 and is mapped on Figure 12.1.



The Westmeath County Development Plan 2021-2027 includes the following relevant policies and objectives in relation to the protection of the archaeological resource (the Athlone Town Development Plan 2014-2020 contains similar policies and objectives in relation to archaeological heritage):

*CPO 14.5 Seek to ensure the protection and sympathetic enhancement of archaeological heritage, and in this regard applications will be referred to the National Monuments Service, Department of Culture, Heritage & the Gaeltacht for comment.*

*CPO 14.6 Seek to ensure the protection of archaeological sites and monuments and their settings and archaeological objects that are listed in the Record of Monuments and Places, in the ownership/guardianship of the State, or that are the subject of Preservation Orders or have been registered in the Register of Historic Monuments. Seek to ensure the protection and preservation of archaeological sites, which have been identified subsequent to the publication of the Record of Monuments and Places.*

*CPO 14.7 Ensure that any development adjacent to an archaeological monument or site shall not be detrimental to the character of the archaeological site, or its setting and shall be sited in a manner which minimises the impact on the monument and its setting. Development which is likely to detract from the setting of such a monument or site will not be permitted*

*CPO 14.11 Consult with the National Monuments Service in relation to proposed developments adjoining archaeological sites.*

*CPO 14.12 Ensure that archaeological excavation is carried out according to best practice as outlined by the National Monuments Service, Department of Culture, Heritage, and the Gaeltacht, The National Museum of Ireland and the Institute of Archaeologists of Ireland.*

#### Architectural Heritage Legal and Planning Context

The protection of the architectural heritage resource is provided for through a range of legal instruments that include the Heritage Act 1995, the Architectural Heritage (National Inventory) and National Monuments (Misc. Provisions) Act 1999, and the Planning and Development Act 2000. The Planning and Development Act 2000 requires all Planning Authorities to keep a 'Record of Protected Structures' (RPS) of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest. As of the 1st January 2000, all structures listed for protection in current Development Plans, have become 'protected structures'. Since the introduction of this legislation, planning permission is required for any works to a protected structure that would affect its character. A protected structure also includes the land and other structures within its curtilage. While the term 'curtilage' is not defined by legislation, the *Architectural Heritage Protection Guidelines for Local Authorities* (Department of Arts, Heritage and the Gaeltacht 2011), describes it as the parcel of land immediately associated with a structure and which is (or was) in use for the purposes of the structure. In addition, local authorities must provide for the preservation of places, groups of structures and townscapes of architectural heritage significance through designation of Architectural Conservation Areas (ACAs).

The National Inventory of Architectural Heritage (NIAH) was established to record architectural heritage structures within the State and while inclusion in the NIAH does not provide statutory protection it is intended to advise local authorities on compilation of their Record of Protected Structures. The NIAH also includes a Survey of Historic Gardens and Landscapes which comprises a non-statutory, desk-based survey of such features.

The *Westmeath County Development Plan 2021-2027* presents a number of objectives to ensure the protection of the architectural heritage resource within the county and these include:

*CPO 14.27 Protect and conserve buildings, structures and sites contained in the Record of Protected Structures and to encourage the sympathetic re-use and long-term viability of such structures without detracting from their special interest and character.*

*CPO 14.28 Protect the architectural heritage of Westmeath through the identification of Protected Structures, the designation of Architectural Conservation Areas (ACAs), the safeguarding of designed landscapes and historic gardens, and the recognition of structures and elements that contribute positively to the vernacular and industrial heritage of the County.*

The *Athlone Town Development Plan 2014-2020* contains similar objects for the built heritage resource and also includes policies and objectives in relation to vernacular and industrial heritage (Development Plan sections 11.21 and 11.23).

### 12.3.3 Archaeological and Historical Context

Relevant datasets in relation to recorded archaeological sites cited within this section of the chapter have been interrogated and retrieved from current state sources and are considered accurate at the time of writing in September 2023. The dating framework used for each period of the archaeological record is based on the framework presented in the *Guidelines for Authors of Reports on Archaeological Excavations* published by the National Monuments Service (2006). The Archaeological Survey of Ireland's inventory description of the archaeological site within the study area, as published on the National Monuments Service's online Historic Environment Viewer ([www.archaeology.ie](http://www.archaeology.ie)) is also provided.

The following section provides high-level overviews of the general nature of the various archaeological periods in order to present summary contextual information for the general reader. Relevant information sourced from documentary research, including extracts from historical cartographic sources, is also presented in this section. While the study area is located outside the urban area of Athlone town, summary details on the origins and development of the settlement are presented to provide contextual information on the wider environs of the proposed development site, which would have formed part of the agricultural hinterland of the town during the medieval period.

There are no recorded archaeological sites within the boundary of the proposed development and the one example located within the surrounding 1km study area comprises a late prehistoric mound barrow (WM029-041----) located 730m to the north (Table 12.5 and Figure 12.1). The proposed development is located c.2km outside the Zone of Archaeological Potential around the historic core of Athlone town as designated by the National Monuments Service.

MONUMENT NO.	CLASS	TOWNLAND	ITM E	ITM N	DISTANCE FROM DEVELOPMENT
WM029-041----	Mound barrow	Garrynafela	605654	743942	730m to north

Table 12.5: Recorded archaeological site within 1km of the proposed development

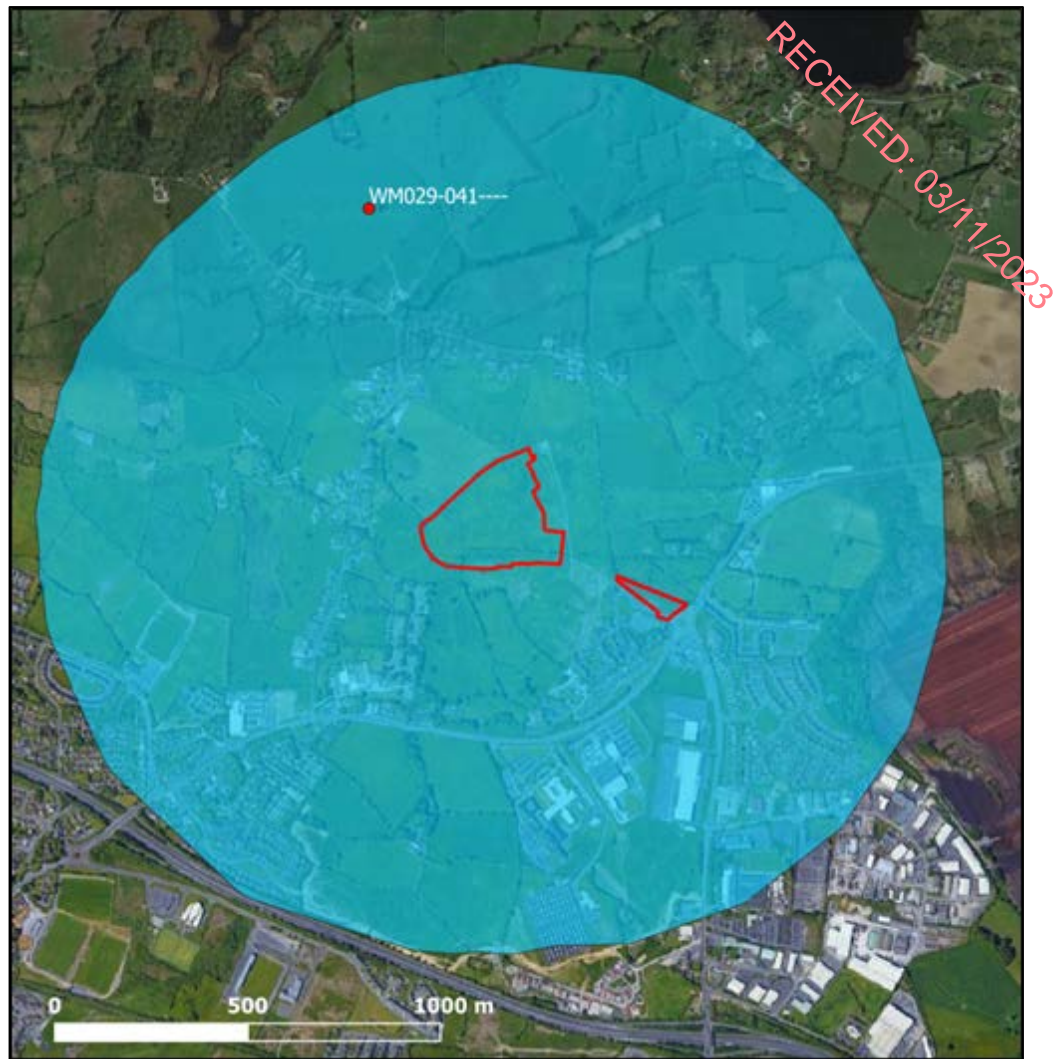


Figure 12.1 – Location of recorded archaeological site within 1km study area (shaded blue)

#### Prehistoric periods

Until the recent identification of Palaeolithic human butchery marks on animal bones recovered from caves in Counties Cork and Clare, the earliest recorded evidence for human activity in Ireland dated to the Mesolithic period (7000–4000 BC) when groups of hunter-gatherers lived on the heavily wooded island. The archaeological record indicates that these mobile groups favoured coastal, lake and river shores which provided a transport and food resource. They did not construct any settlements or monuments that have left any above ground traces although their presence in an area can often be identified by scatters of worked flints in ploughed fields. The Neolithic period (4000–2400 BC) began with the arrival and establishment of agriculture as the principal form of economic subsistence, which resulted in more permanent settlement patterns in farmlands within areas of cleared forestry. As a consequence of the more settled nature of agrarian life, new site-types, such as substantial rectangular timber houses and various types of megalithic tombs, and artefacts such as pottery begin to appear in the archaeological record during this period.

The advent of the Bronze Age period (c. 2400–500 BC) in Ireland saw the introduction of a new artefactual assemblage and manufacturing techniques to the island, including the use of metal and ceramic objects. This period was also associated with the construction of new monument types such as standing stones, stone rows and circles as well as burnt mounds known as fulachta fia. The development of new burial practices during this period also saw the construction of funerary monuments such as wedge tombs, cairns, barrows,

boulder burials and cists. The arrival of iron-working technology in Ireland saw the advent of the Iron Age (600 BC – 400 AD). Relatively little has been known about Iron Age settlement and ritual practices until recent decades when the corpus of evidence has been greatly increased by the discovery of sub-surface remains of sites dating to this period during archaeological investigations associated with development projects.

The one recorded archaeological monument within the 1km study area surrounding the proposed development site comprises a mound barrow (WM029-041----) in Garrynafela townland (Figure 12.1). This is a site type that comprises broadly circular earth or earth-and-stone mound with no discernible external enclosing features. They are funerary in nature and contain and/or cover burials and excavated examples have been dated to the Bronze and Iron Ages. The mound barrow in Garrynafela has been described as follows by the Archaeological Survey of Ireland:

*Situated at N end of natural ridge in undulating pasture with good views in all directions. High oval-shaped flat-topped mound (top dims. 7.8m x 6.28m; base diam. c. 31m NE-SW x 24m NW-SE) of earth and stones with no evidence of an enclosing fosse or any other feature associated with the mound. The sides of the mound are quite steep on W, N and E sides. The NE side of the mound has been damaged by quarrying and there are some thorn bushes growing on the monument at this location. Possible mound barrow classification as it would appear to be too small to classify as a small motte (SMR File 06/06/1985). Mound barrow placed on the Register of Historic Monuments on the 18/06/1986.*

The National Museum of Ireland's Topographical Files also record the discovery of a wide range of prehistoric archaeological objects within the section of the River Shannon located to the west of the study area, indicating a concentration of activity which was likely concentrated at fording points across the river channel.

#### Early medieval period (AD 400 – 1169)

The Irish early medieval period (AD 400 – 1169) commenced following the introduction and establishment of Christianity. While this period saw the emergence of the first phases of urbanisation around the Hiberno-Norse ports, the dominant settlement pattern continued to be rural-based and centred around enclosed farmsteads known as ringforts. These are the most common early medieval sites within the Irish landscape this is attested to by the fact that their original Gaelic names (*rath* and *lios*) still form some of the most common place-name elements in the country. Archaeological excavations have demonstrated that the majority comprised enclosed farmsteads containing the foundations of domestic and agricultural buildings. The Vikings were active on the River Shannon in the 9th century and a Viking hoard was found on Hare Island on Lough Ree c. 4.5km north of Athlone. The first documented ford at Athlone was constructed in c. 1000 AD by the Kings of Midhe and Connacht; in part to impede navigation of the Shannon by the fleet of the King of Munster which surrendered at Athlone in 1087. While there are no recorded early medieval sites located within the study area there are numerous examples located within the surrounding region, indicating a strong settlement pattern had been established within the wider landscape during this period.

#### The late and high medieval periods (AD 1169 – 1550)

There are no recorded late medieval archaeological sites located within the study area and the lands in the area appear to have formed part of the agricultural hinterland of Athlone town during these centuries. The Kingdom of Mide [Meath] was granted to Hugh de Lacy in 1172 and the process of sub-infeudation and settlement began soon afterwards but it is unlikely that any effective inroads were made as far west as Athlone for some time. The original Anglo-Norman grantee of Athlone seems to have been Geoffrey de Costentin who was granted a cantred in Connacht adjoining Athlone in 1200 and was probably responsible for the construction of a possible motte castle (WM020-042099-) at



Athlone in the 1190s. The Anglo-Normans established an initial settlement at Athlone by 1200 and had constructed a bridge with a castle on the western bank of the river by the early 13th century. By 1230 the town was described as being on both sides of the river (Murtagh 1994). The construction of a town wall may have been commenced by the middle of the 13th century and a murage grant was made in 1251 (*ibid.*). The eastern side of the town is likely to have developed along a linear street pattern at this time and contemporary references record this area as “the town” (*ibid.*). Between 1218 and 1315 the town was repeatedly attacked by the O’ Connors of Connacht. The bridge was destroyed during a raid in 1272, its replacement was again levelled in 1306 and there is no further mention of a bridge at Athlone until the 16th century. The town was burnt in 1315 and may not have been resettled at that time although the castle as well as the religious houses and parish church in the town evidently continued in use since all underwent rebuilding in the 15th century. The English regained control of the castle in 1537 and a new stone bridge was constructed in 1566-7. This revived Athlone’s role as the focus of east/west routeway and consequently its administrative, strategic and economic importance recovered. Athlone secured a town charter in 1599 and 1606, establishing the area within a radius of a mile and a half of the centre as a borough (*ibid.*).

#### The post-medieval period and early modern periods

The centuries following 1550 comprise the post-medieval period which continued into the middle of the 19th century and the decades thereafter are often described as early modern. The first century of the post-medieval period was a turbulent time in Ireland history and saw a prolonged period of wars between the 1560s and 1603 with further conflicts arising during the Cromwellian (1649–53) and Jacobite (1690-91) Wars. The post-medieval period saw the extensive dispossession of forfeited Gaelic lands and the final disintegration of the Gaelic order by the end of the 17th century.

By the 17th century a new town wall was built around the eastern area of Athlone town and earthen ramparts around the western town (Murtagh 1994). The approach roads to the town from both east and west were lined with dwellings, indicating the spread of the urban area beyond the town defences. Athlone was the centre of a major attack during the Cromwellian period during the 1640s and was again attacked by Sir Charles Coote for the parliament. Lewis (1837) describes that “... during the fury of the war the town was burned; though restored, it never recovered its former strength or appearance”. The 17<sup>th</sup> century Down Survey records that the townland of Cornamaddy, which contains the proposed development site, was in the ownership of Daniell Bryan (Catholic) in 1641 and William Hancock (Protestant) in 1670 when it contained 92 plantation acres.

Athlone town figured prominently in the Jacobite war of 1690-91 but the defences were of very little military value (Kerrigan 1995). The eastern side of the town was burnt in 1690 and the western area, including the castle, was reduced to rubble by Williamite artillery in 1691. By 1709 much of the town had been re-built, much of the impetus being provided by the new military barracks of c. 1700. After the turbulent times of the previous century, the 18th century was a time of prosperity for newly established Protestant gentry and landowners in Ireland. The town of Athlone however declined again in the 18th century, falling from being a very prominent Irish town in 1690 to not being recognised as such nationally by 1798. This was largely due to its inland location that precluded it from any benefit on the 18th century rise in foreign trade. There are no recorded post-medieval archaeological sites located within the study area and as discussed in the below review of cartographic sources, the lands in the area continued to remain as part of the agricultural hinterland of Athlone town into the 20<sup>th</sup> century.

#### **12.3.4 Previous Archaeological Investigations**

A programme of archaeological test trenching was carried out within fields outside the southern end of the proposed development in May 2023 (Brännström 2023; Licence ref. 23E0299). The test trenches revealed peat and silt clay topsoil cover above a sterile

greyish yellow sandy silt subsoil which was encountered at a depths of 0.2 to 0.7m below the modern ground surface. No archaeological features or deposits were uncovered during this site investigation. A review of the Database of Irish Excavation Reports revealed that it contains no entries for other licensed archaeological investigations within the townland of Cornamaddy. A programme of archaeological monitoring of ground works carried out as part of a sewerage scheme which extended within the surrounding 1km study area revealed nothing of archaeological significance (Licence 08E0903<sup>10</sup>). A 2006 programme of archaeological test trenching within a proposed development site in Lissywollen townland in the south end of the study area also revealed nothing of archaeological significance (Licence 06E0713<sup>11</sup>).

#### 12.3.5 Architectural Heritage

The *Westmeath County Development Plan 2021-2027* and the *Athlone Town Development Plan 2014-2020* list no Protected Structures or Architectural Conservation Areas within the proposed development site or within the surrounding 1km study area. In addition, a review of the NIAH revealed it contains no entries for any structures or historic gardens within the study area.

#### 12.3.6 Cartographic Review

The detail on the Down Survey Map of 1655-58 shows the townland of Cornamaddy, which is labelled as 'Cornemadda', within a vacant area to the northeast of Athlone town which is shown as an enclosed settlement on the eastern bank of the river (Figure 12.2). While the Down Survey maps do not depict small residences or structures, they typically do show large settlements, castles, churches, bridges and routeways. There are no structures depicted within Cornamaddy townland boundary suggesting that the concentrated settlement of the general area remained centred on the historic core of the riverside town.

<sup>10</sup> <https://excavations.ie/report/2010/Westmeath/0021877/>

<sup>11</sup> <https://excavations.ie/report/2006/Westmeath/0016808/>



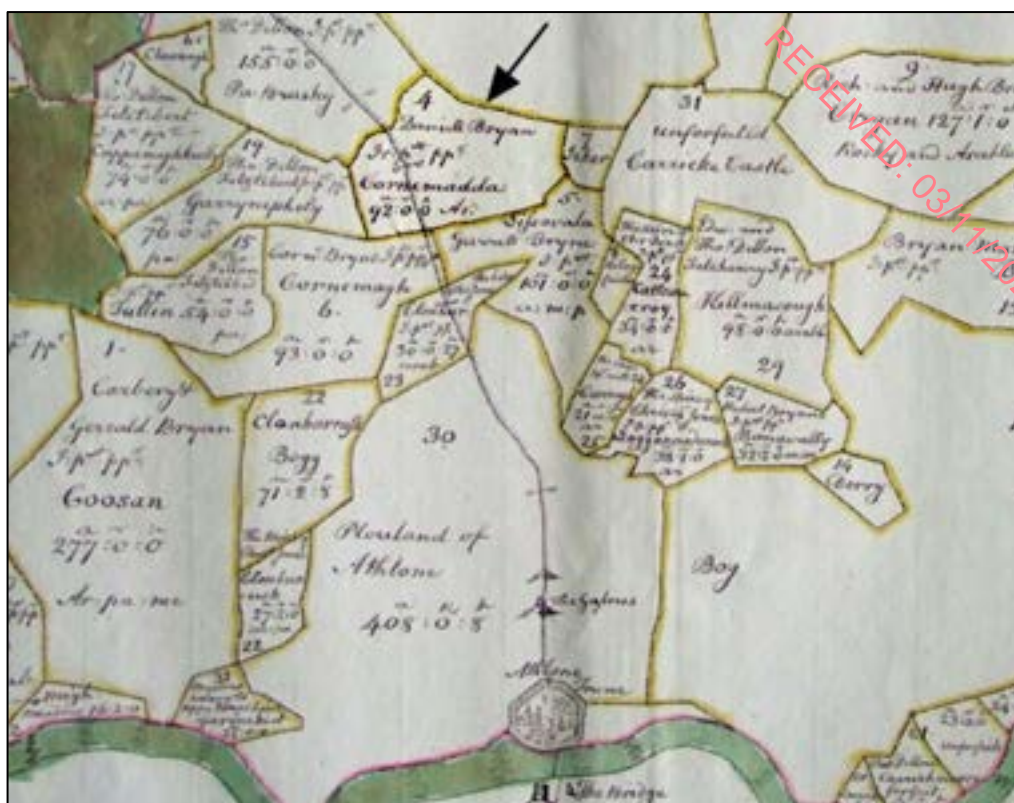


Figure 12.2 – Down Survey Map with Cornamaddy townland indicated with arrow

The proposed development site is depicted as vacant agricultural land sub-divided into sub-rectangular fields on the 1st edition 6-inch Ordnance Survey (OS) map which was published in 1838 (Figure 12.3). There are no structures or other features of potential archaeological interest shown within the interior of the proposed development site on this map. The townland boundary between Cornamaddy and Garrynafela is shown extending in a curving line in the area to the north of the proposed development boundary while the field boundary along the west side of the site forms the townland division between Cornamaddy and Cornamagh townlands.

The detail on the 25-inch edition OS map (Figure 12.4), which was published in 1913, shows that while the proposed development site remained in use as vacant agricultural lands, the layout of the fields was altered at some stage following the publication of the 1838 OS map. The field boundaries in the east and south ends of the site were removed and replaced by more linear boundaries with adjacent drains which indicate that the fields were subject to land improvement works in the second half of the 19<sup>th</sup> century. The detail on this map also indicates that the field boundary extending along the north end of site, which forms the townland boundary with Garrynafela, was altered during the post-1838 period and the slightly curving boundary shown on the 6-inch map has been replaced by a linear field boundary with a flanking drain. The earlier curving boundary is located outside the north end of the site boundary and is not shown on the 25-inch map, indicating that it may have been levelled. The 25-inch map also shows a cemetery in an area of Cornamagh townland located c.60m outside the southwest end of the proposed development which is not present on the 6-inch map, indicating that it dates to the second half of the 19<sup>th</sup> century.



Figure 12.3 – Extract from 6-inch OS map showing boundary of proposed development in blue (OSI Licence ref. SU 0003323)

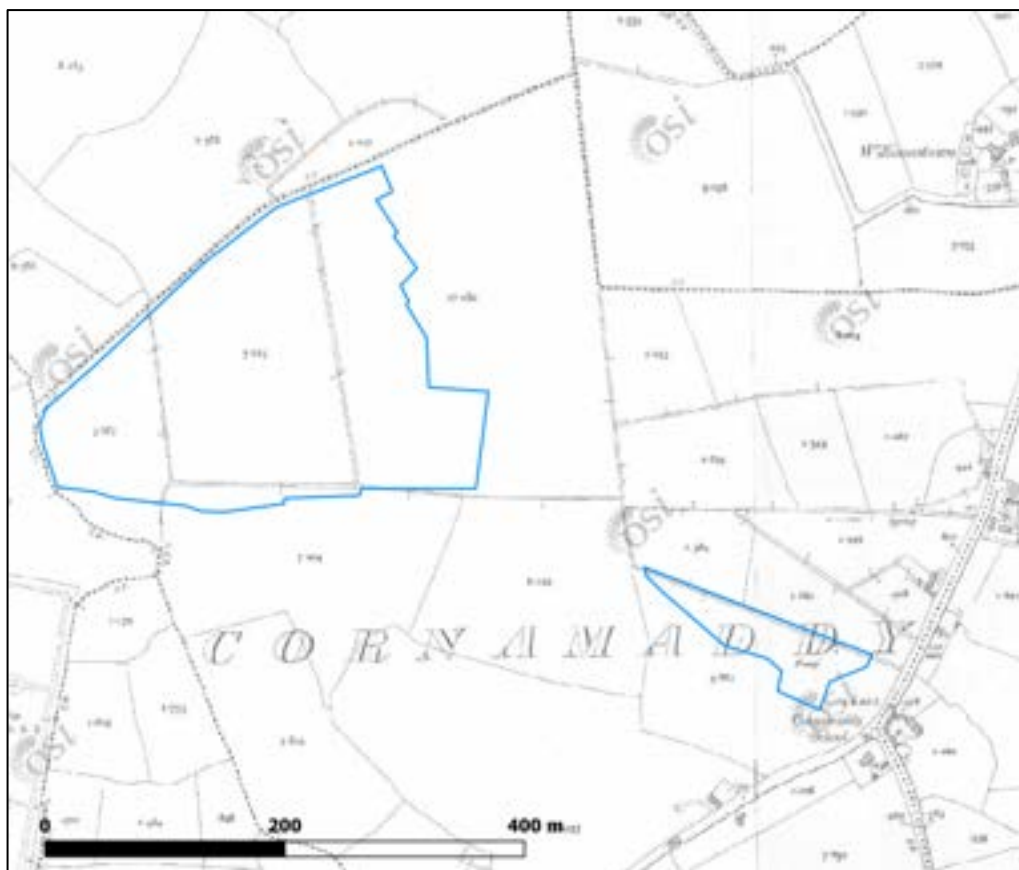


Figure 12.4 – Extract from 25-inch OS map showing boundary of proposed development in blue

### 12.3.7 Review of Aerial, Satellite and LiDAR imagery

A review of various aerial and satellite imagery published online by Ordnance Survey of Ireland, Google and Bing was undertaken and no identifiable traces of potential unrecorded archaeological sites were observed within the proposed development site (Figure 12.5). While various images shows phases of ground works associated with housing construction projects to the west and south, none depict any ground disturbance activity within the proposed development site. A review of LiDAR datasets published on the Open Topographic Data Viewer of the Geological Survey of Ireland ([www.gsi.ie](http://www.gsi.ie)) revealed that the proposed development site is located within the coverage area of these datasets. A review of a hillshade model generated from imagery sourced from relevant datasets was carried out and no traces of potential unrecorded archaeological sites were noted within the proposed development site (Figure 12.6).



Figure 12.5 – Google Earth 2016 image showing layout of the proposed development site (see Section 12.3.9 for field number cross-references)



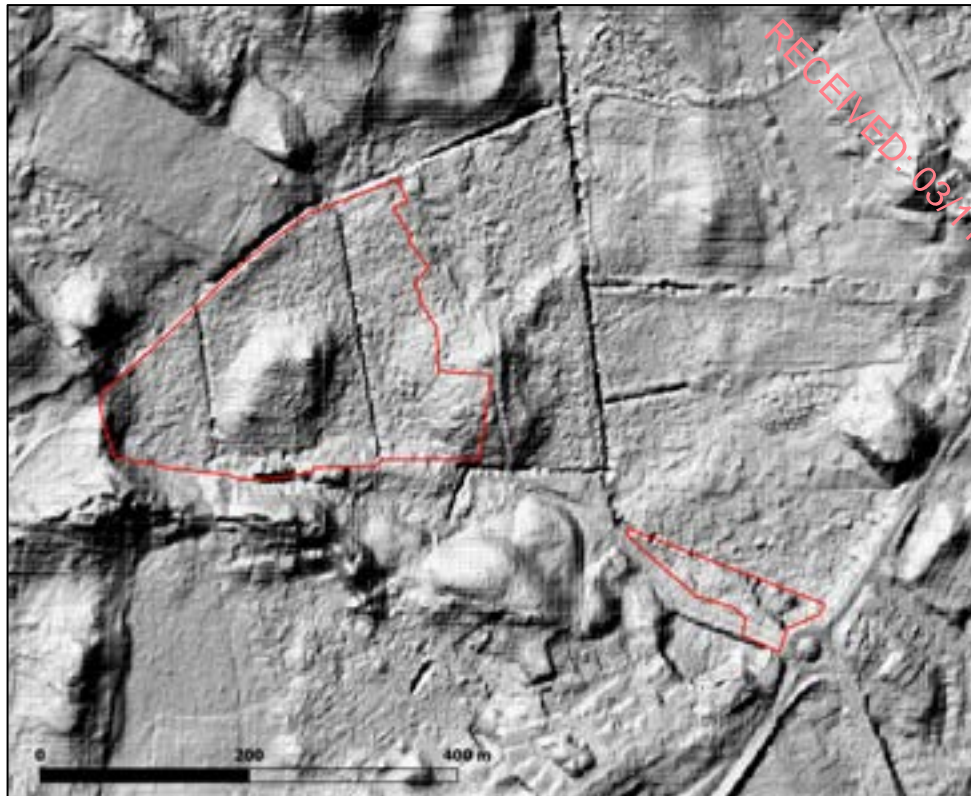


Figure 12.6 – LiDAR image of proposed development site (source: Geological Survey of Ireland [www.gsi.ie](http://www.gsi.ie))

### 12.3.8 Undesignated Cultural Heritage Assets

While encompassing the archaeological and designated architectural heritage resource, cultural heritage also includes various undesignated assets such as historical settlements, demesne landscapes, vernacular structures, townland boundaries, folklore, placenames and historical events. There are no extant vernacular buildings, or structures of any date, located within the proposed development site and the review of cartographic sources indicates that it did not form part of a historic demesne landscape. A review of the National Folklore Collection UCD Digitization Project website ([www.duchas.ie](http://www.duchas.ie)) revealed that it does not contain any entries for Cornamaddy townland that describe the potential presence of unrecorded archaeological sites or historical events associated with the area.

Townlands are the smallest unit of land division in the Irish landscape and many preserve early Gaelic territorial boundaries that pre-date the Anglo-Norman conquest. The layout and nomenclature of Irish townlands was recorded and standardised by the work of the Ordnance Survey in the 19th century. The Irish translations of the townlands names often refer to natural topographical features, but name elements may also give an indication of the presence of past human activity within the townland, e.g., dun, lios or rath indicate the presence of a ringfort while temple, saggart, termon or kill record an association with a church site. The Irish origins and translations for the townlands within the study area were sought from the Placenames Database ([www.logainm.ie](http://www.logainm.ie)). The proposed development site is contained within the townland of Cornamaddy, an anglicisation of *Corr na Madadh*, which translates the ‘hill of the dogs’ ([www.logainm.ie](http://www.logainm.ie)). As noted in the cartographic review (Section 12.3.6), the west end of the proposed development is bound by a field boundary which forms the townland division between Cornamaddy and Cornanagh. The field boundary extending along northern end of the proposed development site now forms the townland boundary with Garrnafela to the north but this appears to comprise a late 19<sup>th</sup> century land division and the original boundary, as shown on the 1838 OS map (Figure 12.3), extended outside the north end of the proposed development site.

### 12.3.9 Field Inspection

The field inspection of the proposed development site was carried out in dry and clear weather conditions in May 2023 and no access issues were encountered. The site is bound to the north by a pitch and putt course, to the east by agricultural land and an area of housing construction works to the south. The lands within the proposed development site range from areas of level, overgrown, rough grassland and undulating areas of natural esker formations (from the Gaelic *Eiscir*) which form part of a wider system of these geological features within the wider environs of Athlone town. While not archaeological in origin it is noted that these systems of naturally raised glacial features may have been the focus of past human activity such as forming elements of routeways above wetlands, settlement or ritual locations on prominences with wide landscape vistas, and as sources of sand and gravels used for building activity. The location and extent of the eskers within the area are clearly visible on the LiDAR imagery of the proposed development site (Figure 12.6).

The site inspection revealed that the layout of the fields within the north end of the proposed development site has remained unchanged since the publication of the 25-inch map in 1913 (Figure 12.4). The field boundaries forming the existing townland divisions with Garrynafela (to the north) and Cornanagh (to the west) are formed by trees and shrub overgrowth. The fields within the site do not appear to have been in recent agricultural use as indicated by the widespread overgrowth of brambles and reeds in most areas. No potential unrecorded archaeological sites or structures of architectural heritage interest were identified during the field-walking inspection of the proposed development site. Descriptions of the existing fields within the site are presented in Table 12.6 and extracts from the photographic record are provided in Appendix 12.1.

<b>FIELD NUMBER</b>	<b>DESCRIPTION</b>
<b>1</b>	The western half of this field extends into the proposed development site and the northern end of this area contains a level area of pasture, with some overgrowth of brambles and reeds. An esker slope extends into the southeast corner and ESB poles extend in an east-west direction across the field. Drains bound the field on all sides and large stone boulders noted in the southern boundary are likely sourced from field clearance activity.
<b>2</b>	The southern end of this field is dominated by an esker slope while the northern end is occupied by level grassland that has been colonised with a thick overgrowth of brambles. Overgrown drainage ditches lined with trees and shrubs bound the field on all sides, including along the north end which forms the townland boundary with Garrynafela.
<b>3</b>	The field contains an area of overgrown, rough grassland that rises gradually towards the west side. Overgrown drainage ditches flank the sides of the field and the north and west boundaries, which form the townland boundaries with Cornamagh to the west and Garrynafela to the north and Cornanagh to the west, are lined with trees and shrub overgrowth.
<b>4</b>	This overgrown grassland field is dominated by an esker ridge which slopes downwards towards the north. The field boundaries are formed by drainage ditches lined with trees and shrubs on all sides although a section of the east boundary has been disturbed by modern construction ground works.
<b>5</b>	This level field is located to the north of an existing housing estate access road which extends from Ballymahon Road to the east. It comprises an overgrown area of grassland delimited by a tree line along its northern line with a localised central area that has been disturbed by recent ground works. The southern area of this field, as depicted on the historic OS maps, is now occupied by modern housing.

*Table 12.6: Description of fields within proposed development site (field numbers are shown on Figure 12.5)***12.3.10 Summary**

There are no recorded archaeological sites within the proposed development site and the only example (mound barrow WM029-041----) within the surrounding 1km study area is located within farmland at a distance of 730m to the north. This archaeological site, which is not listed as a National Monument and is not accessible to the public, is likely of medium to high value and comprises a feature with a low surface expression that is not visible from the proposed development. In addition, the proposed development is located c.2km outside the Zone of Archaeological Potential around the historic core of Athlone town as defined by the National Monuments Service. While no evidence for potential unrecorded archaeological sites within the proposed development boundary was identified during the desktop study and field surveys undertaken as part of this assessment, the potential for the presence of unrecorded, sub-surface archaeological sites within green field lands cannot be discounted.

There are no Protected Structures, Architectural Conservation Areas or NIAH-listed buildings located within the proposed development site or within the surrounding 1km study area.

The only features of cultural heritage interest identified within the proposed development site are sections of tree-lined field boundaries along the north and west ends which form townland boundaries between Cornamaddy and Cornanagh to the west and Garrynafera to the north. While the linear field boundaries along the north end of the proposed development site now form the boundary with Garrynafera, these boundaries were created during the late 19<sup>th</sup> century when the earlier curvilinear townland boundary, located outside the north end of the site, was removed or levelled. Townland boundaries are found throughout the Irish landscape and comprise undesigned features of local (low) cultural heritage value. Neither of the townland boundaries extends into the interior of the proposed development site and both will be retained.

**12.4 Impact Assessment****12.4.1 Do Nothing Scenario**

A 'Do Nothing Scenario' will see the continued preservation of recorded and potential cultural heritage features within the study area.

**12.4.2 Construction Phase Impacts**

There are no recorded archaeological sites within the proposed development site or within 730m of its boundary. The construction phase of the proposed development will, therefore, have no predicted impact on the known archaeological resource. While there was no evidence for any unrecorded archaeological sites within the proposed development site identified during the desktop study and field inspection, the potential for the survival of unrecorded, sub-surface archaeological features and artefacts within its boundary cannot be discounted. As the existence, nature and extent of any unrecorded archaeological features or artefacts within the site are unknown; the significance of potential construction phase impacts cannot be quantified but ground excavation works will have the potential to result in permanent, direct, negative effects on any such remains and this will require mitigation.

There are no designated architectural heritage structures located within the proposed development lands or within the surrounding 1km study area and it contains no undesigned structures of architectural heritage interest. In addition, the proposed development site is not located within, or in the close environs of, an Architectural



Conservation Area. The construction phase of the proposed development will, therefore, result in no predicted impacts on the architectural heritage resource.

There are no undesignated vernacular structures, demesne lands, or historic settlements located within the proposed development site and no intangible attributes, such as historical or folklore associations, were noted during the assessment. While sections of the field boundaries along the outer edge of the proposed development form townland boundaries, none extend into the interior of the site and they will be retained *in situ*. The construction phase of the proposed development will result in an indirect, permanent, negligible, negative impact on these elements of the undesignated cultural heritage resource and no mitigation is required.

#### **12.4.2 Operational Phase Impacts**

Given the absence of any recorded archaeological sites or architectural heritage structures within the proposed development site or its close environs, the operational phase of the proposed development will, therefore, result in no predicted impacts on these elements of the cultural heritage resource. Following the successful implementation of archaeological mitigation measures presented in Section 12.5, it is predicted that no impacts will arise in relation to any potential unrecorded, sub-surface archaeological remains within the proposed development site during the operational phase.

#### **12.4.2 Cumulative Impacts**

There are no recorded archaeological sites or designated architectural heritage structures located within the proposed development site or within its close environs. There is only one recorded archaeological site located within 1km of the proposed development and this comprises an extant mound barrow (WM029-041---) located 730m to the north. There are no designated architectural heritage structures or conservation areas located within the 1km study area and no undesignated examples exist within the proposed development site. In addition, a review of the locations of other modern residential developments within the surrounding area revealed that their construction did not result in the removal of any recorded archaeological sites or designated architectural heritage structures. Given these baseline conditions and following the application of the mitigation measures presented in Section 12.5 of this chapter, it is concluded that the proposed development will not act in combination with other proposed or completed developments to result in significant cumulative impacts on the cultural heritage resource of the area.

### **12.5 Mitigation**

#### **12.5.1 Construction Phase**

Given the scale and extent of the proposed development within a green field location, a programme of archaeological test trenching, under licence by the National Monuments Service, will be carried within the proposed development site in advance of the construction phase. In the event that any sub-surface archaeological deposits, features or artefacts are identified during these site investigations, their locations will be recorded and securely cordoned off while the National Monuments Service are notified of the discovery and consulted to determine further mitigation measures, which may entail preservation *in situ* by avoidance or preservation by record through a systematic archaeological excavation.

There are no structures of architectural heritage interest located within the proposed development site or its close environs and no mitigation measures for this element of the cultural heritage resource are required.

#### 12.5.2 Operational Phase

All required mitigation measures will be enacted prior to and during the construction phase and, therefore, no cultural heritage mitigation measures during the operational phase of the proposed development will be required.

#### 12.5.1 Monitoring

There are a number of obligatory processes to be undertaken as part of applications to the National Monuments Service for licences to carry out archaeological test trench excavations and these will allow for monitoring of the successful implementation of mitigation measures. A detailed method statement stating the proposed strategy for the site investigations will accompany the submitted licence application which will clearly detail the extent of the archaeological works and outline the processes to be enacted in the event that any archaeological features are encountered. Reports on the archaeological site investigations will then be submitted to the National Monuments Service, the National Museum of Ireland and the Planning Authority which will clearly describe the results of all archaeological works in written, mapped and photographic formats.

#### 12.6 Residual Impacts

The proposed development site and its close environs do not contain any extant recorded archaeological sites or designated architectural heritage structures and no residual impacts on these elements of the cultural heritage resource are predicted. The mitigation measures presented in Section 12.5 will provide for either the preservation in situ of any currently unknown archaeological features within the proposed development site or the proper and adequate recording of this resource by full archaeological excavation. Preservation in situ shall allow for a negligible magnitude of impact resulting in a potential not significant/imperceptible significance of effect in the context of residual impact on the unrecorded archaeological resource. Preservation by record shall allow for a high magnitude of impact, albeit ameliorated by the creation of a full and detailed archaeological record, the results of which shall be publicly disseminated. This shall result in a potential slight/moderate range of significance of effect in the context of residual impacts on the unrecorded archaeological resource.

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## 13 TRAFFIC AND TRANSPORTATION

### 13.1 Introduction

Roadplan Consulting were commissioned by Brock McClure Planning and Development Consultants on behalf of Marina Quarter Limited to prepare this Traffic and Transportation Chapter for a proposed residential development at Cornamaddy, Athlone, Co. Westmeath.

In preparing this report, Roadplan Consulting has made reference to:

- The Westmeath County Development Plan 2021 - 2027.
- The Institute of Highways and Transportation Guidelines on the Preparation of Traffic Impact Assessments.
- The TII Transport Assessment Guidelines.
- The TII National Traffic Model.

### 13.2 Objectives

The objective of this chapter is to examine the traffic implications of the proposed residential development in terms of how it can integrate with existing traffic in the area. The report will determine and quantify the extent of additional trips generated by the development, and the impact of such trips on the operational performance of the local road network and junctions, in particular the existing N55 / R916 / L8048 roundabout.

### 13.3 Study Methodology

The methodology adopted for this report is summarised as follows:

- A traffic count was undertaken by IDASO on Thursday 30<sup>th</sup> of September 2021 during a 12-hour period (07:00 to 19:00). Count information was obtained at the existing N55 / R916 / L8048 roundabout.
- Existing Traffic Assessment – A spreadsheet model was created which contains the base year DO-NOTHING traffic count data described above. The traffic count data was used to develop an ARCADY model of the existing N55 / R916 / L8048 roundabout.
- Future Year Assessment – The estimated future year traffic volumes on the study area road network, as a result of the increase in background traffic and the additional development related traffic was used to assess the future operational performance of the junctions both at the year of opening of the development, 5 and 15 years after opening.
- Parking Requirements – Car parking provision for the proposed development was assessed against the parking standards as set out in the Westmeath County Development Plan

### 13.4 Description of Proposed Development

The proposed development consists of 177 residential housing units as shown in table 13.1 *Development Schedule*.

Item	Unit	Quantity
Houses	No.	145
Dupex	No.	8
Maisonnette	No.	24

Table 13.1 Development Schedule

Access to the proposed residential development will be via the existing roundabout onto the N55 national road. A layout of the proposed development and its access point are shown on the Architect's drawings.

### 13.5 Existing and Proposed Traffic Conditions

#### 13.5.1 Existing Traffic Flow

A traffic count was undertaken during a 12-hour period (07:00 to 19:00) on Thursday 30<sup>th</sup> of September 2021. The count data is provided in Appendix 13.1 – Traffic Counts. Count information was obtained at the following junction:

- N55 / R916 / L8048 roundabout

The traffic flows during the AM and PM peak hours were abstracted from the surveyed data and are shown in the following tables:

##### N55 / R916 / L8048 Roundabout

##### AM Peak Existing (08:00 – 09:00)

From / To	N55 (north)	R916	N55 (south)	L8048	Totals
N55 (north)	0	274	474	1	749
R916	197	8	179	10	394
N55 (south)	284	113	2	7	406
L8048	7	14	24	0	45
<b>Totals</b>	<b>488</b>	<b>409</b>	<b>679</b>	<b>18</b>	<b>1594</b>

##### PM Peak Existing (17:00 – 18:00)

From / To	N55 (north)	R916	N55 (south)	L8048	Totals
N55 (north)	1	202	296	1	500
R916	364	5	115	14	498
N55 (south)	511	136	0	9	656
L8048	1	6	3	0	10
<b>Totals</b>	<b>877</b>	<b>349</b>	<b>414</b>	<b>24</b>	<b>1664</b>

A summary of the count data for the peak hour flows is contained in Appendix 13.2 – Traffic Flow Sheets.

#### 13.5.2 Existing Road Network

The N55 travels in a south / north direction and provides a link between Athlone and Cavan town. The N55 / R916 / L8048 roundabout has the following characteristics at the location of the access to the residential development:

- It's a 4-arm roundabout with an ICD of 48m.
- It's a 2-lane circulating carriageway with a carriageway width of approximately 10m.
- Street lighting is provided at the roundabout and on all approaches to the roundabout.

- The speed limit on the N55 is 50km/h.

The L8048 will provide access to the proposed development. The L8048 has the following characteristics:

- It's a single carriageway road that is approximately 7.5m wide.
- There are 1.5m wide on-road cycle lane located on either side of the carriageway.
- There is a 2m wide footpath located on either side of the carriageway.
- Street lighting is provided along the L8048.

### 13.5.3 Road Collisions

Information on road collisions was taken from the Road Safety Authority website and is provided hereunder in Figure 13.1.

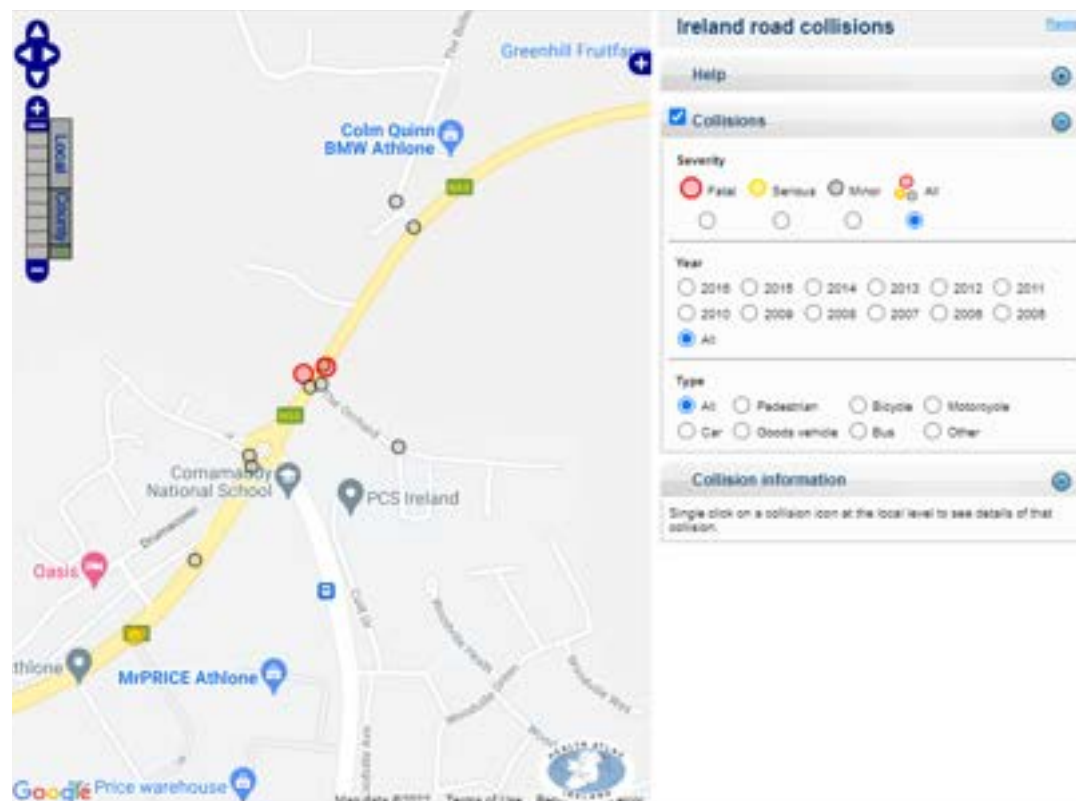


Fig 13.1: Road collisions

There two number collisions recorded at the existing N55 / R916 / L8048 roundabout which provides access to the proposed residential development in the period of twelve years (from 2005 to 2016).

## 13.6 Traffic Generation and Trip Distribution

### 13.6.1 Development Trip Generation

The TRICS database has been used to predict the trip generation to and from the proposed residential development for the AM and PM peak periods. Full details of the TRICS information used for the assessments are provided in Appendix 13.3 - TRICS information.



### 13.6.1.1 House Dwellings

The category of “Residential – Houses Privately Owned” has been assessed as the most appropriate development type category for this part of the development and the trip rates for the AM and PM peak periods are shown below:

**Trip rates per number of Units**

	Trip rate to development	Trip rate from development
AM Peak	0.168	0.433
PM Peak	0.399	0.241

For the proposed 177 dwellings, this would give the following trips to and from the proposed development:

**Trip Generation – 177 Residential Dwellings**

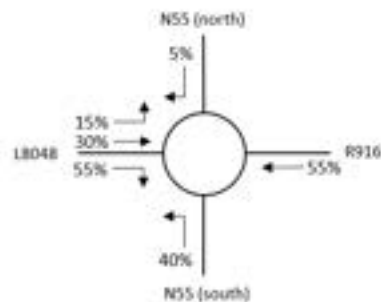
	Trip rate to development	Trip rate from development
AM Peak	30	77
PM Peak	71	43

### 13.6.1 Trip Generation

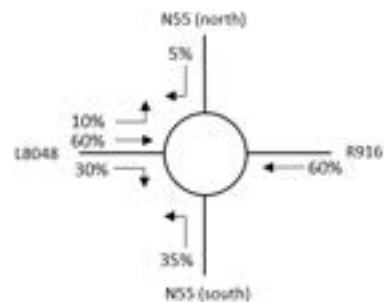
The access to the proposed development will be via the existing N55 / R916 / L8048 roundabout.

The following diagrams show the existing and proposed traffic distribution percentage for the AM and PM peak at the existing N55 / R916 / L8048 roundabout.

AM Peak - Development Trip Distribution (Percentage)

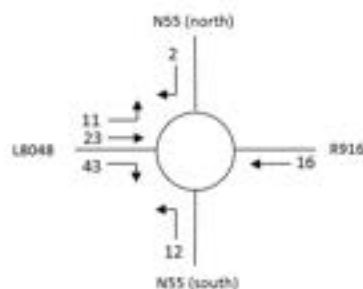


PM Peak - Development Trip Distribution (Percentage)

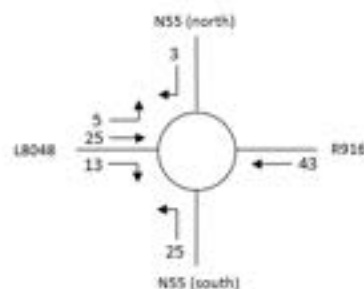


Using the proposed directional splits shown above and the trips generated by the proposed development outlined in 4.1, the following diagrams show the turning movements of predicted development traffic at the existing N55 / R916 / L8048 roundabout during the AM and PM peak hours:

AM Peak - Development Flows



PM Peak - Development Flows



### 13.7 Committed Developments

A planning application for 75 dwellings has recently been granted planning permission (planning ref: 22/253) by Westmeath County Council. Therefore, a capacity assessment has been undertaken to determine the impact that the committed development will have on the existing existing N55 / R916 / L8048 roundabout, when the proposed development and the committed development is fully operational.

The predicted trips to and from the committed development have been extracted from the granted planning application and the proposed trips generated by the development are shown below:

#### Trip Generation – 75 Residential Dwellings

	Trip rate to development	Trip rate from development
AM Peak	13	33
PM Peak	30	18

ref: 22/340) by Westmeath County Council. Therefore, a capacity assessment has been undertaken to determine the impact that the committed development will have on the existing existing N55 / R916 / L8048 roundabout, when the proposed development and the committed development is fully operational. A planning application for a creche has recently been granted planning permission (planning

The predicted trips to and from the creche have been extracted from the granted planning application and the proposed trips generated by the creche are shown below:

#### Trip Generation – 680sqm

	Trip rate to development	Trip rate from development
AM Peak	45	35
PM Peak	35	40

The above committed development flows have been added to the year of opening, five year and fifteen-year capacity assessments using the percentage distribution splits outlined in 4.2 above. Full details of the predicted traffic flows are provided in Appendix 13.2– Traffic Flow Sheets.

### 13.8 Future Developments

There are lands to the south of the proposed development which form part of the overall masterplan for the proposed development. A planning application for these lands has been submitted (planning ref: 22/577). Access to the future residential development would be via the existing N55 / R916 / L8048 roundabout. For this reason, a capacity assessment has been undertaken to determine the impact that the future developments will have on the existing N55 / R916 / L8048 roundabout, when the development is fully operational.

The predicted trips to and from the future development have been extracted from the submitted planning application and the proposed trips generated by the development are shown below:

#### Trip Generation – 70 Residential Dwellings

	Trip rate to development	Trip rate from development
AM Peak	12	30
PM Peak	28	17

There are additional lands to the south of the proposed development containing 93 residential dwellings which form part of the overall masterplan for the proposed development. A planning application for these lands has been recently submitted. Access to the future residential development would be via the existing N55 / R916 / L8048 roundabout.

The predicted trips to and from the future development have been extracted from the submitted planning application and the proposed trips generated by the development are shown below:

#### **Trip Generation – 93 Residential Dwellings**

	Trip rate to development	Trip rate from development
AM Peak	16	40
PM Peak	37	22

The above future development flows for the future developments have been added to the 2040 Sensitivity Tests using the percentage distribution splits outlined in 4.2 above. Full details of the predicted traffic flows are provided in Appendix C – Traffic Flow Sheets.

### **13.8.2 Future Development on Adjacent Lands**

There are lands adjacent to the proposed development which are not in the ownership of the client but which are currently subject to planning application. The masterplan for the adjacent lands will cater for 258 residential dwellings, 74 apartments and a creche. Access to the adjacent residential development would be via the existing N55 / R916 / L8048 roundabout. For this reason, a capacity assessment has been undertaken to determine the impact that the adjacent development will have on the existing existing N55 / R916 / L8048 roundabout, when the development is fully operational.

The predicted trips to and from the adjacent development have been extracted from the planning application and the proposed trips generated by the development are shown below:

The trips that are predicted to be generated by the proposed adjacent development (residential and creche) are shown in the table below:

#### **Trip Generation – Total Development**

	Trip rate to development	Trip rate from development	Total
AM peak	75	156	231
PM peak	140	100	240

The above future development flows for the adjacent residential developments have been added to the 2040 Sensitivity Tests using the percentage distribution splits outlined in 4.2 above. Full details of the predicted traffic flows are provided in Appendix C – Traffic Flow Sheets.

### **13.9 Future Year Traffic Growths**

The TII issues a range of forecasts: low growth, medium growth and high growth. The implementation of policies relating to Smarter Travel and to public transport will act as a deterrent to high growth in car-based travel. Low growth factors are however likely to be equally unrealistic at present in the Athlone area, so we have used medium growth factors in our assessment.

The zone in which the site is located is numbered 296 in the TII National Traffic Model. The growth factors are as follows:

Zone	2021 Existing	2025 development completion	2030 5 years after dev completion	2040 15 years after dev. completion
296	1	3.95%	10.89%	15.79%

These percentages have been used to predict the increase in background traffic that will occur in future years. Full summary tables and predicted future traffic flows for 2025, 2030 and 2040 future years are included in Appendix 13.2 – Traffic Flow Sheets.

### 13.10 Operational Assessments

#### 13.10.1 Introduction

Traffic generated by the proposed development will have some effect on the local road network surrounding the site. The following junction was assessed:

- the existing N55 / R916 / L8048 roundabout

#### 13.10.2 N55/ R916/ L4048 Roundabout

Capacity assessments have been undertaken using the computer program PICADY for the AM and PM peak hours.

The following table summarises the existing situation and the effects that the proposed development will have on this junction in 2025, 2030 and 2040 using the existing and predicted traffic flows shown in Appendix 13.2 – Traffic Flow Sheets. Full ARCADY printouts are provided in Appendix 13.4 – ARCADY Results.

The parameters shown in the table are defined as follows:

**Ratio of Flow to Capacity (RFC)** is a factor indicating the flow on a junction arm relative to its capacity. An RFC of 1.0 means the junction has reached its ultimate capacity and an RFC of 0.85 means that the junction has reached its reserve capacity.

**Avg. Queue** is the average number of vehicles queued over the time period on the junction approach.

**Queue delay** is the average number of seconds delay to each vehicle in the time period.

**N55 / R916 / L8048 Roundabout – Capacity Assessment**

Year	Period		Predicted RFC value	Avg Queue (vehicles)	Queue delay (secs./veh.)
2021 Base Flows	AM Peak	N55 (north)	0.54	1	5

		R916	0.38	1	5
		N55 (south)	0.30	0	3
		L8048	0.05	0	4
		N55 (north)	0.36	1	4
	PM Peak	R916	0.43	1	5
		N55 (south)	0.53	1	6
		L8048	0.01	0	5
2025 No Development	AM Peak	N55 (north)	0.57	1	6
		R916	0.40	1	5
		N55 (south)	0.31	1	4
		L8048	0.05	0	4
	PM Peak	N55 (north)	0.38	1	4
		R916	0.45	1	5
		N55 (south)	0.55	1	6
		L8048	0.02	0	5
2025 With Development + Committed Development	AM Peak	N55 (north)	0.58	1	6
		R916	0.42	1	6
		N55 (south)	0.32	1	4
		L8048	0.12	0	4
	PM Peak	N55 (north)	0.38	1	4
		R916	0.48	1	6
		N55 (south)	0.58	1	7
		L8048	0.07	0	5

Year	Period	Approach	Predicted RFC value	Avg Queue (vehicles)	Queue delay (secs./veh.)
2030 No Development	AM Peak	N55 (north)	0.61	2	6
		R916	0.43	1	6
		N55 (south)	0.34	1	4
		L8048	0.06	0	4
	PM Peak	N55 (north)	0.40	1	4
		R916	0.48	1	6

		N55 (south)	0.60	2	7
		L8048	0.02	0	5
2030 With Development + Committed	AM Peak	N55 (north)	0.62	2	7
		R916	0.46	1	6
		N55 (south)	0.35	1	4
		L8048	0.13	0	4
	PM Peak	N55 (north)	0.41	1	4
		R916	0.52	1	6
		N55 (south)	0.63	2	7
		L8048	0.07	0	6
2040 No Development	AM Peak	N55 (north)	0.63	2	7
		R916	0.46	1	6
		N55 (south)	0.35	1	4
		L8048	0.06	0	4
	PM Peak	N55 (north)	0.42	1	4
		R916	0.51	1	6
		N55 (south)	0.63	2	7
		L8048	0.02	0	6
2040 With Development + Committed Development	AM Peak	N55 (north)	0.65	2	7
		R916	0.48	1	7
		N55 (south)	0.36	1	4
		L8048	0.13	0	4



	PM Peak	N55 (north)	0.43	1	4
		R916	0.54	1	6
		N55 (south)	0.66	2	8
		L8048	0.08	0	6
2040 With Development + Committed Development + Future Development	AM Peak	N55 (north)	0.70	2	9
		R916	0.57	1	8
		N55 (south)	0.40	1	4
		L8048	0.31	0	5
	PM Peak	N55 (north)	0.46	1	5
		R916	0.63	2	8
		N55 (south)	0.75	3	12
		L8048	0.26	0	8

The summary predictions shown in the table above indicate that currently the existing N55 / R916 / L8048 roundabout operates within capacity with small queues and delays during the AM and PM peak period.

In 2025, 2030 and 2040 with no residential development in place and an increase in background flows only the roundabout will operate within capacity with small queues and delays with a maximum RFC value of 0.63 during the AM peak hour in 2040.

In 2025, 2030 and 2040 with the residential development operational and an increase in background flows the roundabout will operate within capacity with small queues and delays with a maximum RFC value of 0.67 during the PM peak hour in 2040.

In 2040 with the residential development operational, the future residential developments operational and an increase in background flows the roundabout will operate within capacity with small queues and delays with a maximum RFC value of 0.75 during the AM peak hour in 2040.

### 13.10.3 Operational Assessment Conclusions

Junction analyses to assess the effects of traffic generated by the proposed development have been undertaken for the existing N55 / R916 / L8048 roundabout. The analysis shows that:

- The existing N55 / R916 / L8048 roundabout currently operates within capacity with small queues and delays during the AM and PM peak hours.

- The existing N55 / R916 / L8048 roundabout will continue to operate within capacity with small queues and delays when the proposed residential development and the committed development is completed in 2025, year of opening, 2030, five years after opening and in 2040, fifteen years after opening.
- The existing N55 / R916 / L8048 roundabout will continue to operate within capacity with small queues and delays when the proposed residential development, the committed development and the future residential developments are complete in 2040, fifteen years after opening.

### 13.11 Parking

#### 13.11.1 Car Parking Provision

A total of 241 parking spaces will be provided to cater for the proposed residential development as shown on the architect's drawing contained in Appendix 13.1 – Drawings.

#### 13.11.2 Car Parking Requirements from Development Plan

The 'Westmeath County Development Plan 2021-2027' lists standard provision for car parking and the table below sets out those requirements in relation to the proposed development.

Car parking requirements from the Westmeath County Development Plan 2021 – 2027:

Parking Standards for Residential Development – Phase 3			
Land-use	Requirements	Quantity	Parking
Residential Dwellings	1 space per dwellings	177 Dwellings	177 spaces
Visitor Parking for Residential Dwellings	1 space per 3 dwellings	177 Dwellings	59 spaces
<b>Total</b>			<b>236</b>

The Westmeath County Development Plan indicates that the number of parking spaces required for the proposed residential development is 236 parking spaces. The proposed residential development will provide 239 parking spaces.

### 13.12 Conclusions

The main conclusions of this study are summarised as follows:

- The development flows to and from the proposed development have been predicted using the TRICS database.
- The existing N55 / R916 / L8048 roundabout currently operates within capacity with small queues and delays during the AM and PM peak hours.
- The existing N55 / R916 / L8048 roundabout will continue to operate within capacity with small queues and delays when the proposed residential development and the committed development is completed in 2025, year of opening, 2030, five years after opening and in 2040, fifteen years after opening.

- The existing N55 / R916 / L8048 roundabout will continue to operate within capacity with small queues and delays when the proposed residential development, the committed development and the future residential developments are complete in 2040, fifteen years after opening.
- The development provides adequate car parking spaces as set out in Chapter 6 above. Facilities for pedestrians are included in the internal layout.

## 14 WASTE MANAGEMENT

### 14.1 Introduction

This Chapter of the Environmental Impact Assessment Report (EIAR) provides an assessment of the potential impacts of the Proposed Development on Waste Management.

#### 14.1.1 Author Information and Competency

This Chapter was prepared by Laura Griffin, Environmental Consultant, Enviroguide. Laura has a Master of Science (Hons) in Climate Change from Maynooth University and a Bachelor of Arts (Hons) in English and Geography from Maynooth University. Laura has worked as an Environmental Consultant with Enviroguide since 2021 and has experience preparing Environmental Impact Assessment (EIA) Screening Reports, Air Quality and Climate, Noise and Vibration, and Material Assets (Waste and Utilities) of EIARs.

### 14.2 Assessment Methodology

#### Regulations and Guidance

The methodology adopted for the assessment will take cognisance of relevant guidelines, in particular the following:

- 7) Environmental Protection Agency (EPA) (2022) Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR)
- 8) EPA (2021) Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects
- 9) Waste Framework Directive (Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste) as amended by Directive (EU) 2018/851.
- 10) European Union (Waste Directive) Regulations 2020, S.I. No. 323 of 2020
- 11) Waste Management Acts 1996 (as amended)
- 12) Eastern-Midlands Region (EMR) Waste Management Plan 2015-2021
- 13) Westmeath County Development Plan 2021-2027

The scope of work undertaken for the impact assessment will include a desk-based study of waste management services and infrastructure within the defined study area. The desk study will involve collecting all the relevant data for the Proposed Development site and surrounding area including published information and details pertaining to the Proposed Development provided by the Applicant and design team. Information on waste management in the vicinity of the site of the Proposed Development will be assembled by reviewing the following information:

- 14) Operational Waste Management Plan (Operational Phase)
- 15) Construction Environmental Management Plan (Paul McGrail Consulting Engineers Ltd, 2023)
- 16) Construction Waste Management Plan (Construction Phase) (Paul McGrail Consulting Engineers Ltd, 2023)
- 17) <http://mywaste.ie>

### 14.3 Prediction and Assessment of Potential Impacts

Effects were predicted and assessed based on the EPA Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (2022), and by using the

definition of detailed in tables 14.1 to 14.5. Effects vary from negative to neutral or positive, and also vary in significance on the receiving environment.

QUALITY OF EFFECTS / IMPACTS	DEFINITION
Negative	A change which reduces the quality of the environment.
Neutral	No effects or effects that are imperceptible, within the normal bounds of variation or within the margin of forecasting error.
Positive	A change that improves the quality of the environment.

Table 14.1: Terminology used to assess the quality of potential impacts and effects (EPA, 2022)

SIGNIFICANCE OF EFFECTS / IMPACTS	DEFINITION
Imperceptible	An effect capable of measurement but without significant consequences.
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences.
Slight	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
Moderate	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
Significant	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.
Very Significant	An effect which, by its character, magnitude, duration or intensity significantly alters a sensitive aspect of the environment.
Profound	An effect which obliterates sensitive characteristics.

Table 14.2: Terminology used to assess the significance of potential impacts and effects (EPA, 2022)

DURATION OF EFFECTS / IMPACTS	DEFINITION
Momentary	Effects lasting from seconds to minutes
Brief	Effects lasting less than a day
Temporary	Effects lasting one year or less
Short-term	Effects lasting one to seven years
Medium-term	Effects lasting seven to fifteen years
Long-term	Effects lasting fifteen to sixty years
Permanent	Effects lasting over sixty years
Reversible	Effects that can be undone, for example through remediation or restoration

Table 14.3: Terminology used to assess the duration of potential impacts and effects (EPA, 2022)

QUALITY	DEFINITION
Extent	Describe the size of the area, the number of sites, and the proportion of a population affected by an effect.
Context	Describe whether the extent, duration, or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?)

Table 14.4: Definition of the Extent and Context of Effects (EPA, 2022)

QUALITY	DEFINITION
Likely Effects	The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.
Unlikely Effects	The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.

Table 14.5: Definition of the Probability of Effects (EPA, 2022)

Figure 1 (extracted from the EPA Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, 2022) shows how the character of the predicted impact in relation to the sensitivity of the receiving environment can determine the significance of the impact.

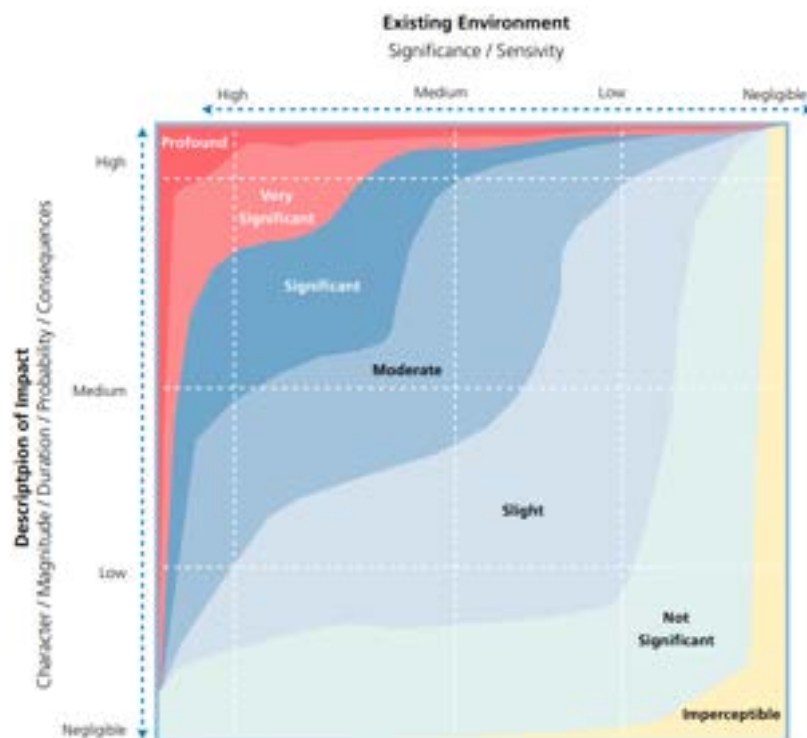


Figure 1 – Typical classifications of the significance of impacts (EPA, 2022, Guidelines on the Information to be Contained in Environmental Impact Assessment Reports)



#### 14.4 Local and National Waste Action Plans

The Eastern-Midlands Region (EMR) Waste Management Plan 2015-2021 provides the structure for the prevention, reduction and management of waste in 12 local authority areas, including Westmeath. Westmeath County Council (WMCC) is the local authority responsible for setting and administering waste management activities in the area of the Proposed Development. The EMR hosts a number of permitted and licensed waste facilities for management of construction and demolition (C&D), and municipal waste. These include soil recovery facilities, material recovery facilities, inert C&D waste facilities, hazardous waste treatment facilities, waste transfer stations, two waste-to-energy facilities and municipal waste landfills.

The EMR Waste Management Plan 2015-2021 has set the following targets for waste management in the region:

- Prevent waste: a reduction of one per cent per annum in the amount of household waste generated over the period of the plan.
- More recycling: increase the recycle rate of domestic and commercial waste from 40 to 50 per cent by 2020.
- Further reduce landfill: eliminate all unprocessed waste going to landfill from 2016.

The Department of Communications, Climate Action and Environment (DCCAE) published 'A Waste Action Plan for a Circular Economy – Ireland's National Waste Policy 2020-2025' in September 2020 (updated in January 2021), which focuses on the prevention of waste disposal by maximising the value of material resources and reducing waste generation. In a circular economy, waste and resource use are minimised; the value of products and materials is maintained for as long as possible through good design, durability and repair; and when a product has reached the end of its life, its parts are used again and again to create further useful products 'A Waste Action Plan for a Circular Economy'.

In order to comply with the targets set out in the EMR Waste Management Plan and to achieve the objectives set out in 'A Waste Action Plan for a Circular Economy', it is imperative that robust resource and waste management plans are developed for and designed into the pre-construction, construction and operational phases of the Proposed Development.

#### 14.5 Article 27 of the European Communities (Waste Directive) Regulations 2011

Under Article 27 of the European Communities (Waste Directive) Regulations 2011 (SI No. 126 of 2011) as amended (referred to hereafter as Article 27), uncontaminated soil and stone free from anthropogenic contamination which is excavated during the Construction Phase of a development can be considered a by-product and not a waste, if (a) further beneficial use of the material is certain, (b) it can be used directly without any further processing, (c) it is produced as an integral part of the development works and (d) the use is lawful and will not have any adverse environmental or human health impacts (EPA, 2019). For Article 27 to apply, the beneficial use mentioned in point (a) above must be identified for the entirety of the excavated soil from the Proposed Development prior to its production, with that use taking place within a definite timeframe, for it to be regarded as certain.

#### 14.6 The Existing and Receiving Environment (Baseline Situation)

The Site of the Proposed Development comprises undeveloped lands within the jurisdiction of Westmeath County Council. The Proposed Development Site forms part of the "Cornamaddy Action Area Plan – 2005". The site of the Proposed Development is located on lands which have been allocated Zoning Objectives of "Residential (Low – Medium Density)" and "Open Space".

## 14.7 Characteristics of the Proposed Development

See Chapter 2 for a description of all components of the Proposed Development.

The waste management objectives for the Proposed Development are as follows, and will facilitate material reuse and recycling, where possible, and seek to divert waste from landfill:

- Prevention: The Contractor will prevent and minimise waste generation where possible by ensuring large surpluses of construction materials are not delivered to the Site through coordination with the suppliers, operating a 'just-in-time' delivery scheme and ensuring sub-contractors conform to the Construction Environmental Management Plan;
- Reuse: Reusing wastes and surplus materials where feasible and in as many high value uses as possible;
- Recycle: Recycling wastes where possible such as introducing on-site crushers to produce waste derived aggregates which, subject to appropriate testing and approvals, may be re-used in the Proposed Development;
- Disposal: Where disposal of waste is unavoidable, this will be undertaken in accordance with the Waste Management Act 1996, as amended.

### 14.7.1 Construction Phase

The Construction Environmental Management Plan (CEMP) (Paul Mc Grail Consulting Engineers, 2023) details the Construction Phase phasing. The phasing included in the CEMP is indicative to allow for flexibility in terms of the development. In terms of the delivery and phasing of the development the following will be the key stages:

- Phase 1a – site set up;
- Phase 1b – Setting out of sites and provision of services; and
- Phases 1-5 – Construction of creche unit.

The following outlines the Construction Phase sequence of works:

- Enabling works;
- Substructure;
- Superstructure; and
- Fit out and finishes.

The Construction Phase will give rise to the requirement to remove and bring quantities of various materials to and from the Site of the Proposed Development. Construction and excavation related wastes will be created during the Construction Phase.

### 14.7.2 Operational Phase

The Operational Phase of the Proposed Development will consist of the normal day-to-day operations necessary for the management of a residential development and the ongoing maintenance of the Proposed Development.

## 14.8 Potential Impact of the Proposed Development

### 14.8.1 Construction Phase

The Construction Phase will give rise to the requirement to remove and bring quantities of various materials to and from the Site of the Proposed Development. Construction and excavation related wastes will be created during the Construction Phase. This has the potential to impact on the local waste management network.

A CEMP (Paul McGrail Consulting Engineers Ltd, 2023) and a Construction Waste Management Plan (CWMP) (Paul McGrail Consulting Engineers Ltd, 2023) have been prepared for the Construction Phase of the Proposed Development and will be submitted with the planning application. Site clearance activities will occur in accordance with the CEMP and CWMP.

As the Site is a greenfield site it will require preparatory works and site clearance, including the identification of trees that are required to be removed and the removal of these, along with scrub and vegetation, in consultation with a qualified Arborist, as well as the removal of topsoil and subsoils. Predicted volumes of soils and subsoils generated as part of the site clearance works have been quantified in Chapter 6, Land Soils and Geology.

It is intended, where possible, to maximise the reuse of soil within the Proposed Development for back-filling, construction of the site and landscaping to avoid importing raw materials. Excavated soil and stone pending reuse in the Proposed Development will be temporarily stockpiled in designated areas onsite during the Construction Phase.

The preliminary cut and fill analysis outlined in the CWMP (Paul McGrail Consulting Engineers Ltd, 2023) has indicated that approximately 14,600m<sup>3</sup> of topsoil and 26,198m<sup>3</sup> of sub-grade material will need to be excavated during construction. Topsoil that is required for the soft landscaping will be measured and this quantity will be retained on site. Offsite removal of surplus clean soil and topsoil will be undertaken in accordance with the CWMP, the CEMP and relevant waste management legislation. The Site management team will keep records of the removal and certification on file on site. The offsite re-use of material will be prioritised to minimise the potential loss of valuable good quality soil and subsoil to landfill as a waste. The re-use of soil offsite will be undertaken in accordance with all statutory requirements and obligations including where appropriate re-use as by-product in accordance with Article 27. Any surplus soil not suitable for re-use as a by-product and other waste materials arising from the Construction Phase will be removed offsite by an authorised contractor and sent to the appropriately authorised (licensed/permitted) receiving waste facilities. As only authorised facilities will be used, the potential impacts at any authorised receiving facility sites will have been adequately assessed and mitigated as part of the statutory consent procedures.

Waste will be generated during the construction of the Proposed Development at the Site. There will be a surplus of material such as off-cuts of timber, broken concrete blocks, plasterboard, tiles, and packaging waste. The waste materials shall be segregated at source and stored in suitably size receptacles and transferred offsite for appropriate processing, recycling and recovery. Waste materials generated from the construction phase that are unsuitable for reuse or recovery will be separately collected. Disposal of construction generated wastes will be considered a last resort, once recycling or recovery options have been ruled out. Waste will be collected as appropriate by suitably qualified and permitted nominated waste management contractors.

It is not envisaged that there will be any hazardous waste generated throughout the construction works however if generated, on-site storage of any hazardous wastes produced (i.e., waste fuels/chemicals) will be kept to a minimum, with compliant removal off-site organised on a regular basis. Offsite removal of hazardous waste will be undertaken in accordance with the CWMP and relevant waste management legislation by an authorised contractor and sent to the appropriately authorised (licensed/permitted) receiving waste treatment facilities. As only authorised facilities will be used, the potential impacts at any authorised receiving facility sites will have been adequately assessed and mitigated as part of the statutory consent procedures.

Waste will also be generated from construction workers e.g., organic/food waste, dry mixed recyclables (wastepaper, newspaper, plastic bottles, packaging, aluminium cans, tins and cartons), mixed non-recyclables and potentially sewage sludge from temporary welfare facilities provided onsite during the construction phase. Waste printer/toner cartridges, waste electrical and electronic equipment (WEEE) and waste batteries may also be generated infrequently from site offices. Office and canteen waste, including food waste, will be stored in wheelie bins on site and it will be collected by an appropriately authorised waste collector. All wastes generated on site will be sent for recycling, recovery, or disposal to a suitably licensed or permitted waste facility.

The potential effect from the Construction Phase on waste recovery and disposal is likely to be negative, short-term and slight in nature.

#### 14.8.2 Operational Phase

The Operational Phase of the Proposed Development will result in an increase in the production of municipal waste in the region and will increase demand on waste collectors and treatment facilities. Anticipated wastes arising from the day-to-day operations at the Proposed Development are summarised in Table 14.6.

WASTE DESCRIPTION	LIST OF WASTE CODE
<i>Mixed Municipal Waste</i>	20 03 01
<i>Mixed Dry Recyclables</i>	20 03 01
<i>Biodegradable Kitchen Waste</i>	20 01 08
<i>Glass</i>	20 01 02
<i>Bulky wastes</i>	20 03 07
<i>Waste electrical and electronic equipment*</i>	20 01 35* 21 01 36
<i>Batteries and accumulators*</i>	20 01 33* 20 01 34
<i>Textiles</i>	20 01 11
<i>Fluorescent tubes and other mercury containing waste*</i>	20 01 21
<i>Chemicals (solvents, pesticides, paints &amp; adhesives, detergents, etc.)*</i>	20 01 13/19/27-28/29-30
<i>Plastic</i>	20 01 39
<i>Metals</i>	20 01 40
<i>Paper and Cardboard</i>	20 01 01

Table 14.6: Anticipated wastes arising from the Operational Phase of the Proposed Development (\*individual waste type may contain hazardous materials)

Municipal waste is made up of household waste and commercial waste that is compositionally comparable to household waste. It includes residual, recyclables, organic, bulky, and waste electrical and electronic equipment.

An Operational Waste Management Plan (OWMP) has been prepared by Paul McGrail (2023) and has been submitted with this planning application.

The OWMP has estimated the volumes of the main waste types will be generated by the Proposed Development on a weekly basis once full occupancy has been reached. The Proposed Development will be to provide residents with waste management infrastructure to minimise the generation of un-segregated domestic waste and maximise the potential for segregating and recycling domestic waste fractions at source. Implementation of the OWMP will ensure a high level of recycling, reuse and recovery at the development. All recyclable materials will be segregated at source and managed to ensure effective diversion from landfill wherever possible. The waste management strategy presented in this report provides for sufficient waste storage capacity for the segregated waste types that will be generated at the development. Sufficient provision of appropriate waste storage capacity is provided for based on the estimated waste generation levels for the development when at full capacity. In conclusion, the OWMP presents a waste strategy that fully complies with all relevant waste legislation, waste policies and best practice guidelines and will ensure effective waste management at the Site.

The potential effect from the Operational Phase on municipal waste disposal is likely to be long term, negative and slight.

#### 14.9 Cumulative Impacts

Cumulative Impacts can be defined as “*impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project*”. Effects which are caused by the interaction of effects, or by associated or off-site projects, are classed as indirect effects. Cumulative effects are often indirect, arising from the accumulation of different effects that are individually minor.

The cumulative effects of Proposed Development on waste management have been assessed taking other planned, existing and permitted developments in the surrounding area into account.

A review of other off-site developments and proposed developments was completed as part of this assessment. The following projects listed in Table 14.7 were reviewed and considered for possible cumulative effects with the Proposed Development.

PLANNING REFERENCE	PLANNING AUTHORITY	STATUS	LOCATION
2360074	Westmeath County Council	Decision Pending	0.1km East
<p>Planning permission was sought for a development consisting of a 10 year permission for the provision of a total of 332no. residential units along with provision of a crèche. Particulars of the development comprise as follows: (a) Site excavation works to facilitate the proposed development to include excavation and general site preparation works. (b) The provision of a total of 172no. 2storey residential dwellings which will consist of 152no. 3 bed units and 20no. 4 bed units. (c) The provision of a total of 160no. apartments/duplex units consisting of 36no. 1 bed units, 99no. 2bed units and 25no. 3bed units. The apartment blocks range in height from 2 storey to 4 storey and the duplex blocks range from 2 storey to 3 storey in height. (d) Provision of a 2 storey crèche. (e) Provision of associated car parking at surface level via a combination of in-curtilage parking for dwellings and via on-street parking for the crèche, duplexes and apartment units. (f) Provision of electric vehicle charge points with associated site infrastructure ducting to provide charge points for residents throughout the site. (g) Provision of associated bicycle storage facilities at surface level throughout the site and bin storage facilities. (h) The provision of a new link road via adjacent lands to the west</p>			



<p>to provide for vehicular, pedestrian and cyclist access. (i) The provision of internal culverts and associated bridges along with a realignment of a section of an existing drainage channel within the site to facilitate internal access roads along with associated crossing points across the drainage channel (to facilitate pedestrian, cyclist and vehicular crossing points). (j) The creation of a pedestrian footpath alongside the local road which will connect to the existing footpath aligning the N55 National road; (k) Provision of associated open space areas, residential communal open space areas to include formal play areas along with all hard and soft landscape works for private gardens and amenity spaces along with public lighting, planting and boundary treatments to include boundary walls, railings &amp; fencing; (l) Provision of 2no. ESB substations. (m) Internal site works and attenuation systems. (n) All ancillary site development/construction works to facilitate foul, water and service networks for connection to the existing foul, water and ESB networks.</p>			
2360047	Westmeath County Council	Granted Conditional	Directly South of the Proposed Development
<p>Planning permission was sought for a development at a site of total c.1.13ha on lands located at Cornamaddy, Athlone, Co. Westmeath. The site is generally bounded to the west by greenfield lands and Cornamagh Cemetery, to the north by greenfield lands, to the south by greenfield lands and the Ballymahon Road (N55) and to the east by the existing Drumaconn housing estate. The development will consist of modifications to the permitted application WMCC Reg. Ref. 14/7103/ ABP Ref. PL25.244826 and concurrent application WMCC Reg. Ref. 22/577 to include the following: Removal of the permitted creche c.260sqm and associated parking granted under WMCC Reg Ref. 14/7103/ ABP Ref. PL25.244826. The recently permitted creche granted under WMCC Ref. 22/340 will regularize childcare provision on site. The remaining area will form part of the public open space associated with the wider development at Cornamaddy (c.710sqm). Associated minor landscape revisions to the concurrent application WMCC Reg. Ref. 22/577; Provision of 6 no. additional houses comprising 4 no. Type A1 4-5 bed 2-3 storey semi-detached units (c.166sqm area each) and 2 no. Type B 3 bed 2 storey semi-detached units (c.113sqm area each). All with associated rear gardens and 2 no. parking spaces per unit. No new house types are proposed under this application; Relocation and minor alterations including changes to the floor levels, house plots and associated gardens and boundary treatments of the remaining units comprising 4 no. Type A1 4-5 bed 2-3 storey semi-detached units (c.166sqm area each), 2 no. Type B 3 bed 2 storey semi-detached units (c.113sqm area each), 1 no. Type D 5 bed 2-3 storey detached unit (c. 215sqm area) and 2 no. Type E1 3 bed 2 storey semi-detached units (c.112sqm area each) permitted under WMCC Reg. Ref. 14/7103/ ABP Ref. PL25.244826. No changes to the permitted floor area of these units; Minor modifications to the concurrent application WMCC Reg. Ref. 22/577 to include reconfiguration and relocation of the main access roads south of the planned distributor road. Readjustment of the internal shared access road parallel to the distributor road permitted under WMCC Reg. Ref. 14/7103/ ABP Ref. PL25.244826; All associated site development works, services provision, connection to water services and connection to the section of the distributor road proposed under WMCC Reg. Ref. 22/577, public open space (c.600sqm), landscaping, boundary treatment works and car parking provision.</p>			
22577	Westmeath County Council	Decision pending	Directly south of Proposed Development
<p>A 5 year permission was sought for a development at a site of total c.10.87 ha on lands located at Cornamaddy, Athlone, Co. Westmeath. The site is generally bounded to the west by greenfield lands and Cornamagh Cemetery, to the north by greenfield lands, to the south by greenfield lands and the Ballymahon Road (N55) and to the east by the existing Drumaconn housing estate. The development will comprise of a residential development and public open space comprising the following: Amendments to permitted application WMCC Reg Ref. 14/7103 ABP Ref. PL25.244826 for the removal of 38 no. permitted units (not constructed) to be replaced by: Construction of 70 no. residential units comprising: 4 no. 2 bed terraced houses (c.78 sq.m each), 60 no. 3 bed semidetached (c. 96-116 sq.m each) and 6 no. 4 bed semidetached houses (c. 147 sq.m each) with associated private gardens. The creche facility, public open spaces, landscaping, roads layouts, car parking, boundary treatment works, public lighting and all associated site works associated with the 87 no. remaining units retained as permitted under WMCC Reg Ref. 14/7103 ABP Ref. PL25.244826 will remain unchanged. All pedestrian and vehicular access roads and footpaths including a section of the planned east/west distributor road connecting to a sections of the distributor road permitted under WMCC Reg. Refs 14/7103 ABP Ref. PL25.244826 and 22/253 to the east</p>			



of the site. All associated site development works, services provision, drainage works, public open space (c.1.03ha), landscaping, boundary treatment works, public lighting, associated esb substation cabinets, bin stores, car and bicycle parking provision.			
22253	Westmeath County Council	Granted – Conditional	Directly east of Proposed Development
Planning permission was sought for a development consisting of the following: Construction of 75 no. residential units comprising: 51 no. 2 storey semi-detached and terraced houses (consisting 4 no. 2 bed houses and 47 no. 3 bed houses, ranging in size from c.78 sq.m – 120 sq.m each), and 24 no. 3 storey apartment/duplex units (consisting 12 no. 2 bed apartments and 12 no. 3 bed duplexes, ranging in size from 84sq.m to 121 sq.m each), with associated private gardens and east/west facing terraces; All pedestrian and vehicular access roads and footpaths including a section of the planned east/west distributor road connecting to a section of the distributor road permitted under WMCC Reg. Ref. 14/7103/ ABP Ref. PL25.244826 to the south east of the site. All associated site development works, services provision, drainage works, residential open space (c.0.28ha) and public open space (c.0.82ha), landscaping, boundary treatment works, public lighting, 1 no. esb substation cabinets, bin stores, car and bicycle parking provision; Provision of a new detention basin on the eastern portion of the site designed to cater for the proposed development, in lieu of the drainage works permitted under WMCC Reg. Ref. 14/7103 / ABP Ref. PL 25.244826.			
22340	Westmeath County Council	Granted – Conditional	Within redline boundary
Planning permission was sought for a development consisting of the following: Construction of a two Storey childcare facility, including classrooms, reception, kitchen, associated staff areas and office, toilets, storage, plant rooms, circulation areas and photovoltaic panels at roof level (c.668sqm total gross floor area); The proposed facility includes a secure outdoor play area(c. 595 sqm), 18 no. car parking spaces and 20 no. bicycle parking spaces; Existing vehicular access onto the existing link road and provision of an internal access road, footpaths and 2 no. pedestrian access points; All associated site development works, service provision, drainage works, landscape and boundary treatment works and public lighting.			
177224	Westmeath County Council	Granted – Conditional	Approx. 20m south of Proposed Development
Planning permission was sought for the development of 7 no new dwellings to include 3 no 5 bedroom detached houses and 2 no 4 bedroom detached houses with optional fifth bedroom/study and 2 no 4 bedroom semidetached houses with optional fifth bedroom/study and all associated site development works including road networks, services, landscaping, and boundary treatments.			
147103	Westmeath County Council	Granted – Conditional	Approx. 15m south of Proposed Development
Planning permission was sought for the construction of 98 no. new dwellings to include 11 no. 4/5 bedroom detached houses, 28 no. 4/5 bed semi-detached houses, 8 no. 3 bedroom detached houses, 34 no. 3 bedroom semi-detached houses, 8 no. 2/3 bedroom terraced houses, 3 no. 2 bedroom houses and 6 no. 2-bedroom bungalow houses. The development includes the provision of all associated site development works including road networks, services, landscaping and boundary treatments.			

Table 14.7: Potential Cumulative Impacts

With regard to other developments under construction and proposed in the vicinity of the Site, including the aforementioned recently permitted applications, there will be a greater demand on existing local waste management services and on regional waste acceptance facilities.

The capacity of waste collection companies and waste management facilities in the Eastern Midlands Region have been designed with forward planning and expansion in mind to cater for a growing population. It is necessary that all the developments provide the infrastructure and services to assist residents to segregate domestic waste at source, in order to reduce the generation and disposal of non-recyclable mixed waste. Existing waste collections currently take place in the local area and during the Operational Phase, the Proposed Development will be added to an existing collection route. The likely effect

will be neutral and not significant on waste management facilities in the area in the long term.

#### **14.10 Ameliorative, Remedial or Reductive Measures**

##### **14.10.1 Construction Phase**

The following mitigation measures are recommended for the Construction Phase of the Proposed Development regarding Waste Management:

- Waste materials will be separated at source and will follow the Construction and Demolition Waste Management Plan.
- Prior to the commencement of the Construction Phase detailed calculations of the quantities of topsoil, subsoil and green waste will be prepared, and soils will be tested to confirm they are clean, inert or non-hazardous.
- Beneficial use must be identified for the entirety of the excavated soil from the Proposed Development prior to its production for the excavated soil and stone to be considered as a by-product under Article 27 of the European Communities (Waste Directive) Regulations, 2011.
- A suitably competent and fully permitted waste management company will be employed to manage all waste arising for the Construction Phase. The appointed waste contractor must have the relevant authorisations for the collection and transport of waste materials, issued by the National Waste Collection Permit Office (NWCPO).
- Similarly, all waste materials will be transported to an appropriately authorised facility, which must have the relevant authorisations for the acceptance and treatment of the specific waste streams, i.e., a Certificate of Registration (COR) or a Waste Facility Permit (WFP) as granted by a Local Authority, or a Waste/Industrial Emission Licence as granted by the Environmental Protection Agency.
- All waste quantities and types will be recorded and quantified, and records will be retained onsite for the duration of the Construction Phase.

##### **14.10.2 Operational Phase**

As outlined in the OWMP for the Proposed Development, it is intended to ensure that the highest possible levels of waste reduction, waste reuse and waste recycling are achieved for the Proposed Development. Specifically, the OWMP will aim to achieve waste prevention, maximum recycling and recovery of waste with a focus on diversion of waste from landfill wherever possible.

#### **14.11 Residual Impacts (Including Worst Case Scenario)**

The CWMP and the OWMP that have been prepared for the Proposed Development provide sufficient guidance to ensure that the Construction and Operational Phases of the Proposed Development will have a neutral, imperceptible to slight effect on the receiving environment in the long term. There will be an increase in waste collection in the area during the Construction and Operational Phases of the Proposed Development, however, as the surrounding area is highly residential in nature, waste collection is commonplace.

When considered in conjunction with other permitted, planned and existing developments in the vicinity of the Site, it is predicted that the likely cumulative impact of the Proposed Development with other developments in the area on waste management during both the Construction and Operational Phases will be neutral and imperceptible to slight in the long term.

Provided that the mitigation measures are implemented, that the conditions for Article 27 are met for the excavated soil and stone, and a high rate of reuse, recycling and recovery is achieved in both the Construction and Operational Phases, the likely effect of the residual impacts of the Proposed Development on the environment will be neutral and imperceptible to slight in the long term.

A worst-case scenario in relation to waste would be where a previously unclassified hazardous waste stream arose on the site during excavations, which was not identified and segregated appropriately and resulted in the contamination of a non-hazardous waste stream, such as soil and stones, resulting in a large volume of hazardous waste that would require specialist removal and treatment. However, taking account of the avoidance and mitigation measures the worst-case scenario is deemed to be unlikely.

#### **14.12 ‘Do Nothing’ Alternative**

In the ‘Do Nothing’ scenario the Proposed Development does not proceed and there is no additional demand or loading on waste management infrastructure locally or nationally.

#### **14.13 Monitoring**

Materials and waste generated during the Construction Phase will be carefully monitored by the Construction Environmental Site Manager, and/or an appointed Waste Officer, to ensure compliance with relevant local authority requirements and effective implementation of the CWMP, including maintenance of waste documentation.

#### **14.14 Interactions**

Waste Management interacts with other environmental receptors as follows:

- Population and Human Health: The improper removal, handling and storage of hazardous waste could negatively impact on the health of construction workers. Potential impacts on population and human health are addressed in Chapter 5.
- Biodiversity: The improper handling and storage of waste during the Construction and Operational Phases could negatively impact on biodiversity. Potential impacts on biodiversity are addressed in Chapter 8 (Biodiversity).
- Land and Soil, Geology and Groundwater: Improper handling and segregation of hazardous or contaminated wastes could lead to the contamination of soil and stones excavated from the Site. Potential impacts on land and soils are addressed in Chapter 6.
- Traffic: Waste collection activities at the Proposed Development have the potential to impact upon traffic movements in the Leixlip area. Potential impacts on traffic are addressed in Chapter 13.

#### **14.15 Difficulties Encountered**

No difficulties were encountered in the preparation of this Chapter.

#### **14.16 References**

Department of Communications, Climate Action and Environment (DCCA) (2021) A Waste Action Plan for a Circular Economy – Ireland’s National Waste Policy 2020-2025.

Eastern-Midlands Region (EMR) Waste Management Plan 2015-2021.

Environmental Protection Agency, 2022, Guidelines on the Information to Be Contained in Environmental Impact Assessment Reports.

Environmental Protection Agency, 2021, Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects.

Environmental Protection Agency, 2019, Guidance on Soil and Stone By-products in the context of article 27 of the European Communities (Waste Directive) Regulations 2011, Version 3.

Environmental Protection Agency, 2003, Advice Notes on Current Practice in the preparation of Environmental Impact Statements.

Environmental Protection Agency, 2002, Guidelines on the information to be contained in Environmental Impact Statements.

Waste Framework Directive (Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste) as amended by Directive (EU) 2018/851.

Waste Management Acts 1996-2011 (as amended).

Westmeath County Development Plan 2021-2027.

## 15 MATERIAL ASSETS

### 15.1 Introduction

This chapter prepared evaluates the potential impacts, from the proposed development of Material Assets as defined in the EPA Guidelines ‘Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, 2022), Advice Notes Draft Advice Notes for preparing Environmental Impact Statements (EPA, 2015), and European Commission Guidance on Environmental Impact Assessment of Projects: Guidance on the Preparation of the Environmental Impact Assessment Report (2017)’.

As the nature of the potential for impact on material assets is derived from the cumulative impact of both the residential development as a whole, this chapter assesses the potential impacts of development on the site.

This chapter will evaluate the following economic assets of the site and environs:

- Materials Assets of Natural Origin
  - Agriculture
  - Natural resources
- Material Assets of Human Origin
  - Local settlement
  - Property Prices
  - Gas Supply
  - Electricity supply
  - Telecommunications
  - Transport
  - Water supply and sewerage
  - Municipal Waste
  - Tourism

Where relevant several of these assets have been addressed in other chapters within this EIAR and therefore, they are not discussed in detail in this chapter. References are provided to these other chapters where appropriate.

### 15.2 Material Assets of Natural Origins

#### 15.2.1 Agriculture

The development site has been unused greenfield lands and has not recently been used for any agricultural activities. The land on which the overall proposed development is to be located is appropriately zoned for residential development. It is not considered that the operation of the subject proposal or wider development on the subject lands will have a significant impact on agriculture in the wider environs of the site. Emissions from the development with the potential to impact on local agriculture are addressed in the respective EIA chapters including Chapter 5: Population and Human Health, Chapter 6: Land, Soils, Geology and Hydrogeology, Chapter 7: Hydrology, Chapter 8: Biodiversity, Chapter 9: Air Quality & Climate and Chapter 10: Noise and Vibration.

#### 15.2.2 Planting

Chapter 11 Landscape and Visual Impact report assesses trees on site and provides an analysis of any potential impact on the existing trees and hedgerows. The chapter also provides recommendations for remedial works, preservation and or removal of trees and hedgerows.

### 15.2.3 Use of Natural Resources

During construction, fuel for construction related machinery will be one of the main resources used. Use of natural resources, especially water, will be kept to a minimum during the construction phase.

During the operational phase, there will be on-going resource requirements which will reflect the residential nature of the development. Refer Chapter 9: Air Quality and Climate for details on potential emissions from the proposed development.

## 15.3 Material Assets of Human Origins

### 15.3.1 Local Settlement

Athlone Town is located approximately 2km to the south of the overall development site and is the nearest significant settlement to the proposed development site, further to the immediately adjacent Drumaconn Estate and pepper potted one off dwellings surrounding the site. All immediate surrounding settlements are established and have permanent residents. Further details on the nature of local settlements are presented in Chapter 5: Population and Human Health.

#### 15.3.1.1 Property Prices

The subject development will consist of 177 no. new units on the applicant's landholding at Cornamaddy and will represent an application for development on the final section of lands under the applicants control at Cornamaddy that has not been subject to an application for development. When constructed the subject development will represent a portion of a new residential neighbourhood at Cornamaddy. The total quantum of development on the applicant's landholding at Cornamaddy when completed will be c. 400 units.

It is anticipated that the overall development on the lands will have no negative impact on property prices in Athlone. The overall proposal will greatly add to the residential supply in Athlone, which increases competitiveness on the housing market as supply is increased to match demand, leading to a potential drop in housing prices in the wider Athlone area.

### 15.3.3 Electricity Supply

The proposed development will require an electrical connection to the local network. Initial discussions have taken place with ESB regarding existing infrastructure in the locality.

The preliminary loading for the site is estimated to be in the region of 800 kVA. (This is subject to change dependent on final renewable considerations etc. A number of on-site sub stations will be required to cater for this load). Preliminary design estimates would indicate an MV substation and additional unit sub stations will be required.

### 15.3.5 Transport

Chapter 13: Traffic and Transportation examine the traffic implications associated with the proposed development, in terms of integration with existing traffic in the area. The chapter presents a detailed review of the proposed development on the existing road network, through the operational assessment of the New Rathnew inner Relief Road/R750 junction in the vicinity of the development site.

It also examines the proposed development's vehicular access arrangements, car parking provision, site layout and facilities for pedestrians and cyclists.



### 15.3.6 Water Resources

Chapter 7: Hydrology deals with water resources associated with the proposed development.

The proposed network has been designed to comply with Irish Water specification. Individual houses will have their own connections to the distribution main via service connections and boundary boxes. Individual service boundary boxes will be of the type to suit Irish Water and to facilitate possible future domestic meter installation.

A Pre-Connection Enquiry was made to Irish Water (Ref. CDS20006740) for water and wastewater connections for up to c. 500 units. Irish Water concluded that based on the details provided with the pre connection enquiry and their own desk top analysis of the current available capacity in the Irish Water Network as assessed by Irish Water, it was advised that the proposed connection to the Irish Water Network can be facilitated.

The confirmation of feasibility issued by Irish Water confirming capacity to connect to the existing network confirmed that the existing Water network can cater for up to c.500 new units on the Cornamaddy lands.

### 15.3.7 Sewerage

Chapter 7: Hydrology deals process and foul effluent associated with the proposed developments.

The foul water from the development will discharge via soil vent pipes within the buildings by gravity flow before connecting into the existing separate foul sewer network within the development. The foul sewerage for each house will have a separate connection to the proposed 225mm and 150mm diameter foul sewer along the road.

A Pre-Connection Enquiry was made to Irish Water (Ref. CDS20006740) for water and wastewater connections for up to c. 500 units. Irish Water concluded that based on the details provided with the pre connection enquiry and their own desk top analysis of the current available capacity in the Irish Water Network as assessed by Irish Water, it was advised that the proposed connection to the Irish Water Network can be facilitated.

The confirmation of feasibility issued by Irish Water confirming capacity to connect to the existing network confirmed that the existing Wastewater network can cater for up to c.500 new units on the Cornamaddy lands.

### 15.3.8 Municipal Waste

The construction phase of the proposed development works will give rise to the requirement to remove or to bring on to the site significant quantities of construction materials.

Chapter 14: Waste Management addresses various measures which ensure that the waste arising at the development site is effectively managed to maximise recycling of construction waste, and to minimise the environment impact of construction waste.

All these measures are in compliance with the provisions of the Waste Management Act 1996 (as amended), the litter Act of 1997, and the Eastern-Midlands Region (EMR) Waste management Plan 2015-2021, achieving optimum levels of waste reduction, re-use and recycling.

The future development will increase demand on municipal waste services. The potential impact from the operational phase of the future development on municipal waste disposal is likely to be long term and moderate.

#### 15.3.9 Tourism

The proposed overall development lands are located on greenfield lands approximately 2km to the north of Athlone Town. It is considered that the proposed development will have no impact on the tourist trade within Athlone Town, which is primarily focused around the River Shannon that flows through the town centre and immediately adjacent historic sites such as Athlone Castle, as well as the Luan Gallery on the banks of the Shannon. It is considered that the proposed overall development on the lands will have no impact on tourism in Athlone due to its location on the periphery of the town, the moderate volume of tourists visiting Athlone and the lack of tourist sites immediately adjacent to the development lands.

#### 15.4 Mitigation Measures

- Chapter 11: Landscape and Visual Impact analyses that the proposed development will have minimal impact on the existing tree cover on the site. It also suggests that the additional replanting will work in mitigating any loss of trees as a result of the development and will be a net positive to the tree cover in the particular location.

The proposed landscape plan details the planting of a significant number of new native broadleaf trees.

- As outlined mitigation measures in Chapter 12: Archaeological, Architectural and Cultural Heritage is carried out, then there will be no significant negative residual impacts on the archaeological, architectural, or cultural heritage resource.
- Chapter 10: Noise & Vibration deals with a schedule of mitigation measures that has been proposed for both the construction and operational phases to reduce, where necessary, the outward noise and vibration from the development.
- Chapter 9: Air Quality and Climate deals with appropriate mitigation measures to prevent fugitive dust emissions which will ensure the prevention of significant emissions during the construction stage. These measures have been incorporated into the overall Construction Environmental Management Plan (CEMP) prepared in respect of the proposed development.

The chapter also incorporates various good practice measures which would ensure the potential impacts to climate during the construction stage are lessened.

There are no mitigation measures required during the operational phase of the proposed development on air quality and climate.

- Chapter 7: Hydrology outlines various mitigation measures which are included during construction to minimize the potential for any accidental releases off site. During operation, the potential for an impact to ground or storm water is negligible and there are design measures incorporated within the proposed development to manage stormwater run-off quality.

#### 15.5 Residual Assessment

The proposed development will not have any significant impact on material assets including, most notably, public utilities and natural resources. The overall predicted

impact of the proposed developments can be classed as long term and negligible with respect to material assets. The proposed development has been designed for, and the infrastructure constructed for, a residential development of this nature and scale.

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## 16 CUMULATIVE IMPACTS

### 16.1 Introduction

This chapter considers the cumulative impact of the proposed development with any future development, as far as is practically possible, on the site and the cumulative impacts with both planned and permitted developments in the immediate surrounding area. The proposed development will consist of the construction of 177 no. units on a gross site area of 7.31 ha ranging in height from 2-3 storeys comprising detached, semidetached, and terraced houses, maisonettes, and duplexes. 65 no. 2 bed houses, 71 no. 3 bed houses and 9 no. 4 bed houses will be provided. 24 no. 1 bed maisonette apartment units and 8 no. 3 storey duplex apartment units will be provided.

planned development to historical, present, or foreseeable future actions within reason. Cumulative impacts generally arise through the following:

- Persistent additions or losses of the same material or resource,
- Compounding effects due to the coming together of two or more effects.

The applicant has lodged a number of applications on their landholding at Cornamaddy, some of which are currently under construction. The subject proposal will consolidate the development on the lands by providing 177 no. units primarily located in the north western portion of the Cornamaddy lands.

The land subject to this planning application is located at Cornamaddy, Athlone, Co. Westmeath, approximately 2km to the northeast of Athlone Town Centre. The site is generally bounded by surrounding greenfield lands to the south-west by an existing cemetery and a Pitch and Putt Club bordering the site to the north-west. The site is also bounded by a number of extant permissions (currently under construction) within the same development to the east and south.

The parent permission for the development to the south is currently under construction, i.e. WMCC reg. ref. 14/7103. It is noted that Phase 3 (reg ref. 22/577) has made amendments to WMCC reg. ref. 14/7103 and is currently subject to Further Information. A permitted layout for 75 units to the east of the subject site was also granted in 2022 i.e. Phase 1 (reg ref. 22/253). A number of units in the Phase 1 permitted layout back onto the subject site. Phase 2 (reg ref. 22/340) was granted this year (07/03/2023) and is subject to 11 no. conditions.

There is also an existing residential housing development ‘Drumaconn’ to the southeast of the subject site, bordering the Phase 3 subject site.

The site is defined by the proposed distributor roads outlined in the Cornamaddy Action Area Plan to the south and east. The Action Area Plan also denotes an area of zoned Open Space along the northern boundary of the site. it is noted that the access and egress road for this development is partially in existence, currently providing access and egress to the constructed ‘Drumaconn’ residential development off the Ballymahon Road - N55. As previously stated in “Phase 3” of the overall development of the Cornamaddy lands by the Applicant, which is currently at Further Information Stage under WMCC reg. ref. 22/577 to the south east of the site, this road shall be extended as part of the permission granted under WMCC reg. ref. 14/7103, and further extended into the development site as part of the application lodged to WMCC currently awaiting a decision under WMCC reg. ref. 22/253 (Phase 1). Phase 3 will offer a further extension to the Distributor Road through the Cornamaddy lands, extending the road westwards from the section of road included in the planning application lodged to WMCC reg. ref. 22/253.

It is envisioned that the section of the distributor road provided as part of Phase 3 Reg. ref. 22/577 will contribute towards the deliverance of the entirety of the distributor road, envisioned to traverse the central portion of the Cornamaddy lands as they are developed. The subject proposal will join this section of the envisaged distributor road through the central portion of the Cornamaddy lands, which shall also facilitate development and provision of public transport linkages.

## 16.2 Methodology

Cumulative Impacts as relevant to the subject proposal have been assessed regarding the following relevant guidance, including but not limited to:

- EIA Directive (2011/92EU) as amended by EIA Directive (2014/52EU)
- Planning and Development Regulations 2001 (as amended)
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning and Local Government, 2018)
- Guidelines on the Information to be included in Environmental Impact Assessment Reports (EPA 2022)
- Guidance on the Preparation of Environmental Impact Assessment Report (European Union 2017).
- Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions, European Commission, 1999

The EPA Guidelines (2022) define cumulative effects as *‘The addition of many minor or insignificant effects, including effects of other projects, to create larger more significant effects.* The guidance clearly outlines that this assessment is required as while a single activity may have a minor impact, the impact may be more significant when combined with impacts from other projects, current or future. It could also be relevant to consider the potential environmental loadings that may arise from the development of lands in the vicinity of the subject project.

This chapter considers the potential for cumulative impacts of the development that may arise from the proposed development with any future development that related to the application as identified within Chapter 2 Description of Development and permitted development in the vicinity of the development site.

## 16.3 Receiving Environment

### 16.3.1 Permitted Development and Existing Local Land Uses

The application lands are to the west of the Ballymahon Road - N55 national road which is the main road closest to the development site.

The application lands are to the north/west of the Ballymahon Road - N55 national road which is the main road closest to the development site.

The lands to the north-west and south-west of the development site are greenfield and feature no live or extant permissions. This boundary is characterised by light shrubbery and trees located at intervals, creating a boundary between the subject lands and adjacent sites. The Applicant notes such trees and shrubbery will not be impacted by the subject proposal. They shall integrate into the proposed linear park proposed to the north-west of the subject site.

It is noted that the north-western site boundary runs parallel to an adjacent pitch and putt course for approximately 325 metres. Following the north-western side of the subject site, there is an area of greenfield land to the south-west, which runs parallel for approximately 170m and borders the existing Cornmagh Cemetery to the south.

The lands immediately adjacent to the subject site to the east are in the control of the Applicant (Phase 1) and run parallel for approximately 300 metres. Phase 1 has the benefit of a grant of permission under WMCC reg ref. 22/253, which is currently unconstructed but proposes the construction of 75 no. residential units that shall integrate into the Phase 4 development.

The south-eastern portion of the site includes the extent of the redline boundary associated with application reg ref. 22/340 at the request of Westmeath County Council. This granted phase Phase 2 is currently unconstructed but proposes the construction of a childcare facility, car and bicycle parking and existing vehicular access onto the existing link road and provision of an internal access road, which Phase 4 can avail of. The applicant plans to commence construction of this in Q3 2024, with an expected construction time of 10 months.

The Phase 3 lands are to the south of the subject site's boundary and run for approximately 360 metres and are currently at Further Information Stage under (WMCC reg. ref. 22/577– amendments to WMCC reg. ref. 14/7103).

It is noted that the Phase 3 lands border the existing 'Drumaconn' residential development off the Ballymahon Road - N55 to the south-east. As previously noted, Phase 4 shall integrate into the access and egress road partially in existence, which currently provides access and egress to 'Drumaconn', by connecting to the proposed Phase 3 section of the distributor road, which is planned to be extended under WMCC reg. ref. 14/7103.

The site extends across residential and open space zoned areas listed within the Athlone Town Development Plan 2014-2020 as follows:

- **Residential o-LZ1** – *'To provide for residential development, associated services and to protect and improve residential amenity'.*
- **Open Space o-LZ8** – *'To provide for, protect and improve the provision, attractiveness, accessibility and amenity value of public open space and amenity areas'.*

Permitted developments in the immediate surrounding area which have the potential for cumulative impacts with the proposed development within the immediate vicinity of the site are as follows:

- **WMCC Reg. Ref 22340** – Permission **GRANTED** for the construction of a two storey childcare facility, associated staff areas and office, toilets, storage, plant rooms, circulation areas and photovoltaic panels at roof level (c.668sqm total gross floor area). The proposed facility includes a secure outdoor play area(c. 595 sqm), 18 no. car parking spaces and 20 no. bicycle parking spaces. Existing vehicular access onto the existing link road and provision of an internal access road, footpaths and 2 no. pedestrian access points. All associated site development works, service provision, drainage works, landscape and boundary treatment work and public lighting.
- **WMCC Reg. Ref 22253** - Permission **GRANTED** for the Construction of 75 no. residential units comprising: 51 no. 2 storey semi-detached and terraced houses (consisting of 4 no. 2 bed houses and 47 no. 3 bed houses, ranging in size from c.78 sq.m – 120 sq.m each), and 24 no. 3 storey apartment/duplex units



(consisting 12 no. 2 bed apartments and 12 no. 3 bed duplexes, ranging in size from 84sq.m to 121 sq.m each).

- **WMCC Reg. Ref. 177224**- Permission **GRANTED** for the construction of 7 no new dwellings to include 3 no 5-bedroom detached houses and 2 no 4-bedroom detached houses with optional fifth bedroom/study and 2 no 4-bedroom semi-detached houses with optional fifth bedroom/study and all associated site development works including road networks, services, landscaping, and boundary treatments.
- **WMCC Reg Ref. 147103** – Permission **GRANTED** for the construction of 125 no. new dwellings to include 59 no. 4/5 bedroom houses, 46 no. 3 bedroom houses, 20 no. 2 bedroom houses and a crèche.

It is noted that the subject application presents the largest phase of development on the applicants landholding, for 177 no. units total, with the following unit mix: 24 no. 1 bed units (14%), 65 no. 2 bed units (37%), 79 no. 3 bed units (44%) and 9 no. 4 beds (5%). The proposed mix of units is suitably balanced and provides a mix in line with surrounding local demand, and demand associated with developments of this scale. The unit number and mix is commensurate to the permitted childcare facility and residential units planned for the Cornamaddy area by the applicant under permitted and concurrent applications know as phases 1, 2, 3 and 5.

As part of this assessment of the cumulative impacts that could arise from the proposal in combination with other projects, account has been taken of relevant developments currently permitted, under construction and currently live within the planning system for the consideration of Westmeath County Council. A map of the permissions currently permitted and unconstructed within the applicant's landholding at Cornamaddy are shown on figure 16.1 below, with the current development site boundary shown for context purposes:



Figure 16.1 – Extant unconstructed permissions within the applicant's landholding

When reviewing existing and permitted development in the surrounding area it was noted that there was a number of established constructed permissions, permissions for small alterations to single residential dwellings and extensions. As these permissions were relating to established developments surrounding the site, they have been considered to have a not significant impact in relation to the overall development on the Cornamaddy lands.

It is noted that all permitted projects in the vicinity of the site are subject to an appropriate level of environmental assessment or planning conditions which include measures intended to minimise the potential for environmental impacts in the area. Any new development proposed on the lands that follows the subject development should be subject to an appropriate level of environmental assessment that will take into consider the subject development on the lands.

### 16.3.2 Concurrent Development

The subject development represents the final phase of planning applications to be lodged within the applicant's landholding at Cornamaddy and will consolidate the residential development of the lands when constructed, providing 177 no. units on the north-western portion of the Cornamaddy lands. It is noted that a number of previously lodged permissions on the applicants' lands have been granted and are now under construction or beginning the construction process. It is considered that these developments have the potential to represent development that is concurrent to the subject application,

dependent on the subject application receiving a grant of planning permission from Westmeath County Council.

The applicant has begun construction of the permission granted by Westmeath County Council under reg. ref 14/7103 to the southeast of the development site. This application was for 125 no. units. It is noted that since this permission has been granted there has been an amendment application lodged to Westmeath County Council to replace 38 no. of the granted units with 70 no. new units presenting differing house types and styles (WMCC Ref. 22/577). This application is currently under consideration by Westmeath County Council, with a decision due on the 31<sup>st</sup> of October. Therefore, the applicant is currently constructing 87 no. units that remain unchanged under granted permission 14/7103.

There is potential for the construction of the 87 no. units associated with permission reference 14/7103 to be carried out in tandem to the subject development, however it is predicted that the construction process associated with application reference 14/7103 will be largely completed prior to the commencement of any construction associated with the subject application.

The applicant has also activated a permission for development granted by Westmeath County Council under Reg Ref. 17/7224, also located to the southeast of the subject site, along the section of existing distributor road used to access the Drumaconn housing estate. This portion of development on the applicant's landholding at Cornamaddy consists of 7 no. dwellings total. Given the small scale of this section of development on the applicant's lands and noting that the development is under construction currently, it is considered that this element of the overall development on the Cornamaddy lands will be complete prior to the commencement of construction of the subject development.

The applicant has also received a grant of permission for development of 75 no. units to the immediate east of the development site under WMCC Reg Ref. 22/253. It is considered that this element of the overall development will directly integrate with the proposed development to consolidate development on the northern portion of the applicants' lands at Cornamaddy. It is noted that the applicant has begun groundworks for the development at present. Given the scale of the granted permission (75 no. units) and the proximity of this development to the proposed element of development, it is considered that there may be some overlap in the construction programmes for the proposed and permitted development at the back end of construction of development reference 22/253.

Westmeath County Council have also granted permission to the applicant for a 2 storey creche facility under application Reg Ref. 22/340. This element of the overall development is located to the east of the primary land bank for development, adjacent to the N55 Road. The 3 storey duplex element of the proposed development is located immediately to the west of this granted development. It is noted that this creche facility will serve the entirety of the development on the applicant's lands at Cornamaddy once operational. Construction has not yet commenced for the creche facility on the lands. It is considered that this facility will be constructed to open in tandem with larger residential elements of the applicant's overall development becoming operational at Cornamaddy. When construction begins for the creche facility it is envisaged that the construction process will take place over a 10-month period. It is considered that there may be a crossover in the construction period of the creche facility and the proposed development, but it is likely that the creche facility will be completed far in advance of the subject proposal.

The applicant has received a grant of permission for amendments to grant application reference 14/7103 under Reg Ref. 23/ 60047. This amendment application removes the previously granted creche facility on the lands to regularise development, and allow all childcare needs for the overall development on the applicant's lands at Cornamaddy to

be provided via the creche facility granted under Reg Ref. 22/340, which was designed to facilitate the childcare requirement arising from all development on the lands. As part of this application the applicant also was granted permission for 6 no. additional units on the lands. As this application was a grant of permission for amendments to application Reg Ref. 14/7103, which is currently under construction, it is considered that these 6 no. additional units will be delivered in tandem with the delivery of all other units provided as part of the 14/7103 permission and therefore it is predicted that this phase of development will be largely completed prior to the commencement of any construction associated with the subject application.

### 16.3.3 Future Development

It is considered that in addition to the granted permissions on the applicant's lands that will be implemented as noted above, there are other permissions within the Cornamaddy area, both within the applicant's landholding and outside of the applicant's landholding, which are live in the planning system currently. It is considered that as these developments have not yet been subject to a grant of permission, they are considered within the 'future development' section of this chapter, as planned projects.

Within the applicant's landholding, there is currently a live application Reg Ref. 22/ 577 for amendments to a section of granted development Reg Ref. 14/7103 to remove 38 no. units permitted and unconstructed and replace these with 70 no. new units. This application is located to the immediate south of the subject site and is due for decision by October 31<sup>st</sup>, 2023. Should permission be granted for this phase of development on the applicant's overall landholding it is submitted that this phase of development is likely to be constructed in tandem or after the element of the 14/7103 permission currently under construction. There is potential that if this application Reg Ref. 22/577 is granted permission that the construction period could overlap with that of the proposed development.

In addition to the application Reg Ref. 22/577 lodged by the applicant within their landholding at Cornamaddy awaiting decision, there is also an application adjacent to the applicants' lands at Cornamaddy currently live within the planning system. Application Reg Ref. 2360074 was lodged by Akiyda limited for 332 no. houses on lands to the east of the applicant's landholding at Cornamaddy. This application is currently at further information stage and is due for a decision by the 22<sup>nd</sup> of November 2023. The site plan submitted by Akiyda Limited at further information stage is shown below for context:





Figure 16.3 – Indicative future development on adjacent lands to the northeast of the applicant's landholding

It is noted that this adjacent application if granted uses the road permitted as part of the applicant's application reference 22/253 for access. It is therefore predicted that this application if granted will begin construction in tandem with the applicant's phase 1 development (Reg Ref. 22/253) and will likely be ongoing throughout the subject application construction phase given the scale of development proposed at this location.

It is noted that as this application is outside of the landholding and control of the applicant, this has been subject to a separate full Environmental Impact Assessment Report lodged as part of the Akiyda Limited application.

#### 16.4 Assessment of Potential Cumulative Impacts

##### 16.4.1 Human Health and Population

The proposed development has been carefully designed to ensure that there are no significant effects on human health and population during the construction and operational phases, considering the surrounding land uses in the vicinity of the development site as well as the population in the relevant electoral divisions. It is considered that no significant effects will occur once appropriate mitigation measures are correctly implemented.

It is considered that the proposed development, concurrent developments currently under construction on the lands and future envisioned residential development to the north of the site have and will have a positive short-term impact on the area during the

construction phase. Short term employment is created in the area during the construction phase of a large residential development, which can have a short-term positive impact on the local economy.

The development currently being constructed on the site, the proposed development, and any future development on the site will be required to implement mitigation measures during the construction period such as noise management, traffic management and dust management etc, to ensure that the cumulative impacts of any development will not have a significant impact on human health but may present short term negative impacts throughout the construction phase from noise and construction traffic.

It is considered that development currently being constructed on site, the proposed development, and any future development on the site will have a long-term positive impact on Human Health and Population when operational. Residential development on appropriately zoned lands at Cornamaddy both on site and to the north of the site will significantly increase the population at Cornamaddy and will have a positive impact on the local economy and possible job creation and business growth in the area.

It is considered that the impact on Human Health and population in the short term will be short term positive in terms of population and short-term negative in terms of human health. It is considered that the impact on Human Health and population in the long term will be long term positive in terms of human population and long term neutral in terms of environmental factors.

#### **16.4.2 Land, Soils, Geology**

It is considered that all excavated soil and bedrock from the proposed development could potentially be directed to the same waste facilities for treatment and disposal as stone and soil excavated from all cumulatively assessed schemes and other schemes within the wider Athlone area. The prepared CWMP notes that all surplus stone from the proposed development site will be removed off site and directed to appropriately licensed waste facilities. It is therefore considered that any cumulative impact on land, soils and geology associated with the proposed development will be neutral, imperceptible, and permanent.

Any future development on the applicants' lands or in the immediate surrounding vicinity of the site in the future should be assessed accordingly and consider the subject application with regards to any cumulative impacts on land, soils and geology that could potentially arise.

#### **16.4.3 Hydrology and Hydrogeology**

The cumulative impact of the proposed developments surface runoff to the River Shannon and Lough Ree in combination with all other cumulatively assessed schemes has the potential to impact flood risk upstream and downstream. As proposed discharge rates from the proposed development will be similar to the currently existing runoff rate, and the inclusion of SuDS measures and on-site treatment measures, it is considered that the cumulative impacts on Hydrology and Hydrogeology arising from the subject development will be not significant, long term and imperceptible.

The subject application has considered the cumulative impacts of all development on the applicants lands and predicted the impact in combination with the Akiyda Limited scheme currently live in the planning system to the east of the applicants landholding. It is noted that a detailed Environmental Impact Assessment Report was submitted with the



adjacent application Reg Ref. 2360074 outside of the applicant's landholding to assess the potential impacts of this scheme.

All developments should comply with the governing development plan objectives regarding SuDS and ensuring that development does not increase flood risk within the relevant catchment area.

#### 16.4.4 Biodiversity

It is considered that should the proposed development and other planned or future projects impact on the same key environmental receptors that there is a potential for cumulative impacts to arise which could lead to a higher level of significance.

It is considered that given the location of the assessed projects within the applicant's landholding and consideration of any future projects, there is a potential for combined environmental impacts within the vicinity of the subject application site. Impacts on biodiversity could potentially arise from combined noise disturbance, dust and surface water runoff related impacts and loss of habitats on site would largely be expected to be limited to the construction site and its immediate surrounding vicinity. Where there is a potential for significant effects mitigation measures will be put in place to ensure there are no significant in combination effects that arise from the overall development of the Cornamaddy lands.

The project ecologist has cross checked the proposed development against the Westmeath County Development Plan 2021-2027, the Athlone Town Development Plan 2014-2020, the Westmeath Biodiversity Action Plan 2014-2020, and the Westmeath Heritage Plan 2018-2023 for possible in combination effects.

The Westmeath Biodiversity Plan outlines measures to protect and improve biodiversity and it is therefore considered that this will not result in negative in combination effects. The proposed development and any planned or permitted projects follow/ will be required to follow relevant regulatory provisions for the prevention of pollution, nuisance and other environmental factors that could impact biodiversity.

It is noted that the proposed development will contribute towards the general loss of semi natural habitats in the area surrounding Athlone Town, however the proposed development is located on the outskirts of an Urban Area and is bounded to the south and east by residential lands and it is considered that this type of development is in keeping with baseline trends for greenfield lands on the periphery of a growing town. It is considered that given the quantity of analogous agricultural lands around Athlone Town, the proposed development will not result in any significant cumulative impacts in terms of habitat loss involving other developments in the area.

The habitats within the lands in the applicant's landholding are largely ecologically poor grasslands with the exception of associated treelines and hedgerows which are of ecological value. The loss of grassland will not result in a significant loss of habitat, but the overall fragmentation and loss of hedgerows and treelines should be avoided.

The Westmeath County Development Plan 2021-2027 includes a number of protective policies to ensure that hedgerows and treelines are appropriately managed and protected, and the proposed development follows this policy guidance, retaining much of the existing treelines and hedgerows on the site and providing additional green infrastructure through tree and hedgerow planting at various locations within the

development site. The policy objectives of the County Development Plan will act to minimise the loss of habitats in the county as a result of development by encouraging developments that are in keeping with development policy goals.

Any effects on biodiversity that are potentially long term will be monitored by environmental protective policies as outlined in the Westmeath County Development Plan 2021-2027.

The predicted impacts associated with the proposed development, the mitigation measures proposed to protect local biodiversity and the receiving environment and the protective policies outlined in the county Development Plan will direct future local development. Significant cumulative negative impacts on biodiversity are not predicted.

We refer to Chapter 8 for a full detailed analysis of the potential for cumulative impacts on Biodiversity.

#### **16.4.5 Air Quality and Climate**

The cumulative impacts on the air quality and climate of the current proposed development in combination with other permitted and existing developments have been considered with a particular focus on the on the generation of air pollutants and GHG emissions. It is considered that in terms of dust generation no significant impacts are predicted to arise from the construction of the proposed development through the implementation of proper construction practices on the development site.

It is considered that any surrounding developments permitted or planned in the future should be assessed accordingly and consider the subject development with regards to any cumulative impacts that may arise. Surrounding developments should independently employ best practice methods throughout the construction phase to minimise impacts on air quality and climate.

An assessment of the potential for operation stage cumulative impacts involved an assessment of traffic data that is inclusive of other existing and permitted developments impacts on the road network in both current and future years. It is considered following this assessment that the impact on ambient air quality will be not significant.

#### **16.4.6 Noise and Vibration**

During the construction period of the proposed development, construction work from the site will be the dominant noise source for surrounding sensitive receptors for the duration of the construction period within the site operation hours as conditioned by Westmeath County Council. Any construction that takes place within the vicinity of the subject site during the same construction period will be potentially significant and should be assessed as such. Mitigation measures as described in chapter 10 when implemented will ensure that there should be no significant cumulative impacts with permitted, future, or existing development because of the proposed development.

It is expected that once operational, the noise associated with day-to-day operation is minimal. The residential element of the development is not considered to generate any significant noise levels over and above those which form the general environment surrounding the site in nearby residential areas. It is considered that the traffic noise levels at residential properties are determined to be not significant and do not require any type of noise mitigation measures.

Whilst there is the potential for a short-term negative impact increase in noise levels on the site during the construction phase, it is considered that once operational the noise level increase on the site will be not significant.

Any future developments on the site or in the area surrounding the site will be subject to similar noise mitigation measures as outlined in chapter 10 during the construction phase.

#### 16.4.7 Landscape and Visual Impact

It is considered that additional cumulative impacts could possibly arise from the combined effects of the subject proposal and other surrounding plans and projects. It is expected that all construction works would have an adverse landscape impact. Although valued features would be protected, the works would change and degrade the lands until they are re-made into the proposed development.

Construction works are considered a temporary process. The proposed development achieves local policy objectives of WMCC and is in keeping with local land use zoning. Its scale and effect would be transformational along the edge Cornamaddy, Athlone, but important to be so, in order to contribute to local placemaking. There are several permitted and proposed developments in the Cornamaddy Area. The developments achieve local policy objectives of WMCC and is in keeping with local land use zoning. This would reflect the change on client's landholding and other lands in the area. The transition of the area has already begun. Any further development within the vicinity of the proposed lands could have the possibility of impacting sensitive receptors as outlined in chapter 11. This could lead to potential impacts of a slightly higher level of significance on the identified receptors when assessed cumulatively. The most likely of these potential impacts will be loss of hedgerow and a slight impact on existing views towards the site.

Any future application for residential development on the lands to the north of the development site of similar characteristics to the subject proposal will be subject to an LVIA and Environmental Impact Assessment as necessary to consider the potential effects in combination with the subject proposal and any other relevant plans and projects at the time of the application lodgement.

#### 16.4.8 Archaeology and Cultural Heritage

It is noted that any permissions previously granted on the development site and the proposed development have been subject to excavations and monitoring prior to the lodgement of any planning applications.

There are no recorded archaeological sites or designated architectural heritage structures located within the proposed development site or within its close environs. There is only one recorded archaeological site located within 1km of the proposed development and this comprises an extant mound barrow (WM029-041---) located 730m to the north. There are no designated architectural heritage structures or conservation areas located within the 1km study area and no undesignated examples exist within the proposed development site. In addition, a review of the locations of other modern residential developments within the surrounding area revealed that their construction did not result in the removal of any recorded archaeological sites or designated architectural heritage structures. Given these baseline conditions and following the application of the mitigation measures presented in the Archaeological and Cultural Heritage Chapter, it is concluded that the proposed development will not act in combination with other proposed or completed developments to result in significant cumulative impacts on the cultural heritage resource of the area.

#### 16.4.9 Traffic and Transportation

When evaluating Traffic Impact, future junction performance assessments conducted in respect of the proposed development have included traffic flows to be generated by nearby permitted developments that will likely cause an increase in traffic flow along the N55 to the north, N55 to the south, R916 and L8048 roads.

The predicted impacts as included in chapter 13 Traffic and Transportation therefore also represent the predicted cumulative impacts of the proposed development in relation to increase in traffic flows.

In 2025, 2030 and 2040 with the residential development operational and an increase in background flows the roundabout will operate within capacity with small queues and delays with a maximum RFC value of 0.67 during the PM peak hour in 2040.

In 2040 with the residential development operational, the future residential developments operational and an increase in background flows the roundabout will operate within capacity with small queues and delays with a maximum RFC value of 0.75 during the AM peak hour in 2040.

It is expected that during the operation stage of the proposed development, a slight long term negative impact will be experienced due to the increase in traffic flow resultant of the increase in population arising from the proposed development and other relevant developments.

#### 16.4.10 Material Assets

The proposed development is not considered to have any significant impact on public utilities or natural resources. It is predicted that there will be a minimal use of material assets during the construction phase of the proposed development. Throughout the construction process there will be coordination between the project team and relevant services providers such as Irish Water and ESB to ensure that works are not impacting services in the locality of the development site.

Regarding the permitted developments on site, the development works contractor is obliged to ensure that best practice measures are in place on site to avoid any potential interruptions to services from the existing telecommunications network, watermains, sewers and electrical grid. The proposed development and any future developments on the site will also be subject to best practice measures to ensure that the potential for service interruptions is minimised. Any interruption to services arising from developments on the site or in the vicinity of the site should be planned and communicated with the relevant services provider.

Therefore, the cumulative impact of the proposed development in combination with other permitted and planned projects is considered to be short term and negative during the construction phase if any planned service interruptions are necessary, and long term not significant during the operational phase of the development.

#### 16.4.11 Waste Management

It is considered that the proposed development, in combination with other developments permitted and proposed in the vicinity of the site of the proposed development will give rise to an increase in the demand on existing local waste management services and on regional waste acceptance facilities. It is noted that the capacity of waste collection companies and waste management facilities in the Eastern and Midlands Region have been designed with forward planning and expansion in mind to cater for a growing population.

The waste materials generated during the construction phase of the proposed development should be carefully managed, including segregation of materials at source to ensure proper recycling can be carried out. With a high level of due diligence carried out on site and with the implementation of the proposed mitigation measures, the proposed development's construction phases are not expected to have a significant environmental impact with respect to waste management. Any such environmental impact shall be limited to the period during which construction works take place on site, presenting a short term neutral impact.

It is essential that all permitted, planned and future developments provide the necessary infrastructure to segregate domestic waste at source, to reduce the generation and disposal of non-recyclable mixed waste. During the operational phase of the development, it will be added to an existing waste collection route. The likely effect will be neutral and not significant on the waste management facilities in the area long term.

It is considered that any other permitted or future plans should be subject to appropriate waste management practices during any construction and operational phases in compliance with national and local legislation policies and plans which will mitigate and minimise the potential for cumulative impacts to arise associated with waste generation and management. Therefore the long term cumulative impacts relating to waste management will be neutral and imperceptible.

## 17 INTERRELATIONSHIPS

### 17.1 Introduction

The chapter has been prepared under the guidance within the EIA Directive, the Planning and Development Act 2000 (as amended), the Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, 2017) and the EPA Guidance on the Information to be contained in Environmental Impact Assessment Reports (EPA 2022).

In accordance with the guidance not only are the individual significant impacts required to be considered when assessing the impact of a development on the environment, but so must the interrelationships between these factors be identified and assessed.

The majority of the EIA report chapters have already included and described assessments of potential interactions between aspects, considered by the various specialists contributing to this impact assessment. This chapter presents a summary and assessment of the identified interactions.

Section 171A of the Planning and Development Act requires that the interactions between the following be assessed:

- Population and Human Health
- Land, Soil, Water, Air and Climate
- Biodiversity, with particular attention to species and habitats protected under the habitats Directive and the Birds Directive
- Material assets, cultural heritage and the landscape

### 17.2 Discussion – Positive Impacts

The reasoning behind the interactions that are considered to have a positive effect (i.e., a change which improves the quality of the environment) is outlined in this section.

#### Population and Human Health

The proposed development will create temporary jobs during the construction phase and increase the population in the Athlone Area which may encourage employers to locate within Athlone and will generate additional revenue as new residents' shop in existing established shops and use services in place. It is considered that this will have a long-term positive and short-term, positive effect on employment in the local area.

#### Material Assets, Cultural Heritage & Landscape

The proposed energy efficiency options listed below will have long-term positive effect on the population and environment.

- Various heating options are under consideration for the dwelling units with both heat pump and gas boilers systems currently under review. Air source heat pumps utilize lowgrade heat from external ambient air and transfer heat to heating system pipework.

These systems operate with very high efficiencies (>400%) which provides significant carbon reductions in comparison to a traditional boiler system. Gas heating options would comprise a high efficiency gas boiler for provision of heating and hot water. Photovoltaic panels would be installed in conjunction with the gas boiler option to achieve the Part L renewable energy requirements



- The use of photovoltaics systems could potentially provide energy in the form of heat energy; as means of providing a complementary heating source for the building hot water requirement or, as a renewable electricity source to provide a complementary source to the proposed mains infrastructure to the building.
- All residential houses will be future ready for Electric Vehicle (EV) charging points of supply in terms of consumer distribution board and containment allowances.
- The subject development will provide for parts of the Cornamaddy lands to be accessed as public open space areas. The overall development lands are currently not accessible to the public. The proposal will provide appropriate landscaping and incorporate natural features into the landscaping design of the proposal, such as the esker located in the northern portion of the subject lands where a landscaped looped trail has been provided around its base.

### 17.3 Discussion – Neutral Impacts

The reasoning behind the interactions that are considered to have a neutral effect (i.e., no effects or effects that are imperceptible, within the normal bounds of variation or within the margin of forecasting error) is outlined in this section.

#### Material Assets, Cultural Heritage & Landscape

An Archaeological Assessment for the proposed development has identified that there are no recorded archaeological sites within the proposed development site and the only example (mound barrow WM029-041----) within the surrounding 1km study area is located within farmland at a distance of 715m to the north-west. Implementation of appropriate archaeological mitigation measures will ensure that a **neutral or no impact** will occur during the operational stage of the development.

#### Land, Soil, Water, Air & Climate

The air Quality and climate chapter provides various mitigation measures that will be put in place during construction of the proposed development which will ensure that the impact of the development complies with all EU ambient air quality legislative limit values which are based on the protection of human health. It is determined that the impact of construction of the proposed development is likely to be **neutral, short-term, localised, and imperceptible** with respect to human health.

According to the IAQM guidance (2014) site traffic, plant and machinery are unlikely to have a significant impact on climate. It is determined threat predicted impact is **neutral, short-term, and imperceptible**.

#### Biodiversity

It is considered that potential impacts arising from the proposed development are as follows: Habitat loss, accidental pollution events contaminating surface water in the receiving environment during the construction or operational phases, introduction of non-native invasive species causing habitat degradation, reduction in water quality with direct or indirect impacts on otter or other mammals, birds, fish and aquatic invertebrates, and disturbance/mortality impacts to mammal or birds during construction or operation. A comprehensive suite of mitigation measures will be implemented to protect the biodiversity on the site during construction and operation, which when implemented will ensure that no residual impacts on flora or fauna are experienced. It is

determined that the predicted impact on biodiversity is **long term, imperceptible and neutral**.

#### 17.4 Discussion – Negative Impacts

##### Land, Soil, Water, Air & Climate

The best practice dust mitigation measures that will be put in place during construction of the proposed development will ensure that the impact of the development complies with all EU ambient air quality legislative limit values which are based on the protection of human health. Therefore, the impact of construction of the proposed development will be **short-term, localised, negative, and imperceptible** with respect to human health.

Potential impacts to air quality and climate during the operational phase of the proposed development are as a result of change in traffic flows and volumes on the local road network. The changes in traffic flows were assessed against the UK Design Manual for Roads and Bridges screening criteria for an air quality and climate assessment. It can be therefore determined that the impact to air quality and climate as a result of altered traffic volumes during the operational phase of the proposed development is **localised, negative, imperceptible and long-term**.

As the National and EU standards for air quality are based on the protection of human and concentrations of pollutants in the operational stage of the proposed development are predicted to be significantly below these standards, the impact to human health is predicted to be **imperceptible, negative, and long term**.

##### Material Assets, Cultural Heritage & Landscape

An Archaeological Assessment for the proposed development has identified that there are no recorded archaeological sites within the proposed development site and the only example (mound barrow WM029-041----) within the surrounding 1km study area is located within farmland at a distance of 715m to the north-west.

Potential Mitigation strategies for archaeology and cultural heritage are detailed in Chapter 12 Architectural & Cultural Heritage which will ensure the effect is **indirect, permanent, negligible, negative** impact on elements of undesignated cultural heritage resource and no mitigation is required.

The construction stage traffic outlined in Chapter 10 has been scoped out as none of the road links impacted by the proposed development satisfy the DMRB assessment criteria in Section 10.2.2. The construction stage traffic has the potential for a **neutral, imperceptible, and short-term impact** on air quality.

##### Noise & Vibration

##### **Potential Construction phase impact**

The inclusion of a standard 2.4m high hoarding, construction noise levels are reduced to within the significance thresholds at distance where the closest NSLs are positioned. The construction phase activities can operate within and below the construction noise significant thresholds at the closest NSLs within the inclusion of a standard site hoarding. The impact is **negative, moderate, and short-term**.

Based on the planned activity and trip related traffic during the construction phase, the additional traffic introduced onto the local road network due to construction phase of the proposed development is significantly less than 25% along the local road network,

hence no significant increase in traffic noise levels will occur. The impact is therefore determined to be **negative, short term and not significant**.

#### 17.5 Conclusion

In accordance with EPA 'Guidelines on the Information to be contained in Environmental Impact Statements' (2022) all environmental factors are inter-related to some extent. A synergistic effect occurs when:

*'The resultant effect is of greater significance than the sum of its constituents'*

All environmental topics are interlinked to a degree such that interrelationships exist on numerous levels as outlined as per each topic above. In summary, it is concluded that the proposed development will not result in any significant synergistic effects on the environment.

	Planning & Alternatives		Population & Human Health		Biodiversity		Noise & Vibration		Land, Soil, Water, Air & Climate		Material Assets, Cultural Heritage & Landscape		Traffic & Transportation	
	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.
Planning & Alternatives			+	+	X	X	X	X	O	-	X	X	X	X
Population & Human Health					-	X	-	-	O	X	O	O	-	O
Biodiversity							-	-	-	-	O	O	X	X
Noise & Vibration									-	X	X	X	-	-
Land, Soil, Water, Air & Climate											X	X	-	X
Material Assets, Cultural Heritage & Landscape													X	X
Traffic & Transportation														
	X	No interaction		-	Negative		Con.	Construction						
	+	Positive		O	Neutral		Op.	Operation						

Table 17.1 – Comparison of Interrelationships

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