PROPOSED LARGE-SCALE RESIDENTIAL DEVELOPMENT, RATHMULLAN ROAD, OLDBRIDGE, DROGHEDA, CO. MEATH

EIAR Volume 1
Non-Technical Summary

Earlsfort Developments Drogheda Limited

Report no.: 1.0, Rev. **1.0**
Document no.: 1.0
Date: 03/09/2025

1. INTRODUCTION AND BACKGROUND 1

2. DESCRIPTION OF THE PROPOSED DEVELOPMENT 4

3. PLANNING CONTEXT 11

4. POPULATION AND HUMAN HEALTH 12

5. BIODIVERSITY 13

6. LAND AND SOIL 18

7. HYDROLOGY AND HYDROGEOLOGY 20

8. AIR QUALITY 23

9. CLIMATE 26

10. NOISE AND VIBRATION 32

11. LANDSCAPE AND VISUAL ASSESSMENT 34

12. ARCHAEOLOGY AND CULTURAL HERITAGE 39

13. MATERIAL ASSETS: TRAFFIC AND TRANSPORT 41

14. MATERIAL ASSETS WASTE AND UTILITIES 43

15. RISK MANAGEMENT 46

16. INTERACTIONS 47

17. MITIGATION AND MONITORING 48

LIST OF TABLES

Table 1-1 EIAR Project Team 2
Table 8-1 Summary of Unmitigated Risks 23
Table 9-1 Summary of Unmitigated Risks Climate Change Vulnerability Assessment/Climate Screening 28

LIST OF FIGURES

Figure 2-1 Site Location 5
Figure 2-2 Proposed Site Location Plan 7
Figure 2-3 Proposed Site Layout 8
Figure 9.-1 Construction Categories Greenhouse Gas Emissions tCO2e 27

1. INTRODUCTION AND BACKGROUND

Introduction

This Environmental Impact Assessment Report (**EIAR**) non-technical summary has been prepared by Synergy Environmental Limited T/A DNV (hereafter referred to as 'DNV'), supported by subconsultants on certain specialist assessments, on behalf of Earlsfort Developments Drogheda Limited (The Applicant), who is seeking a planning permission from Meath County Council (MCC), for a mixed-use development of 249 no. residential units on a 9.20 ha site at Rathmullan Road, Oldbridge, Drogheda, Co. Meath.

Environmental Impact Assessment is a process of identifying and assessing the likely environmental, social and economic effects of a Proposed Development, considering both negative and positive effects. Environmental Impact Assessments also involve finding ways to reduce negative effects and further improve beneficial effects. It ensures that planning decisions are made taking into account the environmental effects and with engagement from stakeholders.

This Environmental Impact Assessment Report presents the environmental impact assessment process which has been undertaken in line with the Planning and Development Act 2000, as amended, the Planning and Development Regulations 2001 (as amended), the Planning and Development (Housing) and Residential Tenancies Act 2016 as amended, and the Environmental Impact Assessment Directive 2011/92/EU, as amended by Directive 2014/52/EU.

The structure of the environmental impact assessment that accompanies the planning application is set out in the following three volumes:

- Volume 1 Non-technical summary;
- Volume 2 Environmental impact assessment report; and,
- Volume 3 Supporting technical appendices.

Purpose of the Non-Technical Summary

This Non-Technical Summary is a requirement under Directive 2014/52/EU for all Projects that have been subject to an Environmental Impact Assessment.

This EIAR describes the Proposed Development, the Environmental Impact Assessment (EIA) process and summarises the likely significant environmental effects that would be caused by the Proposed Development and the associated mitigation measures arising as a result of the Proposed Development.

The Environmental Impact Assessment Process

An EIAR has been carried out on behalf of Earlsfort Developments Drogheda Limited based on desktop studies, site visits, surveys and site-specific investigations.

Pre-application consultation was held with MCC, with a Section 247 pre-planning consultation meeting held on 6th November 2024 and a Section 32 LRD consultation meeting held on 5th March 2025, to explain the Proposed Development and present technical and environmental

information. Summary details of this meeting are provided by Hughes Planning & Development Consultants in their enclosed Statement of Consistency and Planning Report.

The EIAR outlines any necessary mitigation and monitoring measures required to avoid, reduce or offset any potentially significant effects identified.

Following the consideration of mitigation measures, the EIAR will describe any residual effects that may occur from the Proposed Development.

The EIAR and accompanying planning application are being submitted for consideration to Meath County Council, which is the Competent Authority for the Proposed Development.

The EIAR authoring team is set out in Table 1-1.

Table 1-1 EIAR Project Team

No.	Chapter	Consultant Name and address	Specialist Area
1	**Introduction and Methodology**	DNV, 3D Core C, The Plaza, Park West, D12F9T Michelle Gaffney	Multidisciplinary Planning and Environmental Consultants
2	**Description of the Proposed Development and Assessment of Alternatives**	DNV, 3D Core C, The Plaza, Park West, D12F9T Michelle Gaffney	Multidisciplinary Planning and Environmental Consultants
3	**Planning and Development Context**	DNV, 3D Core C, The Plaza, Park West, D12F9TN Rachel Redmond	Multidisciplinary Planning and Environmental Consultants
4	**Population and Human Health**	DNV, 3D Core C, The Plaza, Park West, D12F9TN Rachel Redmond	Multidisciplinary Planning and Environmental Consultants
5	**Biodiversity**	Verdé Environmental Consultants E7 Network Enterprise Park, Kilcoole, Co. Wicklow, A63 KV04 Jeff Hean Megan Tallon	Ecological Consultancy
6	**Land and Soils**	DNV, 3D Core C, The Plaza, Park West, D12F9TN Nuria Manzanas Gareth Carroll	Multidisciplinary Planning and Environmental Consultants
7	**Hydrology and Hydrogeology**	DNV, 3D Core C, The Plaza, Park West, D12F9TN Nuria Manzanas Gareth Carroll	
8	**Air Quality**	DNV, 3D Core C, The Plaza, Park West, D12F9TN	Multidisciplinary Planning and Environmental Consultants

No.	Chapter	Consultant Name and address	Specialist Area
		Laura Griffin	
9	**Climate**	DNV, 3D Core C, The Plaza, Park West, D12F9TN Aoife Gillen	Multidisciplinary Planning and Environmental Consultants
10	**Noise and Vibration**	Wave Dynamics, Unit 202, Nesta Business Centre, Old Airport Rd, Santry, Dublin, D09 HP96 Shannon Doherty	Acoustic Consultancy Services
11	**Landscape and Visual Impact**	Cunnane Stratton Reynolds Land Planning and Design Gainsboro House, 24 Suffolk Street, Dublin 2 Ronan Finnegan	Landscape Design and Planning consultancy,
12	**Archaeology and Cultural Heritage**	Archaeology and Heritage Consultancy ltd, 36 Ballywillwill Road, Castlewellan, BT31, 9LF, GB Eoin Halpin	Archaeology and Heritage Consultancy
13	**Material Assets - Traffic and Transport**	Waterman-Moylan Consulting Engineers Limited Block S, East Point Business Park, Alfie Byrne Road, Dublin D03 H3F Fernando J. De Maio	Engineering and environmental consultancy
14	**Material Assets – Waste and Utilities**	DNV, 3D Core C, The Plaza, Park West, D12F9TN Laura Griffin	Multidisciplinary Planning and Environmental Consultants
15	**Risk Management**	DNV, 3D Core C, The Plaza, Park West, D12F9TN Lakshmi Priya Mohan	Multi-disciplinary environmental, planning and heritage resource management consultancy
16	**Interactions**	DNV, 3D Core C, The Plaza, Park West, D12F9TN Darragh Grant	Multidisciplinary Planning and Environmental Consultants
17	**Mitigation and Monitoring**	DNV, 3D Core C, The Plaza, Park West, D12F9TN Aisling Jones	Multidisciplinary Planning and Environmental Consultants
NTS	Non-Technical Summary	Input from all above consultants and compiled by DNV	Multidisciplinary Planning and Environmental Consultants

2. DESCRIPTION OF THE PROPOSED DEVELOPMENT

Site Location

The site of the Proposed Development, as shown in Figure 2-1, is located approximately 2.5km west of Drogheda town centre, within the southwestern environs of Drogheda, County Meath, adjacent to the Meath–Louth County border. The site comprises a greenfield area extending to 9.20ha, consisting of open fields used for agriculture.

To the west and south, the site is bordered by agricultural lands, with the M1 motorway located approximately 200m to the west of the site. This boundary is effectively screened by established vegetation and planting, providing a natural visual buffer between the site and the motorway. The site also adjoins lands to the west and south that are subject to a strategic reserve of zoned lands which are not, at present, available for residential development.

To the north, the site is bounded by Rathmullan Road and the Boyne Greenway, beyond which lies the River Boyne, approximately 40m from the site boundary. To the east, the site is also bounded by Rathmullan road, across which lies existing residential developments comprising two- storey terrace houses and three-storey duplexes.

Topographically, the site is elevated by approximately 10m above the adjacent riverbank and slopes gently from the southwest to the northeast towards the River Boyne, with existing ground levels ranging from 3m Ordnance Datum (OD) to 6m OD. Furthermore, the site is located approximately 130m west of the western boundary of the World Heritage Site Buffer Zone over the M1 motorway.

Access to the site is currently facilitated through an existing entrance located off the Rathmullan Road. The Proposed Development will be accessed from Rathmullan Road via a new signal-controlled 4-arm junction.

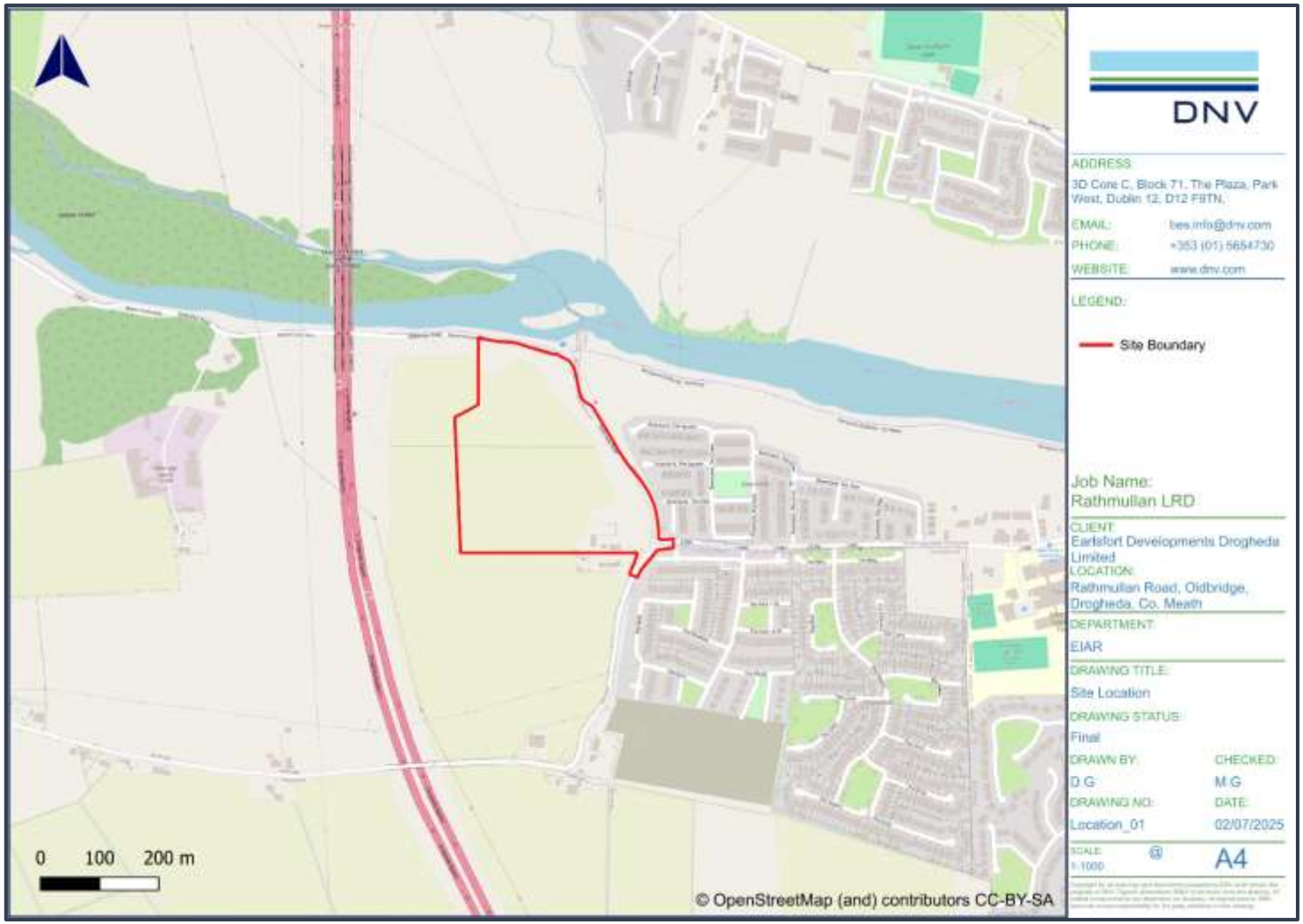

Figure 2-1 Site Location

Description of the Proposed Development

The Proposed Development will consist of the construction of a new large-scale residential development providing a total of 249 no. residential units and provision of a crèche facility, with associated car parking, bicycle parking, public open spaces, and all ancillary works on a site area of 9.20ha.

The Proposed Development site will consist of:

a) the demolition/removal of all existing farm buildings/structures and associated hard standing on site;
b) The construction of a large-scale residential development (LRD) of 249 no. residential units which will consist of:
    - The provision of 170 no. two-storey houses, including 37 no. two-bedroom houses, 111 no. three-bedroom houses and 22 no. four-bedroom houses;
    - 16 no. three story duplex buildings, comprising 16 no. one-bedroom and 16 no. two-bedroom units; and
    - A mix of 8 no. three-storey and 3 no. four-storey apartments blocks accommodating a total of 22 no. one-bedroom and 25 no. two-bedroom apartments;
c) Provision of a three-storey crèche facility (411sq.m) with external play areas at ground and second floors and vehicular/bicycle parking area and;
d) Construction of a new vehicular entrance and access road off Rathmullan Road, with associated junction works and associated internal access road network with pedestrian and cyclist infrastructure.

The Proposed Development will also provide for all ancillary site and infrastructural works, inclusive of removal of existing vehicular entrances, general landscaping and public open space provision, vehicular parking provision (396 no. spaces in total), bicycle parking, boundary treatments, foul/surface water drainage, attenuation areas, provision of pumping station, as necessary to facilitate the Proposed Development.

Each house will be served by vehicular parking to the front and private amenity space in the form of a rear garden. Each duplex building will be served by vehicular parking to the front and private amenity space in the form of balcony/terrace spaces to the rear. Each apartment block will have shared access to adjoining car parking bays with communal amenity space and bicycle and bin stores provided to the rear and each apartment will be provided with private amenity space in the form of a balcony or terrace.

The Proposed Development includes provision of a landscaped area of public open space to the north of the site, with two pedestrian/cyclist connections (via the northern/eastern site boundaries) to Rathmullan Road, which will be subsequently taken in charge by Meath County Council.

Water supply for the Proposed Development will be via a connection to the existing watermain on Rathmullan Road. It is proposed that the foul drainage from the Proposed Development site will drain via a network of gravity sewers to a new pumping station, located at the low point in the north-eastern corner of the Proposed Development site.

The proposed site location plan and the proposed site layout is detailed in Figure 2-2 and Figure 2-3 respectively.

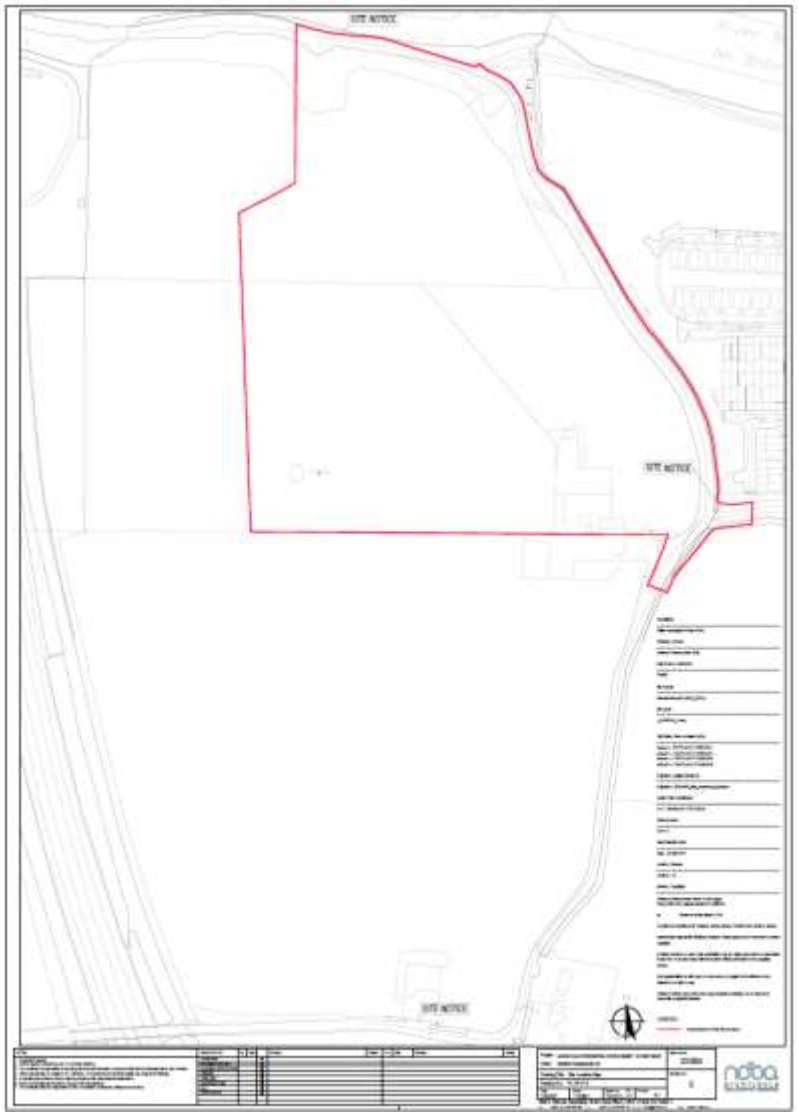

Figure 2-2 Proposed Site Location Plan

Figure 2-3 Proposed Site Layout

Construction Phase

Construction will be completed in one phase, provisionally planned as commencing in 2026 and will have a 24-month construction programme.

Working hours for the construction phase will be between 08.00 and 17.00 Monday to Friday. Special construction operations may occasionally need to be carried out outside typical working hours in order to minimise disruption to the surrounding area.

A Construction Environmental Management Plan (CEMP) has been prepared by Water-Moylan Engineers (2025). The appointed Contractor will prepare a detailed final CEMP, including detailed construction phasing.

Alternatives Considered

Consideration of reasonable alternatives is an important part of the environmental impact assessment process and is necessary to consider the likely environmental effects as a result of a range of development plans for the site within the restrictions in place by environmental and planning conditions.

Alternative Locations

Three possible alternatives have been considered in terms of alternative locations for the Proposed Development.

1. The Do-Nothing Alternative
2. Develop another greenfield site
3. Purchase another existing site with current planning permission for a similar development

Having regard to the above alternatives, the selected location is considered the most suitable location for the Proposed Development.

Alternative Uses

As the Proposed Development consists of residential units and a creche, the Proposed Development type is listed as ‘Permitted Uses’, under the A2 Zoning Objective.

Furthermore, the proposed dwellings and apartments have been offset from the portion of the subject site zoned ‘F1’, with the ‘F1’ zoned land being used for landscaped public open space, therefore satisfying the permitted uses associated with the F1 Zoning objective.

As such, it was not considered necessary to consider alternative uses for the Proposed Development.

Alternative Designs and Layouts

During the design process, several versions of the site layout and alternative designs for the Proposed Development were considered following consultation with MCC. The result is a scheme that balances density and amenity, responds to the site's physical characteristics, and aligns with broader planning policy objectives. A high-quality final layout and design has been achieved, considering the position of the proposed blocks and units. It is considered that the layout of the Proposed Development is the optimal solution for the lands. The scheme design

maximises the development potential of a strategically positioned and underutilised plot adjacent to the town of Drogheda.

Alternative Processes

Due to the nature and size of the Proposed Development (Large-scale Residential Development with attendant creche facility) the planning application will be submitted to Meath County Council. As a result, the process for applying for planning permission has been clearly defined in law and no 'Alternative Processes' fell to be assessed in the context of this EIA.

3. PLANNING CONTEXT

Chapter 3 provides an overview of the planning and policy context relevant to the Proposed Development at Rathmullan. The assessment considers the alignment of the Proposed Development with European, national, regional, and local planning frameworks.

Key policy documents reviewed include the National Planning Framework (Project Ireland 2040), the Regional Spatial and Economic Strategy for the Eastern and Midland Region, the Meath and Louth County Development Plans 2021–2027, and the Climate Action Plan 2025. The Proposed Development has been evaluated against the objectives and policies outlined in these documents, as well as all relevant legislation.

The assessment concludes that the Proposed Development is consistent with the principles of proper planning and sustainable development. It supports national and regional growth objectives, aligns with local land use zoning, and contributes to the delivery of compact growth and housing supply. Accordingly, the Proposed Development is, in the Applicant's submission, in accordance with the relevant planning and policy framework.

4. POPULATION AND HUMAN HEALTH

A comprehensive assessment of population and human health was undertaken to evaluate the potential effects of the Proposed Development. The study considered demographic trends, socio-economic conditions, education, employment, transport, and general health indicators within the study area of St. Mary's Electoral Division, and St. Mary's (Part) Electoral Division.

Construction Phase

The construction phase of the Proposed Development is not expected to result in any change to the population demographics of the area. While temporary employment may attract workers from the local or regional work force, it is not anticipated to change the resident population structure. Vulnerable groups are unlikely to be directly affected due to the suburban setting and limited proximity to sensitive populations. The construction phase will have a short-term, positive effect on the local economy through job creation and increased demand for local goods and services, supporting key social determinants of health such as employment, income, and community vitality. Environmental effects during the construction phase, such as dust, noise, and traffic are expected to be temporary and localised. Standard mitigation measures outlined in the Construction Environmental Management Plan and other technical chapters will minimise these effects. Overall, the construction phase is not anticipated to result in any significant adverse effects on population or human health.

Operational Phase

The operational phase will result in an increase in the local population due to the provision of 249 no. residential units. The housing mix is expected to attract a diverse range of household types, including families, couples, and single occupants. The inclusion of a crèche facility will support young families and working parents, contributing to a more balanced demographic profile. While not specifically targeted at vulnerable groups, the design is inclusive and suitable for a wide range of household types, including older persons and individuals with disabilities. The development will support local socio-economic conditions by addressing housing demand and enhancing access to childcare, recreation, and active travel infrastructure. A Social Infrastructure Audit confirms the availability and capacity of local services including education, healthcare, and retail. Environmental effects such as emissions from domestic heating and traffic are expected to be minimal and typical of a residential development. Noise levels will be consistent with residential activity and are not expected to cause disturbance. The development is expected to enhance general amenity and support mental health and wellbeing through improved access to green space and community infrastructure.

Residual Effects

No significant negative residual effects on population and human health are anticipated following the implementation of mitigation measures. The Proposed Development is expected to result in long-term positive effects on the local community by supporting demographic diversity, enhancing access to services, and contributing to the overall quality of life. Residual effects are considered negligible and not significant.

5. BIODIVERSITY

The biodiversity chapter assesses the potential impacts upon key ecological receptors within its zone of influence. A range of ecological surveys have been completed upon and near the Proposed Development site to inform the baseline conditions, including habitat surveys, mammal surveys, breeding and wintering bird surveys, and bat surveys.

All surveys were carried out in the appropriate season by a suitably qualified ecologist and followed best practice guidance. A desk study was also carried out in conjunction with the field surveys in order to collate and review all relevant ecological information and datasets.

The following habitats and species were identified onsite during the site surveys:

- Arable Land (BC1)
- Buildings and Artificial Surfaces (BL3)
- Dry Meadows and Grassy verges (GS2)
- Oak-Ash-Hazel Woodland (WN2)
- Scrub (WS1)
- Hedgerows (WL1)

Mitigation and Monitoring Measures - Construction Phase

A suitably experienced and qualified Ecological Clerk of Works (ECoW) will be retained by the appointed contractor. The ECoW will advise the appointed contractor on ecological matters during construction, undertake pre-construction surveys as necessary, communicate all findings in a timely manner to the appointed contractor and statutory authorities, acquire any licenses or consents required to conduct the work, and supervise and direct the ecological measures associated with the Proposed Development.

Protection of Vegetation

Any vegetation (including Oak-Ash-Hazel woodland, hedgerows or scrub adjacent to, or within, the Proposed Development boundary) which are to be kept will be protected during the construction phase in accordance with the Guidelines for the Protection and Preservation of Trees, Hedgerows and Scrub Prior to, During and Post Construction of National Road Schemes (TII, 2006b), as follows:

All hedgerows and immature woodland marked for retention will be fenced off at the outset of works and for the duration of construction to avoid damage to the trunk, branches or root systems of the trees.

Temporary fencing will be erected at a sufficient distance from the tree so as to enclose the Root Protection Area (RPA) of the tree (National Roads Authority, 2005-2011).

The RPA covers an area equivalent to a circle with a radius 12 times the stem diameter (measured at 1.5m above ground level for single stemmed trees).

Where fencing is not feasible due to insufficient space, protection for the tree/hedgerow will be afforded by wrapping hessian sacking (or suitable equivalent) around the trunk of the tree and strapping stout buffer timbers around it.

It will still be necessary to ensure that the area within the RPA is not used for vehicle parking or the storage of materials (including oils and chemicals).

Soil will not be placed within the Root Protection Area of trees or within 5m of hedgerows.

The woodland will not be lit during the construction or operational phases of the Proposed Development; and, the construction compound will be located a minimum of 50m from watercourses.

In order to minimise the potential for disturbance to the woodland habitat to the north of the Proposed Development site, the landscape masterplan has been designed to include the provision of new native woodland habitat to the south of the existing area of woodland.

This woodland will be contiguous with the existing woodland to the north of the Proposed Development.

A 1.6m high temporary stock proof fence will be provided along the southern boundary of the new area woodland until it has developed.

The 10m strip fringing this woodland will be treated as a dense woodland boundary with an abundance of *Prunus spinosa* and *Crataegus mongyna*. This will provide protection for the woodland and minimise the potential for disturbance.

A qualified arborist will assess the condition of, and advise on any repair works necessary to, any trees which are to be retained or that lie outside of the Proposed Development boundary but whose root protection area is impacted by the works. Any remedial works required will be carried out by a qualified arborist.

A buffer zone of at least 5m will be maintained between construction works and retained hedgerows to ensure that the root protection areas are not damaged.

Preventing Spread of Non-Native Invasive Plant Species

A confirmatory pre-construction invasive species survey will be undertaken by a suitably qualified specialist to confirm the absence, presence and/or extent of any listed non-native invasive species within the Proposed Development site.

If the presence of any of these species is confirmed within the Proposed Development site, the implementation of an Invasive Species Management Plan prepared by a suitably qualified professional in line with transport infrastructure Ireland guidelines (2020b) will be required.

Badger and Other Protected Mammals

A confirmatory pre-construction check of the Proposed Development site for new burrow entrances, resting places and signs will be carried out before commencement of construction immediately prior to construction works commencing to confirm their usage by badger or other potential protected mammals.

Any new badger setts (or resting places) identified will require protection in line with the requirements set out in the National Roads Authority (2005) guidance document as follows:

Badger setts if encountered will be clearly marked and the extent of bounds prohibited for vehicles clearly marked by fencing and signage.

In the season June to November, no heavy machinery will be used within 30m of active badger setts; lighter machinery (generally wheeled vehicles) will not be used within 20m of a sett

entrance; light work, such as digging by hand or scrub clearance will not take place within 10m of sett entrances.

During the breeding season (December to June inclusive), none of the above works will be undertaken within 50m of active setts, nor blasting or pile driving within 150m of active setts.

Where works need to be undertaken within these zones, or where works directly affect newly identified badger setts, consultation with an ecologist with relevant badger management experience is required, and could include advanced badger mitigation measures such as camera trapping to confirm sett status and sett closure / destruction, which must be undertaken outside the breeding season as per specialist advice, and will all be conducted under the supervision of an ecologist with experience in badger mitigation.

Any potential new constraints (other protected mammals) identified will also be afforded protection in line with the requirements set out in the Transport Infrastructure Ireland guidance documents and mitigated in line with the advice and supervision of an experienced ecologist as needed

Supervision of Proposed Works

A suitably qualified / licenced bat specialist will be engaged by the appointed contractor who will advise the appointed contractor on ecological matters during construction, communicate all findings in a timely manner to the Applicant and statutory authorities, and supervise and direct the ecological measures associated with the Proposed Development.

The following measures are proposed for demolition of buildings with bat roost potential:

Presence/absence inspection of bats in the building will be determined by suitably qualified, experienced, and licensed ecologist(s) in advance of building demolition. Presence/absence will be determined by roost inspection checks (e.g. using an endoscope device) and a combination of dusk emergence and/or dawn re-entry surveys (if weather conditions are suitable).

Immediately following completion of the above (the next day after dawn/dusk emergence surveys), the roofing will be removed under the supervision of the licenced bat ecologist during daylight hours. The bat worker will inspect the roof materials in advance of removal with a suitable device such as an endoscope.

The contractor undertaking demolition works will facilitate safe access for the bat worker to the roof area of the building to allow inspection for roosting bats. Safe access may be facilitated via a scaffold, or via a Mobile Elevated Working Platform or similar.

The demolition works will be conducted under the supervision of the licenced bat ecologist. In the event that bats are encountered during the works, they will be removed by hand, and transferred to a bat box which will be installed on site in advance of works.

Lighting proposals for the construction phase will adhere to the advice provided in Bats and Lighting – Guidance for Planners, Engineers, Architects and Developers (Bat Conservation Ireland 2010), Guidance Note GN08/23 Bats and Artificial Lighting at Night (Institution of Lighting Professionals & Bat Conservation Trust, 2023) and Guidance Note GN01/21 The Reduction of Obtrusive Light (Institute of Lighting Professionals, 2021).

Construction stage lighting details will be reviewed by a qualified bat ecologist. If necessary, the bat ecologist will recommend adjustments to directional lighting (e.g. through cowls, the shields or louvres) to restrict light spill in sensitive areas.

Reporting to the National Parks and Wildlife Services

A report documenting adherence to outlined measures will be produced by the licensed ecologist and forwarded to the NPWS within three months of completion of demolition works.

The success of the proposed strategy will be measured by the mortality of any bats during construction, and the provision of alternative roosting sites in the lands during and after construction.

Breeding Birds

Where feasible, vegetation (e.g. hedgerows, trees, scrub and grassland) will not be removed, between 1st of March and 31st of August, to avoid direct impacts on nesting birds.

Where the construction programme does not allow this seasonal restriction to be observed, then these areas will be inspected by a suitably qualified ecologist for the presence of breeding birds prior to clearance.

Areas found not to contain nests will be cleared within three days of the nest survey, otherwise repeat surveys will be required.

Should nesting birds be encountered during surveys, the removal of vegetation will be required to be delayed until after the nesting has finished.

General Mitigation and Monitoring Measures – Operational Phase

Habitats

Planting of native tree and shrub species will be implemented within the site during construction (as per the masterplan).

The implementation of the landscape plan will extend into the operational phase, as planting becomes established and continues to mature.

Breeding Birds

As an enhancement measure for the loss of nesting habitat and in order to provide additional nesting opportunities for breeding birds, nest boxes (number to be determined by an appropriate ecologist) are recommended to be installed within the Proposed Development site.

The nest boxes will be installed at a minimum of 3m above ground level to ensure against disturbance from humans and domestic animals such as cats.

The boxes will be deployed across the site in appropriate locations, as advised by a suitably qualified ecologist.

Long-Term Monitoring

A landscape monitoring plan will be undertaken for several years post implementation to ensure establishment of planting and success of habitat management.

Residual Effects

The Proposed Development is not likely to have significant residual effects on any nationally designated sites, European sites, badgers, otter and/or other small mammals, and bats assuming the full and successful implementation of the mitigation measures outlined.

Although there will be a temporary impact during the construction phase until the proposed landscape planting becomes established, the Proposed Development is not likely to result in long-term effects on habitats and will not result in a likely significant negative residual effect, at any geographic scale.

Additionally, assuming the full and successful implementation of the mitigation measures, no long-term significant impacts are predicted on breeding birds at any geographical scale.

6. LAND AND SOIL

An assessment of the potential effect on the existing land, soil and geological environment was carried out by DNV for the Proposed Development on the receiving land, soils and geology at Rathmullan, Drogheda Co. Meath.

The assessment was carried out taking cognisance of appropriate national guidelines and standards for Environmental Impact Assessment using data collected from a detailed desk study, the results of previous site investigations completed in 2018 (WM, 2018; included in the EIAR Volume 3: Appendix 6.1), a site walkover survey undertaken by DNV on the 17th of June 2025, to establish the environmental site setting and baseline conditions and review of all relevant drawings and documents pertaining to the Proposed Development and site. Furthermore, a Technical Note was prepared by Waterman Moylan (WM) on 28th August 2025, confirming that the site conditions observed during the 2018 Site Investigation remain unchanged. The results of the assessment provided information on the baseline conditions at the site. A detailed assessment of the potential effects was undertaken, and appropriate avoidance and mitigation measures were identified to reduce any identified potential effect associated with the Proposed Development.

The Proposed Development will require approximately 9.20ha of land, transitioning its use from agricultural to residential use. This change in land use is consistent with the zoning objectives outlined in the Meath County Development Plan 2021–2027 (MCC, 2021).

Ground investigations completed at the site in 2018 (WM, 2018; included in the EIAR Volume 3: Appendix 6.1) included the drilling of five boreholes, the excavation of five trial pits, percolation testing and laboratory analysis of soil samples collected. The geology encountered during site investigations comprised of topsoil underlain by brown, sandy, gravelly CLAY to the final extent of investigation ranging from 5.8 metres below ground level (mbgl) at BH05 to 8.5mbgl at BH04. Bedrock was not encountered during site investigations. . However, refusal encountered during the drilling of the site investigation locations could potentially indicate that a boulder was encountered or possibly indicate the presence of bedrock

The soil results for samples collected during the site investigations reported no exceedances of mineral oil, total petroleum hydrocarbons (TPHs), benzene, toluene, ethylbenzene, m&p-xylene, o-xylene and methyl tert-butyl ether, polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs). Asbestos was not detected in any of the soil samples analysed.

The construction phase of the Proposed Development will include the excavation of soil and subsoil for the construction of building foundations, drainage and other infrastructure. Where possible, it is intended to reuse all suitable excavated materials to achieve formation levels and for landscaping and engineering use. However, it is anticipated that surplus excavated soil and subsoil will require removal offsite in accordance with all statutory legislation. It is anticipated that there will be no requirement for the excavation of bedrock during the construction phase of the Proposed Development.

The construction phase of the Proposed Development will also require the importation of aggregates for the construction of the Proposed Development (e.g., granular material beneath road pavement and for utility drainage). Contract and procurement procedures will ensure that the importation of aggregates to the Proposed Development is sourced from reputable

authorised suppliers operating in a sustainable manner and in accordance with the necessary statutory consents.

During the construction phase, all works will be undertaken in accordance with the Construction Waste Management Plan (CWMP) / Construction Environmental Management Plan (CEMP) (WM, 2025b and WM, 2025c) and the Resource and Waste Management Plan (RWMP) (DNV, 2025). Following appointment, the contractor will be required to further develop the CWMP, CEMP and RWMP to provide detailed construction phasing and methods to manage and prevent any potential emissions to ground and surface water with regard to the relevant industry standards (e.g., Guidance for Consultants and Contractors, CIRIA-C532', CIRIA, 2001). The CWMP, CEMP and RWMP 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.

The measures will address the main activities of potential effects, which include:

- Control and Management of Earthworks.
- Control and Management of Soils, Subsoils and Stockpiles.
- Management and Control Procedures for the Importation of Aggregates and Materials.
- Control and Handling of Cementitious Materials.
- Control and Handling of Fuel and Hazardous Materials.
- Accidental Release of Contaminants.

During the operational phase of the Proposed Development, there is limited to no potential for any direct effect on the receiving land, soil and geology environment from the Proposed Development taking account of the operational design measures for the Proposed Development.

The design and construction of the Proposed Development will be in accordance with current Building Regulations and will ensure that the site will be suitable for use for the operational phase as a residential development taking account of the geological site setting.

Overall, considering the avoidance, remedial and mitigation measures, the residual effects regarding the construction phase and operational phase of the Proposed Development are considered 'imperceptible' to the receiving environment (land, soil and geology) and considered non-significant in the context of the EIA Directive.

7. HYDROLOGY AND HYDROGEOLOGY

An assessment of the potential effects on the existing hydrological and hydrogeological environment was carried out by DNV for the Proposed Development on the receiving hydrology and hydrogeology at Rathmullan, Drogheda Co. Meath.

The assessment was carried out taking cognisance of appropriate national guidelines and standards for Environmental Impact Assessment using data collected from a detailed desk study, the results of the site investigations completed in 2018 (WM, 2018; included in the EIAR Volume 3: Appendix 6.1), a Hydrogeological Risk Assessment (HRA) prepared by DNV (included in EIAR Volume 3: Appendix 7.1), a Water Framework Directive (WFD) Assessment also prepared by DNV (included in EIAR Volume 3: Appendix 7.2), a site walkover survey and review of all relevant drawings and documents pertaining to the Proposed Development and site. The results of the assessment provided information on the baseline conditions at the site. A detailed assessment of the potential effects was undertaken, and appropriate avoidance and mitigation measures were identified to reduce any identified potential effect associated with the Proposed Development.

The Proposed Development site lies within the Boyne Catchment (Hydrometric Area 07) and Boyne_SC_130 sub-catchment (ID 07_17) (EPA, 2025). The site has been mapped by the EPA (EPA, 2025) to be within the Stagrennan_010 WFD River Sub-basin (River Waterbody Code: IE_EA_07S320550).

The closest surface water features recorded on the EPA database (EPA, 2025) to the site is the Sheephouse 07 River (WFD Name: Stagrennan_010; River Waterbody Code: IE_EA_07S320550) which crosses a small area of the southeastern boundary of the site along Rathmullan Road. The Sheephouse 07 River flows north before discharging into the Boyne Estuary transitional waterbody approximately 33m north of the site at its closest point. This ditch formed the lower reach of a watercourse originating to the southwest of the site. However, significant cutting required to accommodate the M1 has disconnected the lower section from its catchment upstream of the M1 motorway. Flows from the upper catchment of the former watercourse are now incorporated into the surface water drainage network of the M1 and do not continue to flow into the disused ditch, which is no longer considered to be a functional fluvial watercourse (JBA, 2025).Boyne Estuary transitional waterbody runs in an easterly direction before discharging into the Boyne Estuary Plume Zone Coastal Waterbody (Coastal Waterbody Code: IE_EA_010_0000) approximately 9.1km east of the site.

The bedrock aquifer beneath the site is mapped by the GSI (GSI, 2025) to be within the Drogheda groundwater body (GWB) (EU Code: IE_EA_G_025). The bedrock aquifer within the Platin Formation (Code: CDPLTN) beneath the site is classified by the GSI (GSI, 2025) as a Regionally Important Aquifer - Karstified (diffuse) (Rkd) which are capable of supplying regionally important abstractions (e.g. large public water supplies), or ‘excellent’ yields (>400 m^3/d).

As documented in the site investigation report (WM, 2018), groundwater was not encountered during borehole drilling or the excavation of the trial pits which extended to depths ranging from 1.6 meters below ground level (mbgl) to 8.5mbgl.

During the construction phase, all works will be undertaken in accordance with the Construction Waste Management Plan (CWMP) / Construction Environmental Management

Plan (CEMP) (WM, 2025b and WM, 2025c) and the Resource and Waste Management Plan (RWMP) (DNV, 2025). Following appointment, the contractor will be required to further develop the CWMP, CEMP and RWMP to provide detailed construction phasing and methods to manage and prevent any potential emissions to ground and surface water with regard to the relevant industry standards (e.g., Guidance for Consultants and Contractors, CIRIA-C532', CIRIA, 2001). The CWMP, CEMP and RWMP 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.

Mitigation works will be adopted as part of the construction works for the Proposed Development. These measures will address the main activities of potential effect which include:

- Control and management of surface water runoff.
- Control and management of shallow groundwater during excavation and dewatering.
- Management and control of soil and materials.
- Appropriate fuel and chemical handling, transport and storage.
- Management of accidental release of contaminants at the site.
- Control and handling of cementitious materials.

As documented in the Engineering Services Report (WM, 2025a), a new proposed connection will be made to the existing 150mm diameter HPPE watermain located on Rathmullan Road to the east of the site. It is noted that the 150mm diameter HPPE watermain will be upgraded to 200mm diameter as part of the Proposed Development. A Confirmation of Feasibility (COF) was issued by UE on the 1st of April 2025 (UE COF Reference: CDS24009836). The UE COF confirms the connection is feasible, subject to upgrades including replacing approximately 140m of existing 150mm diameter HPPE watermain with a 200mm diameter watermain and the provision of approximately 50m of new 450mm ID watermain and a Flow Control Valve. All upgrade works will be carried out by Uisce Eireann and funded by the Applicant as part of the connection agreement.

As outlined in the Engineering Assessment Report (WM, 2025a submitted with the planning application under separate cover), surface water from the Proposed Development will be managed in accordance with the principles and objectives of Sustainable Drainage Systems (SuDS), the Greater Dublin Strategic Drainage Study (GDSDS) and the requirements of Meath County Council to treat and attenuate water prior to discharging at a restricted rate into the existing 1200mm culvert adjacent to Rathmullan Road at the northeast of the site. This culvert merges into a ditch on the opposite side of the existing road approximately 120m to the north of the proposed outfall location. The ditch travels northwards for approximately 60m before outfalling into the Boyne Estuary, which is tidal at this location. Ongoing regular operational monitoring and maintenance of drainage and the SuDS measures will be incorporated into the overall management strategy for the Proposed Development. This will ensure that there are no effects on water quality and quantity (flow regime) during the Operational stage of the Proposed Development.

Foul drainage from the site will drain via a network of gravity sewers to a proposed pumping station located at the low point in the northeastern corner of the site. Foul water will be pumped from the proposed pumping station and will outfall to the existing foul water drainage network at the junction of Rathmullan Road and Marley's Lane (WM, 2025a). A COF was issued by UE on 1st of April 2025 (UE COF Reference: CDS24009836) which confirmed that the

connection was feasible, subject to upgrades. To address the requirements of the UE COF, the proposed new pumping station will replace the adjacent existing old pumping station and will facilitate flows from the adjacent Riverbank and Oldbridge Manor Developments. The Applicant will fund all upgrade works and will ensure that all works are completed in agreement with and to the satisfaction of UE prior to connection. Foul water from the Proposed Development will be treated in the Drogheda Waste Water Treatment Plant (WWTP) (Discharge Licence No. D0041) before ultimately discharging to the Boyne Estuary transitional waterbody (EU Code: IE_EA_010_0100).

Overall, considering the avoidance, remedial and mitigation measures, the residual effects regarding the construction and operational phases of the Proposed Development are considered ‘imperceptible’ to the receiving water environment (hydrology and hydrogeology) and considered non-significant in the context of the EIA Directive.

There will be no effect to the existing WFD Status of water bodies associated with the Proposed Development including the Drogheda GWB, and downstream waterbodies (i.e., the Boyne Estuary transitional waterbody, the Boyne Estuary Plume Zone coastal waterbody, the Louth Coast (HA 06) coastal waterbody and the Northwestern Irish Sea (HA 08) coastal waterbody as a result of the Proposed Development taking account of design avoidance and mitigation measures where required.

8. AIR QUALITY

The air quality chapter examines the potential effects on air quality associated with the Proposed Development.

A construction phase dust assessment has been carried out in accordance with the Institute of Air Quality Management (IAQM) Guidance on the Assessment of Dust from Demolition and Construction (2024). The risk of dust impacts has been assessed separately for demolition, earthworks, construction and trackout and the dust emission magnitude has been classified for each of the four activities (this is known as 'Step 2A' of the dust assessment), using the definitions outlined for each activity within the Institute of Air Quality Management (IAQM) guidance. The dust emission magnitude is based on the scale of the anticipated works and is classified as small, medium and large. The sensitivity of the area was determined for dust soiling, human health impacts and ecological impacts, respectively, as per the guidance (this is known as 'Step 2B' of the dust assessment). In accordance with the Institute of Air Quality Management (IAQM) guidance, the dust emission magnitude (Step 2A) and sensitivity of the area (Step 2B) have been combined and the risk of impacts from demolition, construction, earthworks and trackout have determined (before mitigation is applied) (this is known as 'Step 2C' of the dust assessment). This risk has then been used to inform the selection of appropriate mitigation measures.

Table 8-1 details the risk of dust impacts for demolition, earthworks, construction and trackout activities.

Table 8-1 Summary of Unmitigated Risks

Potential Impact	Sensitivity	Magnitude			
		Demolition	Earthworks	Construction	Trackout
		Small	Medium	Large	Medium
Dust Soiling Impacts	High	Medium Risk	Medium Risk	High Risk	Medium Risk
Human Health Impacts	Low	Negligible	Low Risk	Low Risk	Low Risk
Ecological Impacts	High	Medium Risk	Medium Risk	High Risk	Medium Risk

The Institute of Air Quality Management (IAQM) recommends that significance is only assigned an effect after considering the construction activity mitigation. The risk of dust impacts has been determined in Step 2C and the appropriate dust mitigation measures identified, and the final step is to determine whether there are significant effects arising from the construction phase of the Proposed Development. The proposed mitigation measures will reduce the effects to be not significant.

Assessment of Specified Infrastructure Projects – PE-ENV-01106 (TII, 2022), states that road links meeting one or more of the following criteria can be defined as being 'affected' by a Proposed Development and should be included in the local air quality assessment. While the guidance is specific to infrastructure projects the approach can be applied to any development that causes a change in traffic.

- Annual average daily traffic (AADT) changes by 1,000 or more;
- Heavy duty vehicle (HDV) AADT changes by 200 or more;
- Daily average speed change by 10 km/h or more;

- Peak hour speed change by 20 km/h or more; or
- A change in road alignment by 5m or greater.

The construction stage traffic will not change by more 1,000 AADT or 200 HDV AADT and does not meet the above scoping criteria. As a result, a detailed air assessment of construction stage traffic emissions has been scoped out from any further assessment as there is no potential for significant impacts to air quality.

It can be determined that the construction stage traffic will have a *direct, short-term, negative* and *imperceptible,* i.e., not significant, effect on air quality and human health, which is overall not significant in EIA terms.

Operational phase traffic associated with the Proposed Development has the potential to affect local air quality due to increased vehicle movements. The TII scoping criteria were used to identify affected road links, resulting in a detailed air quality modelling assessment for two road links where traffic is expected to increase by more than 1,000 AADT.

The impact on air quality due to changes in traffic was assessed at sensitive receptors near these roads. Modelling was conducted for NO_2, PM_{10}, and $PM_{2.5}$ concentrations for the Opening and Design Years under both Do Nothing and Do Something scenarios using the TII Road Emissions Model (REM) online calculator tool.

Inputs for the REM tool included receptor locations, annual average daily traffic movements for light and heavy-duty vehicles, traffic speeds, road link lengths, road type, project county location, and pollutant background concentrations. The Default fleet mix and Intermediate Case fleet data were selected, assuming a balance between current vehicle ownership trends and the adoption of low emission vehicles.

The model predicted road traffic contributions to ambient ground level concentrations at sensitive receptors using generic meteorological data. It incorporated county-based Irish fleet composition, European emission standards, and emission factors for PM_{10} from brake and tire wear. Predicted road contributions were added to existing background concentrations to determine ambient concentrations, which were then compared with relevant air quality standards to assess compliance.

Overall, the TII significance criteria have identified neutral impacts due to increases in NO_2, PM_{10} and $PM_{2.5}$ annual mean concentrations which are less than 5% of the annual mean ambient air quality standards (and the annual mean concentrations are less than 75% of the air quality standard). This equates to a potential effect of the Proposed Development on ambient air quality, and human health, in the operational stage according to the EPA guidelines (EPA, 2022) which is considered *direct, long-term, negative* and *not significant*.

In terms of dust, no significant effects are predicted; good construction practice, which incorporates the implementation of the identified mitigation measures, will be employed at the site.

Assessment of road traffic emission 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. Therefore, cumulative effects have been assessed in this regard and the effect on ambient air quality has been determined as not being significant.

It is considered that the cumulative effect will be ‘short-term’, ‘imperceptible’ and ‘negative’, i.e., not significant.

No negative residual effects in the context of air quality are anticipated regarding the Proposed Development.

9. CLIMATE

The climate chapter examines the potential for the Proposed Development to effect upon climate (for example greenhouse gas emissions) and its vulnerability to climate change.

The methodology adopted in this chapter covers two separate assessments – a greenhouse gas assessment (GHGA) and a climate change risk assessment (CCRA).

- Greenhouse Gas Emissions Assessment (GHGA) – This evaluation estimates the greenhouse gas emissions generated by the Proposed Development throughout its entire lifespan (50 years). It then compares these emissions against pertinent Irish carbon budgets, targets, and policies to help gauge their significance.; The Transport Infrastructure Ireland (TII) Carbon assessment tool and the Irish Green Building Councils (IGBC) Lifecycle Assessment Tool have been used for this assessment. This assessment has been undertaken in line with the Institute of Environmental Management and Assessment (IEMA) guide 'Assessing Greenhouse Gas Emissions and Evaluating their Significance', 2nd Edition, 2022 and
- Climate Change Risk Assessment (CCRA) – This analysis examines how a changing climate could affect a project and its surrounding environment. The assessment considers a projects vulnerability to climate change and identifies adaptation measures to increase project resilience. It has been conducted in accordance with Transport Infrastructure Ireland (TII) (2022a) PE-ENV-01104: Climate Guidance for National Roads, Light Rail and Rural Cycleways (Offline & Greenways) – Overarching Technical Document

Existing Environment

Ireland's latest publicly available GHG emissions 1990-2024 (Aug 2025) are based on the Sustainable Energy Authority Ireland's (SEAI's) provisional energy balance released in June 2025 (EPA, 2025). Total national greenhouse gas emissions in 2024 (excluding LULUCF) are estimated to be 53.75 million tonnes carbon dioxide equivalent (Mt CO2eq) which is 2.0% lower (or 1.09 Mt CO2eq) than emissions in 2023 (54.85 Mt CO2eq) and follows a 6.8% decrease in emissions reported for 2023. Emissions in 2024 are 3.6% lower than the historical 1990 baseline.

Impacts to the Proposed Development as a result of climate change involve increases in temperatures and increases in the number of rainfall days per year. Ireland has observed increases in the annual rainfall in the north and west of the country, with small increases or decreases in the south and east including in the region where the Proposed Development will be located.

GHG Assessment

Greenhouse gas emissions have been quantified for the pre-construction, construction, and operational phases (including traffic) of the Proposed Development over its expected lifecycle of 50 years. The total embodied carbon for the construction phase, including the maintenance and replacement of materials throughout the development's lifetime, has been calculated at 8,783 tonnes CO2e (see Figure 9-1 below). When annualised over the Proposed Development's 50-year lifespan, the estimated total GHG emissions amount to 0.0003% of

Ireland's total GHG emissions in 2023 and 0.0005% of Ireland's non-ETS 2030 emissions target. Specifically, emissions from transport-related activities account for 0.0029% of the 2030 Transport budget, construction waste emissions represent 0.0176% of the Waste budget, and industry-related emissions comprise 0.0044% of the 2030 Industry budget.

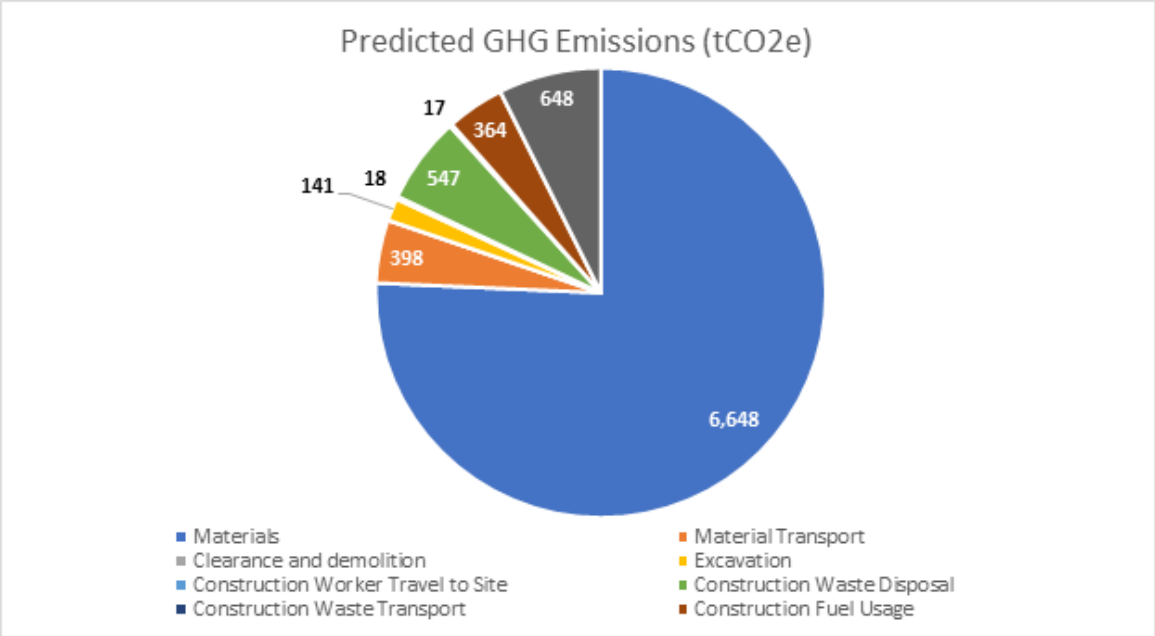

Figure 9.-1 Construction Categories Greenhouse Gas Emissions tCO2e

The estimated total GHG emissions, when annualised over the 50-year Proposed Development lifespan, are equivalent to 0.0003% of Ireland's total GHG emissions in 2023 and 0.0005% of Ireland's non-ETS 2030 emissions target. The total GHG emissions associated with residential-related activities are 0.0029% of the 2030 residential budget and 0.0003% of the transport sectoral budget.

In accordance with the EPA guidelines (EPA, 2022), the above significance equates to a significance of effect of GHG emissions during the construction and operational phase, which is **direct, long-term, negative and slight, which is overall not significant.** In addition, the proposed development has been designed to reduce the impact to GHG emissions where possible during operation.

CCRA/Vulnerability Assessment

A screening CCRA i.e. vulnerability assessment, did not identify any residual medium or high risks to the proposed development as a result of climate change (See Table 9-1 below). Therefore, a detailed CCRA for the construction and operational phase were scoped out. While a CCRA for the construction phase was not required, best practice mitigation against climate hazards is still recommended within the climate chapter.

Table 9-1 Summary of Unmitigated Risks Climate Change Vulnerability Assessment/Climate Screening

Climate Hazard	Sensitivity	Exposure	Vulnerability
Flooding (Coastal, Pluvial, Fluvial)	1 (Low)	1 (Low)	1 (Low)
Extreme Heat	1 (Low)	1 (Low)	1 (Low)
Extreme Cold	1 (Low)	1 (Low)	1 (Low)
Wildfire	1 (Low)	1 (Low)	1 (Low)
Drought	1 (Low)	1 (Low)	1 (Low)
Extreme Wind	1 (Low)	1 (Low)	1 (Low)
Lightning & Hail	1 (Low)	1 (Low)	1 (Low)
Landslides	1 (Low)	1 (Low)	1 (Low)
Fog	1 (Low)	1 (Low)	1 (Low)

Do-Nothing Scenario

If the proposed development were not to proceed, greenhouse gas emissions and climate conditions at the site will remain as per the baseline and will change in accordance with trends within Ireland's Greenhouse Gas performance and climate changes (including influences from potential new developments in the surrounding area, changes in road traffic etc). Under the Do-Nothing Scenario construction works associated with the proposed development will not take place. Impacts from embodied carbon, increased traffic volumes and associated emissions from the proposed development will also not occur. Therefore, the do-nothing scenario is considered neutral in terms of climate**.**

Cumulative Effects

The TII PE-ENV-01104 (2022) states that a typical cumulative assessment in Environmental Impact Assessment (EIA) is not applicable for GHG assessments because the impacts on global climate are not geographically constrained. However, by evaluating a 's GHG impact in relation to Ireland's net zero goals and sectoral carbon budgets, the assessment inherently

becomes cumulative. This approach helps demonstrate the Proposed Development's potential influence on Ireland's ability to meet its national carbon reduction targets.

Cumulative effects, which result from the combined effects of the proposed development and other existing or planned developments, can intensify climate-related risks and environmental pressures. Understanding these interactions is crucial for developing effective mitigation and adaptation strategies that align with broader sustainability objectives. It is considered that there are no other potential significant cumulative impacts associated with the proposed development and considered offsite permitted developments.

Mitigation

The suggested mitigation measures for the Proposed Development focus on reducing whole-life carbon impacts, promoting circularity, and enhancing sustainability throughout design, construction, and operation. A Design-for-Performance approach is recommended, with contractual targets for Net Zero and nature-positive outcomes. Design teams should integrate circularity principles, emphasising adaptability, disassembly, and material reuse, and set targets for incorporating reused and recycled materials. Regular updates to the building lifecycle report should align with evolving policy and best practices. Carbon literacy training is advised for design and site teams, with clauses to upskill contractors in low-energy techniques. Adoption of Building Renovation Passports supports long-term decarbonisation, while cement reduction and sustainable procurement practices—including the use of Environmental Product Declarations (EPDs)—help lower embodied carbon. The Proposed Development should use Level(s) indicators (e.g. LCA, LCC, IAQ) from the European sustainable buildings framework, and report on operational energy and carbon performance. Post-occupancy evaluation is encouraged for continuous learning. Demolition and construction waste should be managed to maximise reuse and recycling, with pre-demolition audits and on-site recovery. The Proposed Development must comply with EU Taxonomy circular economy criteria, prioritise local materials to cut transport emissions, and aim for sustainability certifications like HPI or LEED.

Regarding the Proposed Development's resilience to climate change, the Contractor will be required to mitigate the effects of extreme weather, such as heavy rainfall, flooding, windstorms, and temperature fluctuations, through site risk assessments and method statements.

The Proposed Development has been designed to reduce the impact on climate as a result of energy usage during operation. The Energy, Utilities and Telecommunications Statement prepared by McElligott and Building Lifecycle report prepared by Aramark and submitted under separate cover with this planning application detail a number of incorporated design mitigation measures that have been incorporated into the design of the development to reduce the impact on climate wherever possible.

Such measures included in the proposed development to reduce the impact to climate from energy usage are:

- The development will be in compliance with the requirements of the Near Zero Energy Building (NZEB) Standards.
- A renewable energy rating (RER) of 20% will be achieved to comply with Part L (2021) of the NZEB regulations.

- A Building Energy Rating (BER) of A2/A3 is being targeted.
- Improved building thermal transmittance (U-Values), air permeability and thermal bridging.
- Use of air source heat pumps.
- Sustainability information provided to building occupants
- Smart building technologies

In addition, electric vehicle and bicycle parking will be provided within the development which will promote the use of more sustainable modes of transport and reduce potential transport emissions. Full descriptions of the measures proposed, and their benefits are outlined within the Building Lifecycle Report submitted with this application.

Monitoring

To optimise the reuse and recycling of demolition materials, a digital tracking system should be established to monitor materials identified for reuse or recycling. Weekly progress reports and regular on-site inspections are recommended to ensure proper handling and storage of materials. The demolition contractor's performance should be periodically reviewed to ensure adherence to the resource recovery plan and environmental standards.

To comply with EU taxonomy for the circular economy, comprehensive documentation and independent third-party audits are necessary. Monitoring greenhouse gas (GHG) emissions reduction measures includes appointing sustainability champions, monitoring idle times for vehicles and machinery, maintaining digital logs for equipment, and tracking material waste minimization.

Waste management should be optimised through regular waste segregation audits and monthly waste management reports. To reduce transport-related emissions, a supplier distance monitoring database and transport-related carbon footprint analysis are recommended.

These strategies aim to ensure the Proposed Development meets its environmental commitments, supports sustainability goals, and complies with regulatory requirements through regular reporting, inspections, and audits.

To ensure the proposed development meets its environmental objectives, an Environmental Management Plan (EMP) with adaptive management principles is recommended. This includes robust climate change resilience plans, ongoing monitoring of weather trends, and regular reviews of resilience measures.

Key monitoring strategies include:

1. **Climate Change Mitigation**: Regular inspections of attenuation and drainage systems, and periodic reviews of climate vulnerability assessments to ensure effectiveness and adequacy of mitigation measures.
2. **Energy Efficiency and Climate Impact Reduction**: Continuous monitoring to ensure compliance with Near Zero Energy Building (NZEB) standards, achieving energy performance at least 10% lower than NZEB requirements, and verifying the

implementation of renewable energy systems. Regular energy audits and thermal performance monitoring are also recommended.

3. **Renewable Energy Systems**: Regular inspections and maintenance of air source heat pumps and providing comprehensive sustainability information to building occupants.
4. **Sustainable Transport Initiatives**: Monitoring the usage of electric vehicle charging stations and bicycle parking and assessing the impact of these facilities on reducing transport emissions.

These strategies aim to mitigate climate change impacts, enhance energy efficiency, and promote sustainable transport, aligning with best practices and regulatory requirements. Regular inspections, energy performance assessments, and occupant engagement are crucial for achieving the desired environmental outcomes.

10. NOISE AND VIBRATION

Chapter 10 Noise and Vibration focuses on assessing the potential impacts and significant effects of noise and vibration associated with the construction and operation of the Proposed Development. It aims to provide a comprehensive understanding of the existing noise environment, the methodology used for the assessment, the potential effects of noise and vibration, and the proposed mitigation measures to minimise any adverse effects from the overall proposed development.

Baseline Conditions

The baseline environment relevant to the noise impact assessment includes existing noise sources and receptors within the study area. These elements are key in informing the noise impact assessment scope and methodology.

A baseline noise survey was carried out across the development site from 25th of March 2025 to 28th of March 2025 and established that the dominant existing noise source within the study area is road traffic noise.

Results and analysis of the baseline noise survey, in conjunction with the baseline traffic flow information serve as a reference point for evaluating the potential effects of the overall Proposed Development.

Assessment of Construction Effects

The construction phases of the Proposed Development will inevitably introduce noise into the environment. However, recommended mitigation measures outlined in Section 10.7 of Chapter 10 Noise & Vibration will ensure that construction noise impacts will be imperceptible at nearby Noise Sensitive Locations (NSL's).

Vibration impact is not expected for the majority of the construction phase. Some vibration may be generated during the substructure stage where earthworks are likely, however the worst-case scenario indicates vibrational impacts will be imperceptible at nearby NSL's.

Operational Noise Assessment

Operational noise associated with the Proposed Development will arise primarily from traffic generated by residents and visitors. The assessment of operational noise predicts imperceptible significance, which will have a negligible effect on NSL's.

Mitigation Measures

Construction phase noise will not have a negative effect on NSL's; however, several mitigation measures are proposed in Section 10.7 of Chapter 10 Noise & Vibration as good practice. These measures include the use of noise barriers, careful scheduling of construction activities to avoid sensitive times, and the selection of quieter machinery and equipment.

The implementation of these measures aims to reduce noise levels during construction, ensuring that the impacts on NSL's are minimised.

Residual Effects

With the implementation of the proposed mitigation measures, the assessment evaluates the remaining effects of noise and vibration. The conclusion is that the residual effects of

construction noise from the Proposed Development are expected to be temporary and of negligible significance. Similarly, operational noise is also anticipated to have an imperceptible effect on NSLs.

Conclusion

Chapter 10 Noise and Vibration provides a comprehensive evaluation of the noise and vibration effects related to the Proposed Development. It identifies potential effects during both the construction and operational phases. By applying established methodologies and implementing effective mitigation measures, the Proposed Development seeks to minimise adverse noise and vibration effect. This approach ensures that the Proposed Development is compatible with the surrounding environment and helps maintain the quality of life for residents.

11. LANDSCAPE AND VISUAL ASSESSMENT

Landscape Impacts & Effects

The site's enhancement values (as set out in **Section 11.3.4** of the EIAR Volume 2) reflect a body of policy that is supportive of landscape change at this location (and its environs) as part of general town expansion of Drogheda town as a sustainable large growth town and change that is already underway.

The site has long been zoned in part for residential use and although it continues to be used for agricultural it contains a number of degraded elements including farm buildings, electrical infrastructure and unmanaged hedgerows. The site lands immediately east of the M1 motorway which separates it from the World Heritage Site buffer zone.

The site's conservation values (as set out in **Section 11.3.4** of the EIAR Volume 2) predominantly reflect the core elements of the local architectural, heritage and landscape designations within the Boyne Valley and that of the mature trees and woodlands that create a thick boundary on the northern end of the site. Its agricultural lands, although containing degraded built elements, add a rural scenic quality to the edges of the existing residential areas on the western edge of Drogheda and its northern lands are particularly visible from the surroundings.

Overall, the impact of the Proposed Development is the change of the site from agricultural lands (albeit lands which contain several neglected farm buildings and hedgerows) to a high-quality residential neighbourhood.

The Proposed Development directly affects the physical character of:

- Meath CC LCA 7 – Coastal Plain; and
- The immediate environs of the Proposed Development site.

The Meath Coastal Plain LCA is classified to have 'High' Sensitivity, reflecting much of this LCA being located nearer to the coast and away from the urban edges of Drogheda town. The immediate environs and the Proposed Development site are classified as 'Medium' Sensitivity.

Construction Phase:

Construction Effects on the Landscape Character Area 7 – Coastal Plain (High Sensitivity)

The effects to the landscape character during construction would relate to a very small geographical extent of this LCA, which in its totality includes lands along the coast between Gormanstown, Naul and Drogheda. The presence of a construction site in an otherwise established landscape would draw attention to it, despite the relatively small proportion of the view it would accommodate. Despite this, it is generally expected to see urban expansion on the periphery of towns and the type of development is in keeping with the characteristics of the area. The construction works are expected to last 24 months.

The magnitude of change during construction is expected to be **Low**.

The significance of this effect would be **Moderate-Slight**.

Quality of the effects is **Adverse** and **Temporary**, expected to last up to 24 months.

Construction Effects on the Site (Medium sensitivity)

The effect during construction is expected to be adverse. The existing mature woodland on the northern slope towards the Boyne River would be retained and protected. The Proposed Development is in line with the planning policy and objectives at an edge of urban fringe location.

The magnitude of change during construction is expected to be **High**.

The significance of this effect would be **Significant.**

Quality of the effects is **Adverse** and **Temporary**, expected to last up to 24 months.

Operational Effects on Landscape Character Area 7 – Coastal Plain (High Sensitivity)

The effects of the development during its operation relate to a very limited geographical extent of the LCA. Key characteristics of the LCA that will be retained are the woodland. Key characteristics that will be lost include some internal hedgerows and the agricultural land. New characteristics gained include a well-designed housing development which has a strong legible structure with new, connected pedestrian and cycle routes and new active and passive recreational facilities. Multi-house residential developments are one of the key characteristics of this LCA and the subject lands are zoned for this use.

The magnitude of change is expected to be **Low.**

The significance of this effect would be **Moderate-Slight.**

Quality of the effect is **Neutral.** This effect would be **Permanent.**

Operational Effects on the Site (Medium sensitivity)

The operation of the development would moderately change the character of the northernmost area of the site from being a privately-owned, open, arable field to a public park with open views across the valley. The rest of the site would change from farmland to a well-designed residential neighbourhood.

Although the agricultural lands will be lost as part of this development, these will be replaced with a high-quality series of parks and habitats providing more diversity and more accessible countryside and greenspace. During operation, this will initially reflect the fact that it is a newly built neighbourhood, and vegetation will not yet be fully grown or established. The change is characteristic in context.

The magnitude of change is expected to be **High**.

The significance of this effect would be **Significant.**

Qualitatively the landscape effect is **Neutral** because the "*scheme complements the scale, landform and pattern of the landscape and maintains landscape quality*". This recognises that, whilst the change in character from agricultural to urban is substantial, it reflects land use policy for the site and has been applied to the site in accordance with best practice in terms of urban design, open space development and Green Infrastructure policy.

This effect would be **Permanent.**

Cumulative Landscape Effects

While the lands to the south are zoned as white lands and strategic employment meaning these are likely to be subjected to future changes in the form of further urbanisation, there are no active planning proposals for development upon these lands.

Any new housing development which are at this stage are only partially constructed/occupied have been considered in the assessment of the existing baseline landscape taking account of their site's overall approved site layout.

Thus, the cumulative landscape effects would be: **None**.

Visual Impacts and Effects

A total of 13 viewpoints were selected from across the study area for assessment in the LVIA. A photomontage was produced for each viewpoint to help illustrate the Proposed Development's potential visibility within the existing context, see Photomontage booklet included in EIAR Volume 3.

Of the 13 viewpoints assessed, four show no change/no visual effect. These reflect generally views at some distance from the Proposed Development with intervening trees, topography and / or buildings. These viewpoints are all located west of the M1 motorway with some representative of the views from historical sites, e.g. VP 6 being from the Battle of the Boyne visitor centre at Oldfield House.

Construction Phase

Any receptor's views of the construction phase activity will be limited within the local area with these effects being adverse and temporary in nature.

Operational Phase

Once the Proposed Development has been complete and operational, where visible, the Proposed Development will further add to the new housing developments visibly present in the receiving environs which is reflective of Drogheda's continued urban expansion as guided by planning policy.

The most significant changes visually are along the views east of the site from surrounding housing estates off Rathmullan Road, (as considered from VP 10 & 11) with the significance ranging from **Slight-Not Significant to Moderate,** and resulting in qualitatively **Neutral** and **Permanent** duration effects. Potential visibility of the Proposed Development from the adjoining Boyne Greenway (VP 8) is limited due to the retention of the band of mature trees along the site's northern/northeast boundary. There will only be a minor change to this boundary with the addition of a new pathway which utilises an existing farm entrance point, resulting in **Slight** and qualitatively **Neutral** and **Permanent** duration effects.

Despite the proximity of these receptors to the Proposed Development, potential changes are often hindered by a retained thick band of trees along the northern and northeast boundaries. Where visible the new site elements will not be uncharacteristic of those housing estates in the immediate surroundings.

More distance views were considered from the north, off the Slane road, N51 and M1 motorway (VP 9, 12, 13) whereby the Proposed Development would be a small element within

the wider views which contains other closer recent housing developments, resulting in significance ranging from **Not Significant** to **Moderate-Slight**, and qualitatively **Neutra**l and **Permanent** duration effects.

Cumulative Visual Effects

As the surrounding agricultural lands near the Proposed Development are zoned for built developments visual changes are expected in the future as the western ends of Drogheda town becomes increasingly urbanised, however there are no active planning proposals for development upon these zoned lands.

Some areas of new housing within the wider area have been only partially constructed/occupied and once fully constructed out to their approved plans may further reduce visibility of the Proposed Development from some views, e.g. VP 12. Such developments have already been considered in the assessment of the existing visual baseline.

Thus, the cumulative visual effects would be: **None.**

Mitigation

Given the planning policy for the area, development of this site is inevitable, and it is considered likely that any proposed viable development will give rise to impacts of a similar nature. The change from agricultural lands into a residential development is a change that cannot be entirely mitigated.

Construction Phase:

During the construction phase, landscape and visual mitigation measures will be implemented as part of the works CEMP including installation of temporary fencing to protect the retained trees and hedgerows and appropriate site management to minimize visual impact on the surrounding receptors.

Operational Phase:

The design of the Proposed Development incorporates significant consideration in respect of best practice layouts and for successful integration into the existing receiving environment located on the western edge of Drogheda.

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.

- Landscape measures 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. These landscaping measures, as incorporated into the landscape masterplan and Landscape Strategy & Design Report, produced by CSR and included in the support documentation of this application, include:The retention of the existing mature hedgerows and trees boundary and their incorporation into the scheme and will act as a strong visual barrier along the northern boundary. The combination of this retained vegetation and the proposed new planting will help strengthen the existing wider green infrastructure links and enhance the local biodiversity of the site.
- Proposed planting of substantial tree cover through the site's open space and internal roads will help enhance the Proposed Development and to compensate for the

necessary removal of existing hedgerow (198lm) and tree and vegetation (498m²) for the site works.

- Incorporating a mix of native and non-native species throughout the scheme to create a dynamic and resilient landscape and provide pollinator friendly planting for biodiversity.
- Provision of high-quality design of the open spaces which include for the integration of the existing retained woodland boundary vegetation, landscaped SUDs features, and allowing connectivity from the development out to the western end of Drogheda town and the Boyne River walkway.

Residual Effects

Following the implementation of the Proposed Development and the above mitigation measures, the residual effects will be the same as those landscape and visual effects determined in the LVIA.

Monitoring

During the construction phase, the landscape 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. During the operational phase, all landscape works will be in an establishment phase for the initial three years from planting with any failed planting replaced with similar by the appointed landscape contractor. The company responsible for site management of the scheme will be responsible for the ongoing maintenance of the site after this three-year period is complete.

Conclusion

This LVIA has assessed the impact and effects of the Proposed Development at the application site. A high-quality proposal has been submitted that adheres to local planning policy and is designed to reflect best practice and guidance. The design process has incorporated measures that integrate the Proposed Development into its setting and have contributed towards the broadly benign assessment described above with no significant effects identified.

12. ARCHAEOLOGY AND CULTURAL HERITAGE

A detailed archaeological desk-based assessment, geophysical survey and test trenching programme was carried out on some 26ha of green field lands in Rathmullan, Co. Meath. The Proposed Development Site consists of some 9.20 ha of land located at the northeastern end of these lands. The development consists of the demolition of a range of existing early 19th century farm buildings and the construction of a Large-scale Residential Development (LRD).

Within the boundaries of the site is a recorded archaeological monument, ME020-072----, which previous investigations proved to be modern in date. A second site, ME020-088----, a Bronze Age enclosure, located outside the boundaries of the Proposed Development Site, immediately to the northwest, will not be directly affected by any aspect of the present proposal. Steps however will be taken to prevent accidental damage to this site in the course of construction. Archaeological testing carried out in 2008 uncovered additional archaeological features scattered across the wider lands including cremation pits, ring ditches and other isolated pits and gullies.

To the west of the Proposed Development Site lies the north-south running M1 motorway, immediately beyond which is the easternmost edge of the Buffer Zone associated with the Brú na Bóinne UNESCO World Heritage site. The Core Area of the World Heritage site, however, is located some 2.5km to the west.

The Proposed Development Site is also within the wider landscape associated with the Battle of the Boyne (ME020-025----), and although the focal point of the battle site is considered to be located at Oldbridge some 1.5km to the west, important elements of the battle are known to have taken place both on and in the vicinity of the Proposed Development Site.

The development will negatively effect any archaeological deposits surviving within the Proposed Development Site. A programme of pre-construction archaeological investigation has been proposed in order to mitigate these effects.

Prior to topsoil stripping commencing and to address the potential survival of archaeology related to the Battle of the Boyne, sample areas across the Proposed Development site will be selected by a Battlefield archaeology specialist where a programme of detailed licenced metal detector survey and follow-up investigations, will be undertaken

It is also proposed that prior to demolition the old farm complex of buildings on the east boundary of the site be subject to an historic building survey (Level 2).

In addition, it proposed that a phase of the licensed archaeological monitoring of all topsoil stripping and, subject to agreement with the relevant heritage authorities, the preservation by record of all significant archaeological features and deposits uncovered. These works will include metal detection and the presence on site of a battlefield archaeologist to advise on any possible *Battle of the Boyne* related artefacts which may come to light.

Effects from the construction and operation phases of the development on the Core Area of the Brú na BóinneWorld Heritage Site has been deemed to have a 'No Change' grading as per the ICOMOS *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties*. While effects on the Buffer Zone are deemed to be 'Negligible' for the construction

phase, due to the slight increase noise and also ‘Negligible’ for the operation phase due to ‘very minor changes to key historic landscape elements’ and ‘virtually unchanged visual effects’. These effects will be further reduced by the implementation of a landscape design which will increase the density of the existing hedge line on the western side of the Proposed Development Site, between the Proposed Development Site and the World Heritage site buffer zone.

A comprehensive final archaeological report will be compiled that will set out the results of the archaeological works in accordance with the terms of the National Monuments Acts and best professional practice. In addition, all finds, and site archive will be processed to a standard acceptable for deposition to the State’s Cultural Resource Centre in Swords, Co. Dublin.

13. MATERIAL ASSETS: TRAFFIC AND TRANSPORT

Introduction

The traffic and transport chapter assess the potential traffic and transport effects from the proposed development on to the local road network.

The study area for the traffic and transportation assessment has been established based on the likely areas of influences of the Propped Development on various modes of travel such as walking, cycling, public transport and vehicular traffic and on key travel destinations.

The baseline environment was detailed in relation to walking and cycling infrastructure, public transport, local road network, local road junctions and future transport proposals.

A Traffic and Transport Assessment has been prepared in accordance with best practice and in accordance with the requirements of the *Traffic and Transport Assessment Guidelines* published by *Transport for Ireland (TII) / National Roads Authority (NRA)* in May 2014.

Traffic Impact

Construction Phase

The potential future construction traffic flows for the Proposed Development site have been evaluated as part of the Traffic Impact Assessment. It is expected that the low number of trips to/from the sites will generate a minimum impact in the surrounding area. These movements can be effectively accommodated within the existing road infrastructure.

In addition, it is expected that the traffic generated by the general workforce will occur during the peak hours, while the HGV trips will be generated outside the peak hours.

Therefore, no junction assessment is required for the construction phase.

Deliveries and access to the construction site will be via M1 Motorway, utilising Rathmullan Road, Marley's Lane and Donore Road. A restriction on using any of the surrounding residential roads for construction traffic will be put in place.

Operation Phase

A comprehensive traffic assessment was carried out, incorporating a worst-case scenario that assumes the full build-out and occupancy of the entire Subject Site and the Committed and Potential Future Developments in the surrounding area that are likely to impact each assessed junction.

This assessment evaluates the potential impact on local junctions, including traffic modelling based on the future projected scenarios: 5 years and 15 years post-opening.

The growth factors applied to the 2025 Surveyed Traffic Flows are taken from TII and make an allowance for traffic growth due to future developments in the area. This is in line with industry standards and best practice. The traffic modelling undertaken includes the growth factors and therefore the potential cumulative impacts have been considered as part of this assessment.

The results demonstrate that all assessed junctions are expected to operate efficiently and within capacity under both present and future conditions. Consequently, no significant queuing or congestion issues are anticipated on the surrounding road network.

Avoidance, Remedial & Mitigation Measures

Construction Phase

Traffic and other movements on the road network during the Construction Stage will be managed under the Construction Traffic Management Plan and by carrying out the works in a number of stages to a sequence to be prepared in conjunction with Meath County Council and implemented by the main contractor.

Operational Phase

During the Operational Phase, transportation movements will be managed by the Mobility Management Plan promoting best practise mobility management and travel planning to provide for the necessary mobility via sustainable transport modes.

“Worst Case” Scenario

The application of traffic growth rates assumes a worst case for the future year scenarios. The worst-case scenario for this development is assumed to be the assessed scenario 2043, including the trips to/from the Subject Site.

Residual Effect

The residual impact of the Construction Stage on the transportation environment around the subject site is predicted to be temporary, short-term, slight, and negative.

The residual impact of the Operational Stage on the transportation environment around the subject site is predicted to be permanent, long-term, slight, and positive.

Monitoring

As part of the Construction Management Plan, traffic management and deliveries will be subject to close monitoring during the construction stage. The contractor's mobility management plan will be subject to oversight on the part of the appointed contractor, with a view to ensuring the plan is operating effectively.

During the operational phase, responsibility for monitoring and reviewing the plan will lie with the Mobility Management Plan Coordinator. This individual will be responsible for assessing the effectiveness of the Mobility Management Plan, determining whether the proposed targets are being met, and identifying whether additional measures are required to align with any revised objectives.

14. MATERIAL ASSETS WASTE AND UTILITIES

This chapter of the EIAR provides an assessment of the potential effects of the Proposed Development on material assets including built services and waste.

Surface Water Drainage

Construction activities have the potential to cause contamination of surface water runoff with sediment or other contaminants from groundworks areas and stockpiled soils. Surface runoff will be managed during construction and there will be no unauthorised discharges of water from the site. However, in the event of a rainfall event, surface runoff entering the open excavations could result in mobilisation of identified hydrocarbon contamination in soil and leaching and migration to groundwater beneath the site. The potential effects will be negative, slight and short-term.

During the operation of the Proposed Development, increased impermeable surfaces from access roads and houses will lead to surface water runoff that may contain contaminants. This runoff will be managed using Sustainable Drainage Systems (SuDS). The overall effect of the surface water drainage strategy is expected to be negative, slight, and long-term, but non-significant according to the EIA Directive. Further details are provided in Chapter 7: Hydrology and Hydrogeology.

Wastewater Drainage

The commencement of construction will increase foul water/wastewater production at the site. Uisce Éireann confirmed feasibility and advised that a new pumping station is required. Due to the temporary and phased nature of construction, the effect on the existing foul water network is expected to be negative, slight, and short-term, but non-significant according to the EIA Directive. Further details are provided in Chapter 7: Hydrology and Hydrogeology.

Foul water generated during construction will ultimately be treated at the regional Drogheda Wastewater Treatment Plant (WWTP), which serves the wider Drogheda and East Meath area. The Confirmation of Feasibility issued by UÉ confirms that connection is feasible, subject to upgrades, and implies that the WWTP has sufficient capacity to accommodate the Proposed Development. Final discharge will only occur under a formal connection agreement with UÉ, which will verify available capacity at the WWTP.

The effect on water quality from wastewater is expected to be negative, imperceptible, and long-term, but non-significant according to the EIA Directive.

Water Supply

Site offices and construction activities will increase water demand, requiring a temporary connection for on-site works. Water supply will be provided via a new connection to the existing watermain on Rathmullan Road, subject to upgrades by Uisce Éireann. These upgrades may cause short-term water supply disruptions, managed by Uisce Éireann and Meath County Council. The effect is expected to be negative, imperceptible, and short-term, but non-significant according to the EIA Directive.

The total water requirement for the Proposed Development is estimated at 101.45m³/day. Water supply will be provided by the existing Uisce Éireann infrastructure, subject to upgrades.

The increased demand during the operational phase will have a neutral, imperceptible, and long-term effect, considered non-significant according to the EIA Directive.

Electricity Supply

Construction activities will require a temporary connection to the local electrical supply network. The Main Contractor will apply for power from ESB Networks, which may involve temporary suspensions of the local network. These suspensions will be managed by ESB Networks according to standard protocols. The effect on the local electrical supply network is expected to be negative to neutral, slight, and temporary, and is considered non-significant according to the EIA Directive.

Electricity will be needed for public lighting, domestic lighting, power supply, heating, and electric vehicle parking for the Proposed Development. This will likely increase demand on the existing electricity supply network. The effect during the operational phase is expected to be neutral, imperceptible, and long-term, and is considered non-significant according to the EIA Directive.

Gas Supply

There is no gas supply proposed for the construction or operational phase.

Telecommunications

The operational phase will slightly increase demand on the local telecommunications network. The site is in an area with high-speed broadband and nearby mobile mast clusters, including an Eir mast to the north and a group of five cells operated by Three, Eir, and Vodafone to the northeast. The effect on the local telecommunications network is expected to be neutral and imperceptible in the long-term and is considered non-significant according to the EIA Directive.

Waste

The construction phase will generate various wastes, including construction and excavation waste, organic/food waste, recyclables, non-recyclables, and potentially sewage sludge. Office waste such as printer cartridges, WEEE, and batteries may also be produced. All waste will be managed by authorised collectors and sent to licensed facilities for recycling, recovery, or disposal. The effect on the local waste management network is expected to be negative, slight, and short-term, and is considered non-significant according to the EIA Directive.

An Operational Waste Management Plan (OWMP) has been prepared to ensure waste management during the operational phase complies with legal and industry standards. The Proposed Development will increase municipal waste production, including general waste, recyclables, organic waste, and glass. Additional waste types like bulky items, WEEE, and hazardous materials will also be managed.

Waste collection will follow local regulations, with a four-bin system available from first occupancy. Waste collection vehicles will service the bins, ensuring they are not left outside the development. The management company will maintain records and ensure accessibility for waste collection.

The OWMP aims to achieve high levels of recycling, reuse, and recovery, aligning with European targets and the National Waste Management Plan for a Circular Economy 2024-2030. The design of Waste Storage Areas meets the standards for new apartments. The effect

on municipal waste disposal is expected to be long-term, negative, and slight, but non-significant according to the EIA Directive.

The assessment of likely effects resulting from the Proposed Development on built services and waste in this chapter has identified the existing infrastructure in the surrounding area in relation to surface water, wastewater, water supply, electrical supply, gas supply, telecommunications and waste. Where relevant, appropriate mitigation and monitoring measures have been detailed.

It is reasonably considered that following all mitigation measures and adherence to construction best practice that no significant effects to built services and waste will arise from the Proposed Development during the construction or operational phases.

15. RISK MANAGEMENT

It is critical that any Proposed Development is screened against potential risks which it might encounter and/or impose on the nearby environment during its construction and operational phase. This chapter sets out the assessment of the vulnerability of the Proposed Development to risks of major accidents and/or disasters. It assesses the expected effects of the Proposed Development to the risk of major accidents and disasters.

To understand the potential consequences and predicted effects of any major accident or disaster due to the Proposed Development and the vulnerability of the Proposed Development, a desk study was undertaken. The assessment reviewed:

- The vulnerability of the Proposed Development to major accidents or disasters.
- The potential for the Proposed Development to cause risks to human health, cultural heritage and the environment, because of that identified vulnerability.

A methodology has been used including the following assessment:

- Identifying and screening the hazards;
- Screening the hazards;
- Identifying the effect;
- Assessing the likelihood of the major accident or disaster occurring, and
- Assessing any risks that remain.

The design has considered the potential for flooding, road accidents, invasive species or fire within the design methodology.

The assessment considered a range of potential risks relevant to the site and its surroundings, including:

- Flooding, based on proximity to the River Boyne and Stagrennan River, with classification as Flood Zone C and reference to the Meath CDP 2020–2026;
- Fire, with mitigation measures outlined in the Emergency Response Plan for the construction phase;
- Industrial accidents, including proximity to Seveso sites such as Flogas Ireland and Grassland Agro, which were assessed and found not to pose a significant risk due to distance and containment protocols;
- Air quality impacts, with dust suppression and emissions control measures during construction;
- Invasive species, addressed through biodiversity protection measures;
- Infrastructure risks, including water supply, wastewater treatment, telecommunications, and solid waste management, all of which are supported by existing services and coordinated planning.

Having conducted all of the requisite identification, screening and assessments, it has been concluded that the vulnerability of the Proposed Development to major accidents and/or disasters is not significant.

16. INTERACTIONS

Interrelationships between various environmental aspects must be considered when assessing the impact of the Proposed Development, as well as individual significant effects.

The significant effects of the Proposed Development and the proposed mitigation measures have been detailed in the relevant chapters of this EIAR. However, as with all developments that pose potential environmental effects, there also exists potential for interactions/interrelationships between the effects of different environmental aspects. The results of such interaction may exacerbate or ameliorate the magnitude of effects.

The preceding Chapters 4-14 of this EIAR identify any potential environmental effects that mat occur as a result of the Proposed Development in terms of Population and Human Health, Biodiversity, Land and Soil, Hydrology and Hydrogeology, Air Quality, Climate, Noise and Vibration, Landscape and Visual Assessment, Archaeology and Cultural Heritage, Material Assets: Traffic and Transport and Material Assets: Waste and Utilities.

When considering interactions, each specialist assessor has carefully examined both direct and indirect pathways through which environmental effects could interact with one another. For any development with the potential for significant environmental effects, there is also the potential for those effects to interact either amplifying, reducing, or neutralising one another. In practice, for the Proposed Development, many of these interactions are slight or subtle, occurring across different environmental disciplines; however, all such pathways have been vigilantly assessed to ensure that any cumulative or interactive effects are fully understood and appropriately addressed.

Chapter 16 of this EIAR summarises the interactions identified between the various environmental disciplines covered in Chapters 4 through to 14.

The EIAR concludes that interrelationships between environmental aspects are negligible, with no additional significant effects identified as a result of effect interactions. Overall, the Proposed Development is not expected to give rise to any significant adverse effects, either individually or through potential interactions.

17. MITIGATION AND MONITORING

The Proposed Development will be carried out in a way that avoids potential environmental effects where possible. Where such effects have been identified, specific mitigation and monitoring measures have been proposed for both the construction and operational phases of the Proposed Development.

These measures are described in detail within each of the topic-specific chapters of the EIAR (Chapters 4 to 14), which address the following environmental aspects: Population and Human Health, Biodiversity, Land and Soil, Hydrology and Hydrogeology, Air Quality, Climate, Noise and Vibration, Landscape and Visual Assessment, Archaeology and Cultural Heritage, Material Assets: Traffic and Transport and Material Assets: Waste and Utilities.

In each case, mitigation has been designed to reduce the significance of any potential effects on the receiving environment. Chapter 17 of the EIAR collates and summarises all of the mitigation and monitoring measures made throughout the EIAR, providing a clear overview of the actions to be implemented and how they will be monitored to ensure environmental protection throughout the lifecycle of the Proposed Development.

About DNV

DNV is the independent expert in risk management and assurance, operating in more than 100 countries. Through its broad experience and deep expertise DNV advances safety and sustainable performance, sets industry benchmarks, and inspires and invents solutions.

Whether assessing a new ship design, optimizing the performance of a wind farm, analysing sensor data from a gas pipeline or certifying a food company's supply chain, DNV enables its customers and their stakeholders to make critical decisions with confidence.

Driven by its purpose, to safeguard life, property, and the environment, DNV helps tackle the challenges and global transformations facing its customers and the world today and is a trusted voice for many of the world's most successful and forward-thinking companies