



# Environmental Impact Assessment Report

Proposed Gas to Milltown Underground Transmission Gas Pipeline Grange Castle, Dublin

Volume 1 – EIAR Non-Technical Summary

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Prepared for: Gas Networks Ireland

# TABLE OF CONTENTS

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<b>TABLE OF CONTENTS</b>	<b>I</b>
<b>1. INTRODUCTION</b>	<b>1</b>
1.1 Relevant Legislative Requirement for Environmental Impact Assessment....	4
1.2 Format Of This Environmental Impact Assessment Report.....	6
1.3 Additional Assessments Required .....	7
<b>2. DESCRIPTION OF PROPOSED DEVELOPMENT</b>	<b>8</b>
2.1 Introduction .....	8
2.2 Description Of the Existing Development Site .....	8
2.2.4 Industrial Emissions Licensed Facilities.....	9
2.3 Characteristics of the Proposed Development (Geographical Sections) .....	10
2.4 Description of Construction.....	11
2.4.4 Tie In Location.....	13
2.4.1 Open Cut Trench Methodology in Roadway, Footpath, Road Verge .....	13
2.4.2 Open Cut Trench Methodology in Greenfield .....	13
2.4.3 Trenchless Construction Methodology .....	14
2.4.4 Services Crossing Construction Methodology .....	14
2.4.5 Site Preparation Works and Establishment of Construction Services .....	14
2.4.6 Expected Site Personnel and Construction Duration .....	15
2.4.7 Construction Equipment and Materials.....	15
2.4.8 Construction and Environmental Management.....	16
2.4.9 Potential Impacts and Mitigation Measures During Construction.....	16
2.5 Description of Commissioning .....	17
2.5.4 Potential Impacts During Commissioning and Mitigation Measures .....	17
2.6 Description of Operation .....	17
2.6.4 Potential Impacts During Operation and Mitigation Measures.....	18
2.7 Changes to the Project/Decommissioning .....	18
2.8 Description of Other Development(s) .....	18
2.8.4 Description of Related Development(s) .....	18
2.8.5 Other existing and/or approved projects within the Surrounding Area .....	19
<b>3. ALTERNATIVES</b>	<b>21</b>
3.1 Introduction .....	21
3.2 Methodology.....	21
3.3 Do-Nothing Alternative .....	21
3.4 Alternative Pipeline Route options.....	21
3.5 Alternative Design/Layouts.....	22
3.6 Preferred Route Selection .....	22
3.7 Alternative Design .....	23
3.8 Alternative Construction Methods and Mitigation Strategies .....	23
3.9 Alternative Processes .....	23
<b>4. POPULATION AND HUMAN HEALTH</b>	<b>25</b>
4.1 Introduction .....	25
4.2 Baseline Environment.....	25
4.3 Potential Impacts of the Proposed Development.....	26
4.3.4 Construction Phase.....	26
4.3.5 Operational Phase.....	26
4.4 Mitigation and Residual Effects (Post-Mitigation) .....	27
4.4.4 Construction Phase.....	27

4.4.5	Operational Phase.....	28
<b>5.</b>	<b>LAND, SOILS AND GEOLOGY</b>	<b>29</b>
5.1	Introduction .....	29
5.2	Baseline Environment.....	29
5.3	Potential Impacts of the Proposed Development.....	30
5.3.4	Construction Phase.....	30
5.3.5	Operational Phase.....	30
5.4	Mitigation and Residual Effects (Post-Mitigation) .....	30
5.4.4	Construction Phase.....	30
5.4.5	Operational Phase.....	31
<b>6.</b>	<b>HYDROLOGY AND HYDROGEOLOGY</b>	<b>32</b>
6.1	Introduction .....	32
6.2	Baseline Environment.....	32
6.3	Potential Impacts of the Proposed Development.....	33
6.3.4	Construction Phase.....	33
6.3.5	Operational Phase.....	33
6.4	Mitigation and Residual Effects (Post-Mitigation) .....	34
6.4.4	Construction Phase.....	34
6.4.5	Operational Phase.....	34
<b>7.</b>	<b>BIODIVERSITY</b>	<b>35</b>
7.1	Introduction .....	35
7.2	Baseline Environment.....	35
7.3	Potential Impacts of the Proposed Development.....	35
7.3.4	Construction Phase.....	35
7.3.5	Operational Phase.....	36
7.4	Mitigation and Residual Effects (Post-Mitigation) .....	36
7.4.4	Construction Phase.....	36
7.4.5	Operational Phase.....	37
<b>8.</b>	<b>AIR QUALITY</b>	<b>38</b>
8.1	Introduction .....	38
8.2	Baseline Environment.....	38
8.3	Potential Impacts of the Proposed Development.....	38
8.3.4	Construction Phase.....	38
8.3.5	Operational Phase.....	38
8.4	Mitigation and Residual Effects (Post-Mitigation) .....	38
8.4.4	Construction Phase.....	38
8.4.5	Operational Phase.....	39
<b>9.</b>	<b>CLIMATE</b>	<b>40</b>
9.1	Introduction .....	40
9.2	Baseline Environment.....	40
9.3	Potential Impacts of the Proposed Development.....	40
9.3.4	Greenhouse Gas Assessment .....	40
9.3.5	Climate Change Risk Assessment.....	40
9.4	Mitigation and Residual Effects (Post-Mitigation) .....	41
<b>10.</b>	<b>NOISE AND VIBRATION</b>	<b>42</b>
10.1	Baseline Environment.....	42
10.2	Potential Impacts of the Proposed Development.....	42
10.2.4	Construction Phase.....	42
10.2.5	Operational Phase.....	42

10.3 Mitigation and Residual Effects (Post-Mitigation) .....	43
10.3.4 Construction Phase.....	43
10.3.5 Operational Phase.....	43
<b>11. LANDSCAPE AND VISUAL</b> .....	<b>44</b>
11.1 Introduction .....	44
11.2 Baseline Environment.....	44
11.3 Potential Impacts of the Proposed Development.....	45
11.3.4 Assessment of Receptor Sensitivity .....	45
11.3.5 Construction Phase.....	45
11.3.6 Operational Phase.....	46
11.4 Mitigation and Residual Effects (Post-Mitigation) .....	46
11.4.4 Construction Phase.....	46
11.4.5 Operational Phase.....	46
<b>12. ARCHAEOLOGICAL, ARCHITECTURAL AND CULTURAL HERITAGE</b> .....	<b>47</b>
12.1 Introduction .....	47
12.2 Baseline Environment.....	47
12.3 Potential Impacts of the Proposed Development.....	47
12.3.4 Construction Phase.....	47
12.3.5 Operational Phase.....	48
12.4 Mitigation and Residual Effects (Post-Mitigation) .....	48
12.4.4 Construction Phase.....	48
12.4.5 Operational Phase.....	48
<b>13. MATERIAL ASSETS – TRAFFIC AND TRANSPORTATION</b> .....	<b>49</b>
13.1 Introduction .....	49
13.2 Baseline Environment.....	49
13.3 Potential Impacts of the Proposed Development.....	49
13.3.4 Construction Phase.....	49
13.3.5 Operational Phase.....	49
13.4 Mitigation and Residual Effects (Post-Mitigation) .....	50
13.4.4 Construction Phase.....	50
13.4.5 Operational Phase.....	50
<b>14. MATERIAL ASSETS – UTILITIES</b> .....	<b>51</b>
14.1 Introduction .....	51
14.2 Baseline Environment.....	51
14.3 Potential Impacts of the Proposed Development.....	51
14.3.4 Construction Phase.....	51
14.3.5 Operational Phase.....	52
14.4 Mitigation and Residual Effects (Post-Mitigation) .....	52
14.4.4 Construction Phase.....	52
14.4.5 Operational Phase.....	52
<b>15. MATERIAL ASSETS - WASTE</b> .....	<b>54</b>
15.1 Introduction .....	54
15.2 Baseline Environment.....	54
15.3 Potential Impacts of the Proposed Development.....	54
15.3.4 Construction Phase.....	54
15.3.5 Operational Phase.....	54
15.4 Mitigation and Residual Effects (Post-Mitigation) .....	54
15.4.4 Construction Phase.....	54
15.4.5 Operational Phase.....	55

<b>16. INTERACTIONS</b>	<b>56</b>
<b>17. CUMULATIVE IMPACTS</b>	<b>57</b>

# 1. INTRODUCTION

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This non-technical summary of the Environmental Impact Assessment Report (EIAR) has been prepared in respect of the Proposed development that encompasses the construction, commissioning and operation of a 1.175 km long, 400 mm nominal bore (NB) underground steel gas transmission pipeline (hereinafter referred to as the Gas to Milltown Pipeline). The pipeline is designed to connect from a designated tie-in point on the Gas to Microsoft Pipeline (consented by the CRU 19 May 2025 (CRU ref. D/25/10645)), to the permitted Milltown Above Ground Installation (AGI) (South Dublin County Council (SDCC) Planning Reg. Ref.: SD25A/0135W). The proposed underground transmission gas pipeline will be owned and operated by the Applicant, Gas Networks Ireland (GNI).

The EIAR is a comprehensive document that assesses the potential environmental impacts of the proposed development and provides measures for mitigating these impacts. It is intended to be used by decision-makers, stakeholders, and the public to inform their understanding of the proposed development and its potential environmental impacts.

Therefore, it is important that the EIA Report be read in conjunction with all application documentation, which includes all the necessary information on the proposed development, including technical specifications, plans, and other relevant documents. This will ensure that the reader has a comprehensive understanding of the proposed development and its potential environmental impacts and is able to make informed decisions based on the information provided.

The purpose of the Proposed Development is to facilitate the supply of natural gas to the permitted Power Generation Facility being developed by Data and Power Hub Services Ltd. within the townland of Milltown, Dublin 22. The proposed underground gas transmission pipeline will be owned and operated by Gas Networks Ireland (GNI) (the Applicant).

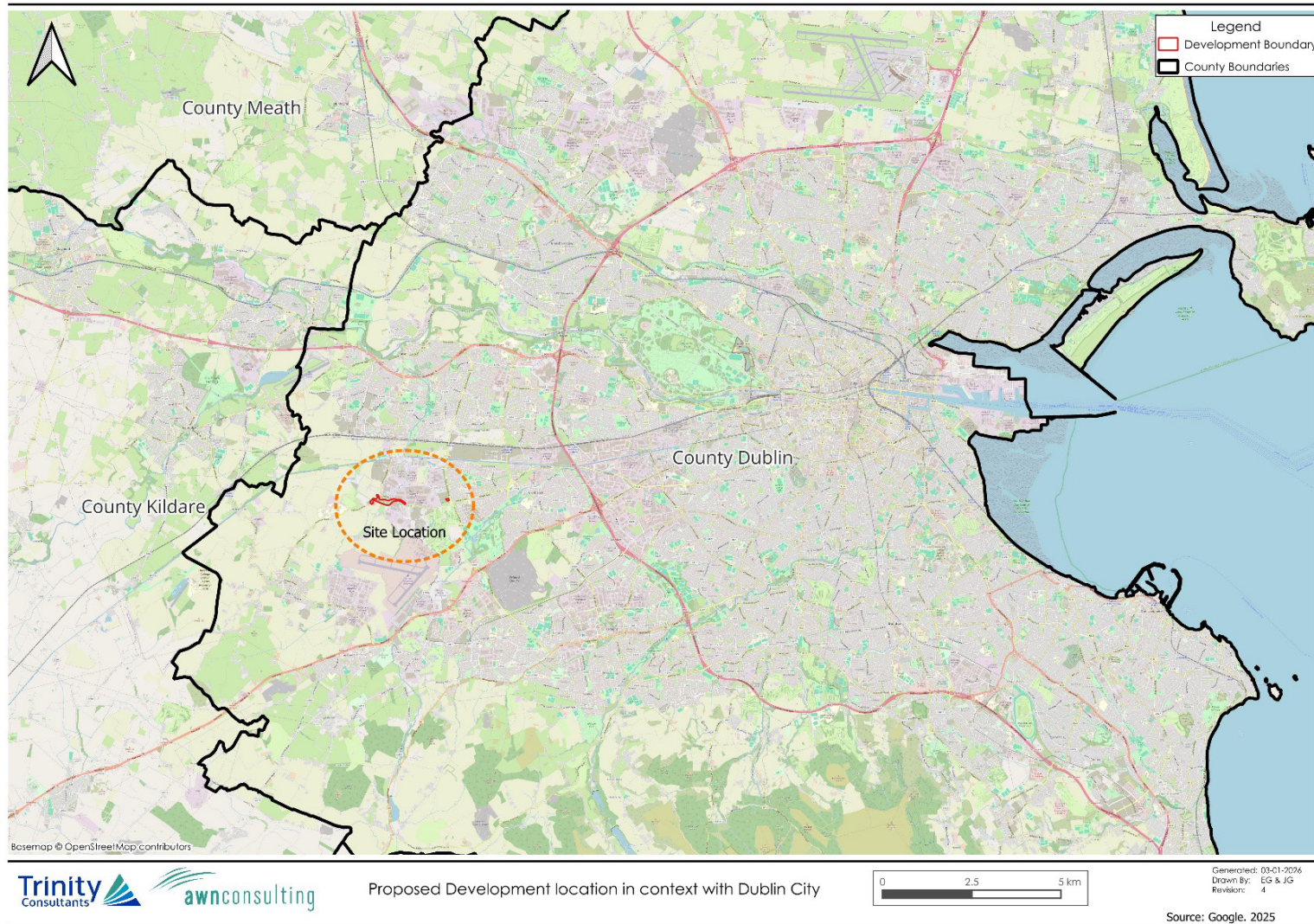
This EIAR is prepared in support of an application being made to the Commission for Regulation of Utilities (CRU) under Section 39A of the Gas Act 1976, as amended (hereinafter referred to as S39A), for the required transmission pipeline connection to the permitted AGI.

The Proposed Development site comprises a linear pipeline route of approximately 9 hectares (including associated construction works compounds). It is located west of Dublin city centre and traverses the townlands of Milltown, Clutterland, Ballybane and Nangor, County Dublin (hereinafter referred to as the 'Site' or 'Proposed Development Site'). The location of the Proposed Development is shown in Figure 1-1 and Figure 1-2.

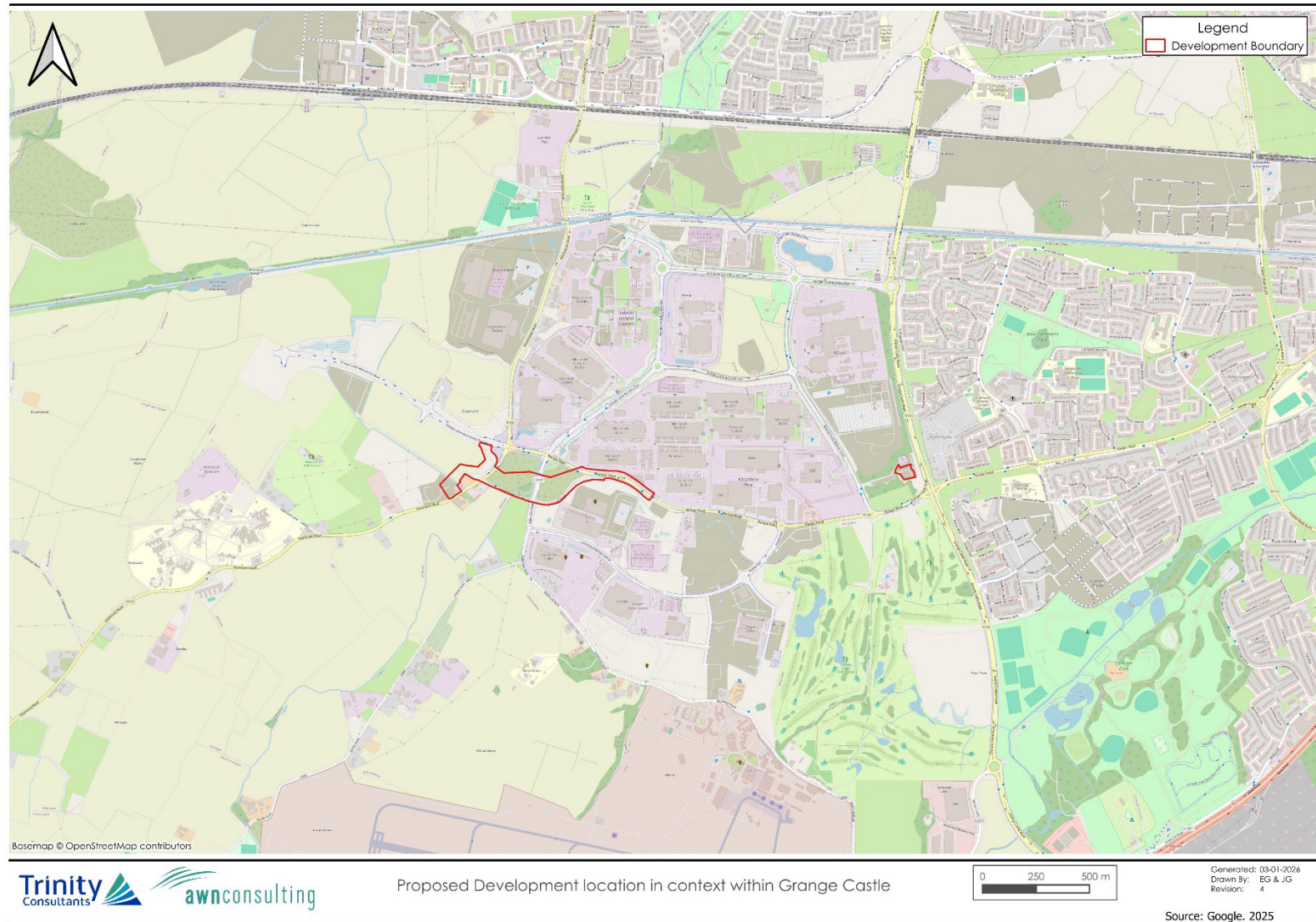
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<sup>1</sup> Under Section 39A of the Gas Act 1976, as amended, any entity who wishes to construct such a pipeline must obtain a Section 39A Consent from the CRU. Processing a Section 39A Consent application involves assessing the applicant's financial and technical abilities to successfully and safely deliver the pipeline, as well as determining whether the pipeline project is likely to have any significant environmental impacts.

**Figure 1-1 Proposed Development Location in Context with Dublin City**



**Figure 1-2 Proposed Development Location within Grange Castle**



## 1.1 Relevant Legislative Requirement for Environmental Impact Assessment

Environmental Impact Assessment is an essential tool in the implementation of EU environmental legislation. According to the *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment* (August 2018) the objective of the Directive 2011/92/EU as amended by 2014/52/EU ('the EIA Directive'), is to ensure a high level of protection of the environment and human health, through the establishment of minimum requirements for EIA, prior to development consent being given, of public and private developments that are likely to have significant effects on the environment. The requirement for EIAR is set out in the EIA Directive (Directive 2011/92/EU as amended by 2014/52/EU); the EIA Directives have been transposed into existing Irish planning consent procedures i.e., the Planning and Development Act 2000 as amended (the Act) and Planning and Development Regulations, 2001 as amended (the Regulations).

The process involves the preparation of an EIAR by the applicant. This report is then subjected to review by the competent authority, who will also consult with the public and the relevant prescribed bodies. The competent authority will consider the EIAR as well as any other pertinent information before arriving at a reasoned conclusion regarding the probable significant effects of the Proposed Development on the environment.

The EIA Directive lists projects for which an EIA is mandatory (Annex I) and those projects for which an EIA may be required (Annex II) of the EIA Directive (2011/92/EU and 2014/52/EU), these Annex are transposed into Schedule 5 of the *Planning and Development Regulations 2001 as amended*. The EU Member States can choose to apply thresholds for Annex II projects or use a case-by-case examination, or a combination of both, to assess where EIA is required. In Ireland, a combination of both has been applied.

Ireland's type of projects for which an EIA is mandatory is set out in the Schedule 5, Part 1 and Part 2 of the *Planning and Development Regulations 2001 as amended*. The EPA Guidance (2022) requires an assessment beyond the general description of the project and to consider the component parts of the project and/or any processes arising from it.

In considering the wider context and the component parts of the proposed developments, Awn have identified the threshold of relevance to the proposal from Schedule 5, Part 1 and Part 2 which is set out in Table 1-1 and Table 1-2 below. The Gas to Milltown Pipeline does not fall within any class of development for which an EIA is automatically mandatory. Its scale (400 mm NB and 1.175 km in length) is well below the Schedule 5, Part 1, Class 16 threshold for mandatory pipeline EIA (>800 mm diameter and >40 km length). It is, however, a Class 10(i) Part 2 project, meaning that EIA is not automatically required, but screening is necessary to determine whether significant environmental effects are likely.

**Table 1-1 Relevant Schedule 5 Part 1 types or classes of development and requirement for EIA**

<b>Development for the Purposes of Class:</b>	<b>Related Development Details</b>	<b>Requirement for EIA</b>
16. Pipelines with a diameter of more than 800mm and a length of more than 40km: for the transport of gas, oil, chemicals, and, for the transport of carbon dioxide (CO <sub>2</sub> ) streams for the purposes of geological storage, including associated booster stations.	The Proposed Development comprises a gas transmission pipeline with a nominal bore of 400 mm and an overall length of approximately 1.175 km . As such, it does not exceed the thresholds of a pipeline diameter greater than 800 mm or a length greater than 40 km.	No – EIA is not mandatory under this class.

**Table 1-2 Relevant Schedule 5 Part 2 types or classes of development and requirement for EIA**

<b>Development for the Purposes of Class:</b>	<b>Related Development Details</b>	<b>Requirement for EIA</b>
10 (i). Oil and gas pipeline installations and pipelines for the transport of CO <sub>2</sub> streams for the purposes of geological storage (projects not included in Part 1 of this Schedule).	The Proposed Development is of a type listed as Part 2, Class 10(i).	The project is of a type listed but is sub-threshold, as no threshold applies, an EIA is not automatically mandatory. In line with Section 40A (b) of the Gas Act EIA Screening is necessary to determine the requirement for EIA. The competent authority must screen the project to determine if significant environmental effects are likely.

While a strict interpretation of Schedule 5 could support a conclusion that an EIAR is not required, several factors justify the preparation of an EIAR on a precautionary and proportionate basis:

- ▶ The pipeline is functionally and operationally linked to the Data & Power Hub Services Facility at Milltown, which comprises a Power Generation Facility (SD20A/0058, amended under SD25A/0135W), the ICT Facilities (SD20A/0324), and the 110 kV GIS Substation and transmission infrastructure (ABP-312793-22).
- ▶ Two of the co-located developments consents (ICT Facilities SD20A/0324 and 110 kV GIS Substation and transmission infrastructure ABP-312793-22) were subject to full EIA, forming part of the same overall project. The pipeline provides the essential gas supply connection required for the Power Generation Facility to operate.
- ▶ The Gas to Milltown Pipeline is part of the GNI134 Strategic Main gas transmission pipeline in Grange Castle. This larger project was itself subject to EIA at the time of application. The Gas to Microsoft Pipeline(s) was consented by the CRU Decision paper dated 18 June 2025 (CRU Ref.: CRU202583).
- ▶ Planning and environmental case law, including judgments on “project splitting” and “functional interdependence”, does not offer clear and consistent guidance for this project; therefore, preparing an EIAR avoids any uncertainty and ensures full compliance with the EIA Directive.

Although the Proposed Development is sub-threshold and may not strictly require an EIAR in isolation, the project is connected with other developments that have already undergone EIA. To ensure full compliance with the EIA Directive and Schedule 7 criteria, an EIAR has been prepared on a precautionary, transparent, and proportionate basis. The applicant therefore requests that

the competent authority undertake an Environmental Impact Assessment of the Proposed Development.

## 1.2 Format Of This Environmental Impact Assessment Report

This EIAR has been laid out using the grouped format structure, the report examines each environmental factor in a separate chapter (the chapters are listed in Table 1-3. These EIAR chapters have been prepared by suitably qualified expert(s) and have considered the construction and operational phases of the Proposed Development under the following headings:

- ▶ Assessment Methodology;
- ▶ Receiving Environment;
- ▶ Characteristics of the Proposed Development;
- ▶ Potential Impacts of the Proposed Development;
- ▶ Mitigation Measures;
- ▶ Monitoring or Reinstatement Measures; and
- ▶ Residual Effects of the Proposed Development.

Interactions between environmental factors are addressed separately in Chapter 16 of this EIAR. Cumulative impacts arising from the Proposed Development, in combination with other permitted or proposed developments, are addressed in Chapter 17.

While the EIAR has the focus on the Proposed Development, each specialist chapters also considers the potential cumulative impact (as far as practically possible) of the Proposed Development with the any future development and the cumulative impacts with developments in the locality (including planned and permitted developments).

**Table 1-3 EIA Report Structure**

<b>EIAR Volume</b>	<b>Section / Chapter Title</b>
Volume 1	EIAR Non-Technical Summary
Volume 2	Chapter 1: Introduction to the Environmental Impact Assessment Report
	Chapter 2: Description of the Proposed Development
	Chapter 3: Alternatives
	Chapter 4: Population and Human Health
	Chapter 5: Land, Soils, and Geology
	Chapter 6: Hydrology and Hydrogeology
	Chapter 7: Biodiversity
	Chapter 8: Air Quality
	Chapter 9: Climate
	Chapter 10: Noise and Vibration
	Chapter 11: Landscape and Visual
	Chapter 12: Archaeological, Architectural and Cultural Heritage
	Chapter 13: Material Assets – Traffic and Transportation
	Chapter 14: Material Assets – Utilities
	Chapter 15: Material Assets – Waste
	Chapter 16: Interactions – Interrelationship between the Aspects

<b>EIAR Volume</b>	<b>Section / Chapter Title</b>
	Chapter 17: Cumulative Impact
Volume 3	EIAR Chapter Appendix
Volume 3	EIAR Figures

### **1.3 Additional Assessments Required**

The additional reports and/or assessments required under Legislation or EU Directives other than the Environmental Impact Assessment Directive in respect of the proposed development are described below.

- ▶ A Site-Specific Flood Risk Assessment (FRA) has been prepared by AWN Consulting in accordance with the Planning System and Flood Risk Management Guidelines for Local Government (2009). This Site-Specific FRA is included with the application documentation under separate cover.
- ▶ The Water Framework Directive Screening Assessment has been prepared for the Proposed Development by AWN Consulting and is included with the application documentation under separate cover.
- ▶ The Appropriate Assessment Screening has been prepared for the proposed development by Moore Group and is included with the application documentation under separate cover.

## 2. DESCRIPTION OF PROPOSED DEVELOPMENT

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### 2.1 Introduction

This chapter of the EIAR provides a description of the Proposed Development, including details of the site location, design, scale, and key features. The scope of this chapter aligns with the following relevant legislation and guidance:

- ▶ EIA Directive (2011/92/EU), as amended by Directive 2014/52/EU (hereafter referred to as “the EIA Directive”);
- ▶ European Commission (2017) – Environmental Impact Assessment of Projects: Guidance on the Preparation of the Environmental Impact Assessment Report; and
- ▶ Environmental Protection Agency (EPA) (2022) – Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (hereafter referred to as “the EPA EIA Report Guidelines 2022”).

In accordance with the EPA (2022) Guidelines, this chapter summarises:

- ▶ the existing site and receiving environment;
- ▶ the proposed development; and
- ▶ the project’s lifecycle, including:
  - ▶ Construction,
  - ▶ Commissioning,
  - ▶ Operation,
  - ▶ Changes to the Project, and
  - ▶ Other Related Developments.

This chapter has been informed by the detailed project design and summarises the relevant aspects of the Proposed Development and its lifecycle as they relate to this EIAR. This description is not exhaustive, and as such the EIAR should be read in conjunction with full application package including the outline Construction Methodology (Appendix 2.1), the outline Construction Environmental Management Plan (Appendix 2.2), and planning drawings prepared by Fingleton White

The description of the Proposed Development is described in terms of those environmental topics that will form the basis of the impact assessment process and the characteristics of the proposed development and potential effects. The assessments reported in this EIAR have been conducted using this description, and the full application package as a guide to the details of the development under consideration.

### 2.2 Description Of the Existing Development Site

The proposed overall development area that is the subject of this application comprises the c. 1.175 km linear route of the underground Gas to Milltown Pipeline and associated working areas. The working area (the ‘proposed development site’) covers approximately 9 hectares (ha) and is located within the townlands of Milltown.

The Proposed Development site for the Gas to Milltown Pipeline is characterised by predominantly commercial land uses within Grange Castle Business Park, along with undeveloped agricultural lands and some one-off residential properties. Surrounding lands within the business park have been developed over the past 10–15 years and accommodate industrial campuses including pharmaceutical, data centre and food manufacturing uses.

A portion of the route follows the New Nangor Road, connecting to the R110, which provides a direct link to Dublin City Centre approximately 10 km to the northeast. The route also intersects the R120, which connects to the N4 to the north and the N7 to the south. The N4, N7 and M50 provide strong regional transport connections, and the site is readily accessible via the public road network and multiple bus services.

The pipeline route requires one river crossing at the Griffeen River, which flows north for approximately 5.2 km before joining the River Liffey in Lucan. The River Liffey then flows approximately 12 km east through Palmerstown, Chapelizod and Island Bridge into the Liffey Estuary and ultimately Dublin Bay.

The wider context is defined primarily by commercial and industrial development. To the north lies the Grand Canal pNHA (Site Code: 002104). To the south are Casement Aerodrome, Belgard Quarry, Newlands Golf Club, Corkagh Park and residential estates. Key nearby transport infrastructure includes the M50 (c. 5.3 km east), N4 (c. 3.5 km north) and N7 (c. 3.2 km south). Several industrial estates are also located in proximity, including Greenogue Business Park, Citywest Business Campus, Clondalkin Industrial Estate, Park West Industrial Park and the Western Industrial Estate.

Three temporary construction compounds form part of the Proposed Development. Construction Compound 1 is located east of the Baldonnell Road/Griffeen River crossing within landscaped grassland. Compound 2 is inside the gates of Grange Castle Business Park West, north-east of the permitted Milltown AGI, within industrial/business park lands. Compound 3 is located west of the R136 in grassland/open land adjoining the business park and road corridor.

#### 2.2.4 Industrial Emissions Licensed Facilities

According to the EPA (2023) there are thirteen licensed IE/IPPC facilities within a 2 km radius of the overall development Site and one waste facility. Information on this is shown in Table 2-1.

The proposed pipeline will supply natural gas to the Data and Power Hub Services Facility, which is licensed by the EPA under IE Licence No. P1165-01 for a power generation and ICT installation at Milltown, near Newcastle, Co. Dublin. The facility will operate seven natural gas-fired engines with a combined electrical output of approximately 116 MWe. It also includes 36 emergency diesel generators (8 MWth each) to provide backup power in the event of a mains failure. These emergency units will operate for less than 500 hours per year and fall within the scope of the Medium Combustion Plant Regulations (S.I. No. 595 of 2017).

While several EPA-licensed IE/IPPC facilities are located within the wider Grange Castle area, the Proposed Development comprises an underground gas transmission pipeline with no on-site combustion or emissions. Therefore, there is no direct operational interaction with these facilities and no pathway for significant environmental effects. The presence of IE-licensed sites is relevant in terms of surrounding land use; however, the Proposed Development does not alter the emissions profile or licensing requirements of these installations. Overall, the potential for significant cumulative or interactive effects between the Proposed Development and nearby IE-licensed facilities is considered low.

**Table 2-1 EPA Licenced facilities nearby to the Proposed Development site**

<b>Registration number (Licence Type)</b>	<b>Licence Holder</b>	<b>Distance from Overall Development Site (km)</b>
P1165 (IEL)	Data and Power Hub Services Ltd	<0.1 located adjacent

P1170 (IEL)	Amazon Data Services Ireland Limited	<0.1 located adjacent
P1191 (IEL)	Microsoft Ireland Operations Limited	<0.1 located adjacent
P1187 (IEL)	Microsoft Ireland Operations Limited	<0.5 located adjacent
P1184 (IEL)	ADSIL Grange Castle South	0.2
P1203 (IEL) Applied	Vantage Data Centers Dub11 Limited	0.32
P1196 (IEL)	Profile Park Power Plant (Bord Gáis Energy Power Plant)	0.41
P1189 (IEL)	Google Ireland Limited	0.43
P1190 (IEL)	Microsoft Ireland Operations Limited	0.52
P0693 (IEL)	Takeda Ireland Limited	0.54
W0306 (Waste Licence)	Grange Castle Golf Course (Waste Licence)	0.86
P1204 (IEL) (Applied)	Edgeconnex Ireland Limited	0.9
P0652 (IEL)	Pfizer Ireland Pharmaceuticals (Grange Castle)	0.97
P1033 (IEL)	Grange BackUp Power Limited	1.12

The nearest notified Seveso establishment to the proposed development is the Microsoft DUB 14 - 15 site, which is a Lower Tier Seveso establishment, as defined by the COMAH regulations (S.I 209 of 2015), due to the quantity of petroleum products (diesel) that will be stored at the proposed site which is 3212.3 tonnes stored within double-skinned belly tank at each emergency diesel generator. The belly tanks range in capacity from 5 m<sup>3</sup> to 50 m<sup>3</sup>. The Microsoft Lower Tier Seveso establishment has *no specified consultation distance* as the storage of diesel primarily poses an environmental risk rather than a major accident or safety risk (i.e. explosion).

The *South Dublin County Council Development Plan 2022–2028* zoning designations has been reviewed. The proposed underground transmission gas pipeline traverses existing roads which have no zoning designation. The majority of the redline boundary is zoned as *EE – Enterprise and Employment* under the current the *South Dublin County Development Plan*; a zoning designation intended to provide for enterprise and employment-related uses.

## 2.3 Characteristics of the Proposed Development (Geographical Sections)

The Gas to Milltown Pipeline comprises the establishment of an underground transmission gas pipeline which will supply natural gas to the permitted Power Generation Facility being developed by Data and Power Hub Services Ltd. The pipeline will provide a connection between the existing gas network and the permitted Milltown AGI (Reg. Ref.: SD25A/0135W). Once constructed, the underground transmission gas pipeline will be owned and operated by Gas Networks Ireland (GNI). The proposed tie-in and termination locations for the new underground Gas to Milltown pipeline are shown in Figure 2-3 of Chapter 2.

The proposed pipeline will span 1.175 km and consists of 400NB (nominal bore) pipe with material grade and wall thickness in accordance with ISO 3183 and GIS/DAT6: 2019. The underground pipeline is at a nominal minimum depth of 1.2 metres below ground level and will be surrounded on all sides by approved CI.503 material. This material will be overlain with selected backfill and reinstated to existing condition.

The detailed description, including the specific locations and distances along the pipeline (chainage), description of the location is provided below in Table 2-2.

**Table 2-2 Proposed Pipeline Route Description**

<b>Approximate Chainage</b>	<b>Description of Location</b>	<b>Pipeline length (m)</b>
Chainage 000 Tie-in point between Gas to Microsoft pipeline and Gas to Milltown pipeline	The proposed Gas to Milltown pipeline will connect to the designated tie-in point of the Gas to Microsoft pipeline, located immediately south of the Ballybane AGI within the Microsoft Operations Ireland Ltd Site.	N/A
Chainage 000 to 060 Northern side of New Nangor Road (R134)	The pipeline will be routed north-west for within the Microsoft Operations Ireland Ltd Site.	c. 60m
Chainage 060 to 080 RDX 01 crossing of the New Nangor Road (R134)	The pipeline will be routed south-west or crossing to the southern side of the New Nangor Road (R134)	c. 20m
Chainage 080 to 350 Southern side of New Nangor Road (R134)	The pipeline will be routed in a westerly direction along the road verge on the southern side of New Nangor Road (R134) from approx. Ch. 080 to Ch. 310. At approx. Ch. 310, the route exits the New Nangor Road verge and enters Old Nangor Road, continuing to approx. Ch. 350.	c. 270m
Chainage 350 to 356 Baldonnell Stream Culvert Crossing (WCX 01)	The pipeline will be routed south-west and cross a culverted section of the of the Baldonnell Stream.	c. 6m
Chainage 356 to 670 Greenfield lands / Old Nangor Road	The pipeline will be routed west through lands of the former Old Nangor Road under the jurisdiction of South Dublin County Council (SDCC) to the Baldonnell Road.	c. 314
Chainage 670 to 750 Baldonnell Road (RDX 02) and Griffeen River (RVX 01) crossing.	The pipeline will be routed west under the Baldonnell Road and Griffeen River.	c. 80
Chainage 750 to 945 Greenfield lands.	The pipeline will be routed westwards to the through lands under the jurisdiction of SDCC to the Peamount Road (R120)	c. 185
Chainage 945 to 967 Peamount Road (R120) crossing (RDX03)	The pipeline will be routed west under Peamount Road (R120)	c. 22m
Chainage 967 to 1170 Greenfield lands.	The pipeline will be routed south westwards over an existing access way to agricultural lands.	c. 203
Chainage 1170 to 1175 Power Hub Services Ltd site tie-in to the permitted Milltown AGI	The pipeline will terminate at the permitted Milltown AGI, located within the Data and Power Hub Services Ltd. site.	c. 5m

## 2.4 Description of Construction

The Gas to Milltown Pipeline will be built as a buried gas transmission pipeline connecting the consented Gas to Microsoft Pipeline with the permitted Milltown Above-Ground Installation (AGI). Construction will take approximately six months and will involve a combination of open-cut trenching, trenchless tunnelling, road and stream crossings, and supporting works from specially established construction compounds. All works will follow Gas Networks Ireland (GNI) safety, environmental, and engineering standards.

Further detail is provided in the Gas to Milltown Pipeline Construction Methodology (Fingleton White, 2025). An outline Construction Environmental Management Plan (oCEMP), prepared by AWN, sets out the environmental framework for construction, with a full CEMP to be developed by the contractor. This will include measures to avoid, minimise, or mitigate environmental impacts.

The proposed pipeline crosses three roads at New Nangor Rd (RDX 01), Baldonnell Rd (RDX 02) and Peamount Rd (RDX 03). For the New Nangor Road (RDX 01) and the Peamount Rd (RDX 03) crossings, the current proposed approach is to utilise open-cut crossing methods. However, it is important to note that this is only the current proposed construction methodology, and the contractor may opt for trenchless construction techniques if deemed more suitable. Trenchless installation may prove to be less intrusive and, in some cases, more efficient from a constructability perspective. The final selection for the crossing construction methodology of these specific crossings will be at the discretion of the contractor, based on site-specific conditions and assessments.

The pipeline route includes a single river crossing at the Griffeen River (RVX 01) and a waterbody crossing over the culverted section of the Baldonnell Stream (WCX 01).

The proposed pipeline alignment will intersect multiple existing underground utilities, identified through a combination of as-laid records and ground-penetrating radar (GPR) surveys. For detailed information on the specific existing underground utilities intercepted by the pipeline route, refer to the planning drawings prepared by Fingleton White and submitted with this application.

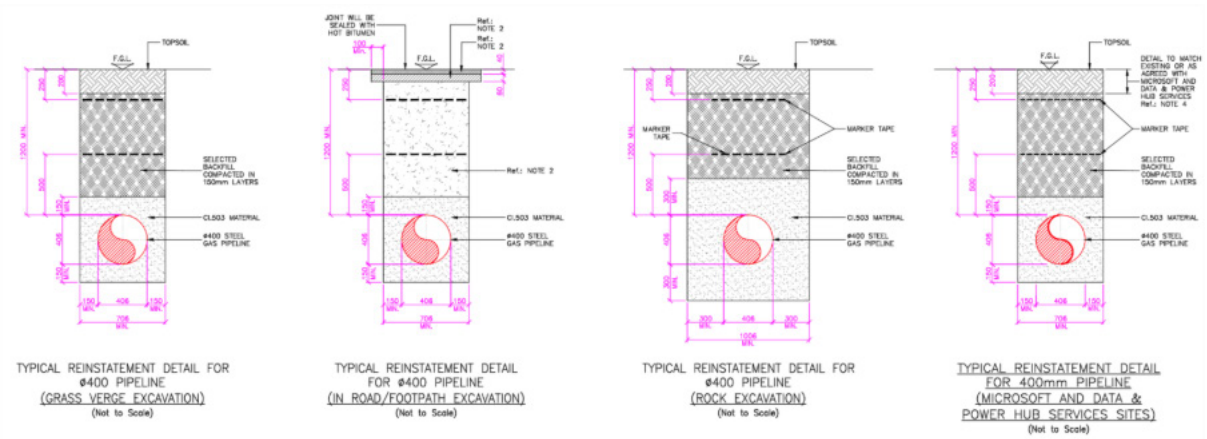
Table 2-3 provides a summary of the underground pipeline construction methods specific methodologies applicable to each setting are defined in the sections below.

**Table 2-3 Summary of Pipeline Construction Methods**

<b>Approximate Chainage</b>	<b>Pipeline length (m)</b>	<b>Construction Method</b>
Chainage 000 Tie-in point between Gas to Microsoft pipeline and Gas to Milltown pipeline	N/A	Tie into Gas to Microsoft pipeline
Chainage 000 to 060 Northern side of New Nangor Road (R134)	c. 60m	Open cut trench in roadway, footpath, and road verge
Chainage 060 to 080 RDX 01 crossing of the New Nangor Road (R134)	c. 20m	Open cut trench in roadway
Chainage 080 to 350 Southern side of New Nangor Road (R134)	c. 270m	Open cut trench in roadway, footpath, and road verge
Chainage 350 to 356 Baldonnell Stream Culvert Crossing (WCX 01)	c. 6m	Open cut trench third-party service-crossing
Chainage 356 to 670 Greenfield lands / Old Nangor Road	c. 314	Open cut trench in greenfield
Chainage 670 to 750 Baldonnell Road (RDX 02) and Griffeen River (RVX 01) crossing.	c. 80	Trenchless installation
Chainage 750 to 945 Greenfield lands.	c. 185	Open cut trench in greenfield
Chainage 945 to 967	c. 22m	Open cut trench in roadway

Peamount Road (R120) crossing (RDX03)		
Chainage 967 to 1170 Greenfield lands.	c. 203	Open cut trench in greenfield
Chainage 1170 to 1175 Power Hub Services Ltd site tie-in to the permitted Milltown AGI	c. 5m	Open cut trench in greenfield Termination at permitted Milltown AGI.

**Figure 2-1 Extract: Typical Reinstatement Details (DWG no.: 1587-DG-PLG-0007-01)**



#### 2.4.4 Tie In Location

The new pipeline shall tie into the consented Gas to Microsoft Pipeline within the Microsoft Operations Ireland Ltd site to the north of the R134 road located at Chainage 000.

An approximate 2 m deep excavation shall be undertaken here to facilitate the tie-in as the Gas to Microsoft Pipeline buried future connection pipework will be at a depth of c. 1.2 m.

#### 2.4.1 Open Cut Trench Methodology in Roadway, Footpath, Road Verge

The proposed pipeline alignment will pass through public roadway domains, either within the roadway itself or along the adjacent grass verge / footpath. The anticipated daily installation rate is expected to range between 12-24 m per crew due to the significant number of third-party services located in the road.

Each construction crew is expected to operate within a working zone approx. 100 m in length at any given time. During the construction phase, it is anticipated that only 1 no. working zone will be active at any one time along the section within the roadway / public footpath. If more than one zone is active along the public roadway, these shall be separated by a distance agreed with local authorities to mitigate traffic disruption and maintain accessibility.

Table 2-9 of Chapter 2 outlines the methodology in detail.

#### 2.4.2 Open Cut Trench Methodology in Greenfield

The proposed pipeline route passes through several areas of greenfield land, where construction activities will take place within grasslands and open undeveloped parcels. Greenfield installation offers a higher rate of progress compared with roadworks, typically allowing construction crews to advance at approximately 50 metres per day, depending on ground conditions, weather, and access.

The methodology used to install the pipeline in these areas is as outlined in Table 2-10 of Chapter 2.

### **2.4.3 Trenchless Construction Methodology**

A trenchless construction method is proposed to facilitate the combined crossing of the Griffeen River (RVX 01) and Baldonnell Road (RDX 02). Based on the current pipeline alignment, available ground investigation (GI) data, and identified project constraints, micro-tunnelling is the chosen method for crossing both the Baldonnell Road and the Griffeen River. This represents the proposed construction methodology at this stage and may be subject to refinement. The appointed contractor may select an alternative trenchless technique if considered more appropriate based on site-specific conditions. The final crossing methodology will be determined during detailed design by the contractor, and the methodology outlined herein should therefore be regarded as preliminary.

A summary description of the trenchless crossing is provided in Chapter 2 (Section 2.4.5), see further construction detail presented in the Construction Methodology. Refer to Drawing Ref: 1587-DG-PLG-0011 submitted with this application. This drawing indicates a preliminary arrangement for planning purposes. The crossing design shall be finalised prior to construction.

### **2.4.4 Services Crossing Construction Methodology**

Existing underground utilities—including electrical cables, foul and stormwater sewers, and potable water mains—will be crossed using the standard third-party service-crossing methodology. The proposed pipeline will be routed to avoid direct interaction with all existing services, and a minimum vertical clearance of 500 mm will be maintained between the pipeline and each utility. The typical third-party service-crossing detail is provided in Drawing Ref: 1587-DG-PLG-0006-01, submitted with this application.

The pipeline will also cross over a piped section of the Baldonnell Stream (WCX 01) near the junction of Baldonnell Road and Nangor Road (R134). At this location, the Baldonnell Stream is fully contained within a concrete culvert situated approximately 2.4–2.5 m below ground level. Details of this crossing are illustrated in Drawing Ref: 1587-DG-PLG-0014.

This Baldonnell Stream crossing (WCX 01) will follow a typical third-party service crossing, whereby the pipeline will be installed to avoid interaction with the existing underground service. Given the minimum depth of cover required (1200 mm to the top of the pipe) the pipeline will be constructed to pass over this Baldonnell Stream piped section. A minimum separation distance of 500mm will be maintained between the pipeline and the Baldonnell Stream pipe.

### **2.4.5 Site Preparation Works and Establishment of Construction Services**

The Site Preparation Works and Establishment of Construction Services encompass several essential tasks. These include organising staff, setting up temporary facilities, acquiring equipment, materials, and establishing construction systems. During this phase, the staff will receive comprehensive training in health, safety, and environmental practices to ensure a secure working environment.

Works to demarcate the pipeline route will be undertaken, this process, known as 'setting out,' follows the coordinates specified in project drawings and is agreed upon with landowners and occupiers beforehand. Existing third-party services and utilities will be identified, marked, and necessary warning posts erected, especially for overhead cables.

Initial establishment involves setting up a protective barrier around the construction zones using fencing materials that are designed to restrict unauthorised access. Security fencing helps control

who can enter the construction area and prevents theft, vandalism, and accidents. Site hoarding and fencing will be appropriately scaled, finished and maintained for the period of construction of each section of the works as appropriate.

To support the construction programme, three temporary construction compounds will be set up along the route. These compounds will act as central hubs for equipment, staff facilities, and storage.

Construction workers will reach the pipeline route primarily via the temporary compounds and the local road network. All traffic associated with the works will follow planned access arrangements agreed with South Dublin County Council.

For further information on this construction compounds refer to Chapter 2 of the EIA and see Appendix 2.1 to this EIAR Chapter for the 'Gas to Milltown Pipeline Construction Methodology', including the Design Drawings prepared by Fingleton White.

#### **2.4.6 Expected Site Personnel and Construction Duration**

It is expected that the construction of the pipeline will be completed during normal construction hours i.e., 7am to 7pm Monday to Friday, and 8am to 2 pm on Saturdays. However, it is possible that the contractor may wish to carry out certain operations outside these hours i.e., Sunday or evening hours during long summer days etc. Such occurrences will be kept to a minimum and take place over a short timeframe and as such are unlikely to cause excessive disturbance.

It is estimated that there will initially be 30-40 site personnel on site on a typical day, however during peak construction periods this is expected to fluctuate up to a maximum of 50 site personnel and contractors on site per day.

The overall start-to-finish duration is estimated to be 6 months with some of the construction development aspects overlapping. Estimates for the duration of the construction works are included in Table 2-4 below. Construction is anticipated to commence end of Q2 2026 and be completed by Q4 2026.

**Table 2-4 Estimated Construction Duration**

<b>Project Element</b>	<b>Estimated Construction Duration (Months)</b>
Pipeline	6
Trenchless Crossings	6

#### **2.4.7 Construction Equipment and Materials**

The key civil engineering works will involve the excavation of topsoil, subsoil, stones, bedrock, bitumen, and concrete through open-cut excavations, as well as trenchless crossings beneath the Griffeen River and Baldonnel Road. Other construction activities will include on-site storage of fuels for construction vehicles, storage of aggregates for backfilling, and reinstatement works.

Construction materials will be brought to the site by road using clean vehicles. Lorries and trucks transporting friable construction materials or spoil will be properly enclosed or covered to prevent the escape of material onto public roadways. Where possible, general construction materials will be sourced locally to minimise transportation distances.

All plant, machinery, and equipment will be stored on site within the works area or in the temporary construction compound. Typical construction equipment is listed below; this list will be further refined during detailed design prior to construction works commencing.

For further information on this construction equipment and materials refer to Chapter 2 of the EIA and see Appendix 2.1 to this EIAR Chapter for the 'Gas to Milltown Pipeline Construction Methodology', including the Design Drawings prepared by Fingleton White.

#### **2.4.8 Construction and Environmental Management**

The Outline Construction Environmental Management Plan (oCEMP) included as Appendix 2.2 of this EIAR has been prepared by AWN Consulting and includes all the mitigation measures set out within this EIAR. The construction contractor will update this CEMP to include any additional mitigation required to ensure compliance with any subsequent consent conditions relevant to the proposed development. It will also set out in detail the overarching vision of how the construction Contractor of the proposed development will manage the site in a safe and organised manner.

The CEMP documents all mitigation measures in this EIAR to ensure implementation of procedures to control pollution and nuisances arising from site clearance and construction activities. Pollution and nuisances will be prevented where possible and managed in accordance with best environmental protection practices.

The CEMP will be implemented and adhered to by the construction Contractor and will be overseen and updated as required if site conditions change by the Project Manager, Environmental Manager, Resource Manager and Ecological Clerk of Works where relevant. All personnel working on the Site will be trained in the implementation of the procedures.

#### **2.4.9 Potential Impacts and Mitigation Measures During Construction**

There are potential temporary nuisances such as traffic impacts, dust, noise, as well as the potential for pollution of groundwater associated with excavations and construction.

In order to manage these temporary impacts, the mitigation measures set out in this EIAR (Chapters 4 through 15) will be implemented and adhered to by the construction Contractor and will be overseen and updated as required if site conditions change by the Project Manager, Environmental Manager and Ecological Clerk of Works where relevant. The specific mitigation measures to address potential environmental impacts, are presented in each individual EIAR chapter.

The main potential impacts during excavation, construction, and commissioning which require mitigation are:

- ▶ Management of run-off water in terms of silt runoff and dewatering (if required) (see Chapter 5 (Land, Soils and Geology) and Chapter 6 (Hydrology and Hydrogeology) for further information);
- ▶ Impacts on human beings in terms of nuisances relating to the air quality of the environs due to dust and other particulate matter generated (see Chapter 8 (Air Quality) for further information);
- ▶ Impacts on human beings in terms of nuisances due to plant noise and vibration from equipment (see Chapter 10 (Noise and Vibration) for further information); and
- ▶ Effects on the road network due to single lane closures when works are being carried out on public roads and construction workers and other staff attending site (see Chapter 13 (Material Assets - Traffic and Transportation) for further information).

The potential for impacts depends on the type of construction activity being carried out in conjunction with environmental factors including prevailing weather conditions i.e. levels of rainfall, wind speeds and wind direction; as well as the distance to potentially sensitive receptors.

## 2.5 Description of Commissioning

Following completion of construction and installation of the pipeline and prior to “gas-on” (the commencement of operations), there will be a testing and commissioning phase. Gas Networks Ireland will mobilise to complete the commissioning. Commissioning will be carried out over 3 weeks for the Proposed Development.

The installation compliance test will be a process of systematically checking that all systems and equipment have been constructed, assembled, aligned and installed correctly, in accordance with the design specifications and drawings.

For commissioning tests, the pipework will be cleaned and tested in accordance with the *IS328:2021 and GNI/AD/SP/007*. Prior to the commencement of the hydrostatic testing, the pipelines will be swabbed with pipeline inspection gauges (PIGs) to clean out any debris, and a gauge pig will be used to prove the pipelines internal diameter. The pipelines are then hydrotested to prove the strength and integrity of the pipeline after construction. The volume of water required for the hydrostatic testing of the Gas to Milltown pipeline is as c. 166,000 Litres.

In the performance demonstration phase, the individual items of equipment and systems will be tested under operating conditions using the materials, temperatures, pressure and voltages to which they will be subjected when in operation. Once the operation of all equipment and systems has been tested and verified individually, they will be integrated, and the operation of complete systems will be tested.

Following successful completion of the hydrostatic test, a nitrogen gas ‘slug’ between 2 pipeline inspection gauges (PIGs) is then admitted to one end of the pipeline. The natural gas is then admitted behind the nitrogen slug, and the pipeline is commissioned and pressurised in accordance with IS328 and GNI Procedures. It then becomes operational. There are minimal gas emissions to the environment.

### 2.5.4 Potential Impacts During Commissioning and Mitigation Measures

As there is no requirement for chemicals usage and minimal access to the underground route by personnel there is no likely environmental effect as a result of commissioning.

## 2.6 Description of Operation

GNI will operate the underground transmission gas pipelines and carry out routine maintenance for the lifetime of the asset in accordance with I.S. 328:2021. These pipelines will supply the gas connection to the Customer Project, namely Data and Power Hub Services Ltd and the permitted Milltown AGI at the Data and Power Hub Services Power Generation Facility.

The Proposed Development will enable the permitted gas generation plant associated with the permitted Data and Power Hub Services Facility to operate on gas as authorised.

This means that the direct impacts stemming from the permitted gas plant, such as visual, noise, and air emissions, will consequently arise as a result of the Proposed Development. It is understood that the Data and Power Hub Services Facility will primarily draw electricity from the national grid, with onsite gas generation serving as a Peaker Plant for grid export, there is therefore a clear interdependent relationship between the Proposed Development and the associated customer gas generation plants when they are operated.

Once constructed, the proposed underground transmission gas pipeline will not require any staff to operate. GNI maintenance staff, one van, will carry out checks every two weeks to a month along with routine inspection and maintenance, including pigging, of the asset every seven to ten

years. Maintenance shall be in accordance with GNIs Functional Specification Requirements document.

The operation of the pipeline is based on a closed system, therefore during normal operating conditions there will be no release of natural gas to the atmosphere. There will be negligible emissions from the operation of gas hydraulic operated valves, safety relief valves and venting down of filters, etc for maintenance (within Milltown AGI).

Approximately every 10 - 15 years, the pipeline will be 'pigged' using an intelligent pig launched from the AGIs in order to monitor the mechanical status of the pipeline itself. De-pressurising the pig traps at either end of the system involves the release of natural gas. This may be recompressed in lower pressure gas systems if available. The quantities will not be significant, and the emission will be closely controlled.

#### **2.6.4 Potential Impacts During Operation and Mitigation Measures**

During operation, the transmission gas pipeline will be buried underground and therefore will not generate any regular operational, noise emission, there will be no regular emissions to the atmosphere, or waste generation. Routine maintenance activities will result in negligible vehicle movements and a low risk of contamination from leaks/spills from maintenance activities. There is no above-ground infrastructure associated with the pipeline, therefore there are no potential visual impacts on the landscape.

Each chapter of this EIA Report assesses the potential impact of the operation of the proposed development on the receiving environment. Please refer to each specialist chapter respectively.

### **2.7 Changes to the Project/Decommissioning**

The lifespan of the proposed development is not defined but it is anticipated that it will be maintained, and periodic upgrading undertaken over a long lifetime to meet future demand and upgrade in technology.

If the proposed underground transmission gas pipeline is no longer required over the long term, then full decommissioning in accordance with prevailing best practice will be undertaken. Transmission pipelines at the end of their operational life are degassed and isolated at the inlet and outlet. The pipeline shall be filled with 500mbar of nitrogen within 1 month of the customer's decommissioning date. The Transmission gas pipeline is filled with grout in line with standard GNI pipeline decommissioning procedures. The gas transmission property, plant, and equipment shall be decommissioned in line with the GNI transmission decommissioning process AM/BP/107. The costs associated with the decommissioning, removal and disposal of the asset will be met by GNI.

### **2.8 Description of Other Development(s)**

#### **2.8.4 Description of Related Development(s)**

In the context of an EIA, a "related development" refers to any other proposed, ongoing, or planned project, activity, or undertaking that is directly or indirectly connected to the Proposed Development under assessment. These related developments can have various interactions with the Proposed Development being evaluated, potentially resulting in cumulative environmental effects that need to be considered.

- ▶ The pipeline is functionally and operationally linked to the Data & Power Hub Services Facility at Milltown, which comprises a Power Generation Facility (SD20A/0058, amended under SD25A/0135W), the ICT Facilities (SD20A/0324), and the 110 kV GIS Substation and transmission infrastructure (ABP-312793-22).

- ▶ Two of the co-located developments consents (ICT Facilities SD20A/0324 and 110 kV GIS Substation and transmission infrastructure ABP-312793-22) were subject to full EIA, forming part of the same overall project. The pipeline provides the essential gas supply connection required for the Power Generation Facility to operate.
- ▶ The Gas to Milltown Pipeline is part of the GNI134 Strategic Main gas transmission pipeline in Grange Castle. This larger project was itself subject to EIA at the time of application.

As part of the assessment of the impact of the Proposed Development, account has been taken of the potential for Cumulative Impacts with the related developments set out in this section in Chapter 17.

### **2.8.5 Other existing and/or approved projects within the Surrounding Area**

As part of the assessment of the impact of the Proposed Development, account has been taken of relevant developments that are currently permitted, or under construction and substantial projects for which planning has been submitted within the surrounding areas. Chapter 17 considers the potential for Cumulative Impact with Related, Existing and/or Approved Projects.

The identification of relevant, currently permitted, and future developments follows a two-fold approach. Firstly, a comprehensive search is undertaken to identify all developments within the vicinity of the Proposed Development site. Subsequently, a review of the magnitude, size, scale, location and current status of these developments is undertaken to assess their potential to contribute to significant cumulative effects. This secondary stage is conducted in alignment with the 2017 guidance from the European Union (EU), which underscores the necessity to focus on effects that are either inherently significant or possess the potential for significance. This comprehensive review is crucial in the context of assessing the potential cumulative effects of a proposed project. It aids in gauging the extent to which these existing and future undertakings might, interact with the Proposed Development, and allow for the exclusion of insignificant developments from any further consideration. This strategic approach ensures that resources are not expended on negligible or inconsequential effects.

The initial stage of this process is facilitated through the utilisation of the planning search tools listed below which collectively hold a comprehensive inventory of planning applications, which systematically generated a comprehensive list of relevant planning permissions granted within the immediate environs of the Proposed Development. A combination of online mapping tools was used for this search including:

- ▶ The Department of Housing, Local Government and Heritage EIA Portal<sup>2</sup>
- ▶ An Coimisiún Pleanála Map Search<sup>3</sup>
- ▶ My Plan National Planning Application Map Viewer<sup>4</sup>
- ▶ South Dublin County Council Planning Map Viewer<sup>5</sup>

Due to the urban industrial character of the Proposed Development's location, there are substantial industrial operations, noteworthy developments, and projects requiring EIA within the designated study area. The search additionally identified a number of small extensions, retention, and other minor alterations for established residential properties and businesses within the vicinity of the development. The outcome of this search and review is detailed in Appendix 2.3 of the EIAR.

<sup>2</sup> <https://www.gov.ie/en/publication/9f9e7-eia-portal/>

<sup>3</sup> <https://www.pleanala.ie/en-ie/Map-search>

<sup>4</sup> <https://www.myplan.ie/national-planning-application-map-viewer/>

<sup>5</sup> <https://www.sdcc.ie/en/services/planning/planning-applications/search-and-view/>

#### *2.8.5.1 Potential Impacts from Other Existing and/or Permitted Projects and Mitigation Measures*

As part of the assessment of the impact of the Proposed Development, Chapter 17 considers the potential for Cumulative Impact with existing and/or approved projects detailed in Appendix 2.3 of the EIA.

## **3. ALTERNATIVES**

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### **3.1 Introduction**

This chapter describes the alternatives considered for the proposed underground gas transmission to Milltown pipeline which terminates in the Data and Power Hub Services Ltd. peaking power plant site. The focus is on alternatives identified at the outset of the project, prior to detailed EIA, including route options, design/layout/process considerations, and construction method considerations. The selection narrative prioritises environmental considerations in determining the preferred option.

The consideration and presentation of the reasonable alternatives studied by the project design team is an important requirement of the EIA process. The reasonable alternatives examined throughout the design process are set out under the following categories follows:

- ▶ Do nothing alternative;
- ▶ Alternative Routes;
- ▶ Alternative Design;
- ▶ Alternative Construction Methods and Mitigations; and
- ▶ Alternative processes.

### **3.2 Methodology**

Alternatives were identified and appraised through a route selection process consistent with good industry practice for linear infrastructure. Route selection considered technical feasibility and constructability and environmental considerations. This included a desktop review of available datasets (designated sites, hydrology and water quality, flood extents, soils and geology, groundwater vulnerability, archaeology/architecture, land use/planning) informed preliminary constraints mapping. Vantage-point surveys and preliminary engineering constraints (e.g., crossings of roads, watercourses; proximity to utility infrastructure) were then used to screen and refine options.

This chapter describes the reasonable alternatives considered, comparing their environmental implications at a proportionate level, and indicating the main reasons for selecting the preferred option.

### **3.3 Do-Nothing Alternative**

The Proposed Development is intended to facilitate the gas connection to the Data and Power Hub Services Facility, comprising a gas-fired power plant and data centre located in Grangecastle.

Under the do-nothing alternative, the new gas connection would not proceed. The Data and Power Hub Services Ltd. peaking power plant would not be connected as intended and could not operate as planned on natural gas.

### **3.4 Alternative Pipeline Route options**

The original Section 39A application to the CRU for this pipeline (2023), proposed a gas pipeline connection that would traverse west along the New Nangor Road (R134), then south along Peamount Road (R120), before entering the peaking plant site via South Dublin County Council (SDCC) lands. At that stage, a key design constraint was the requirement to keep the pipeline within the public domain, both to facilitate its function as a strategic main and to enable potential future high-pressure gas connections along the R134.

Subsequent engagement with utility providers regarding existing and planned infrastructure, as well as discussions with SDCC about the proposed route, prompted a further review of the original alignment (see Chapter 3, Figure 3-1). As a result, the feasibility of an alternative alignment via Old Nangor Road was assessed, the original S39A application was withdrawn (2025), and this change forms the basis for the current application.

Five potential pipeline route options were considered. The permitted Gas to Microsoft pipeline located to the east of the Old Nangor Rd. has not changed from the original design, and this provides the connection point. All routes avoid areas designated for nature conservation.

### 3.5 Alternative Design/Layouts

Five route options were examined for the Gas to Milltown Pipeline. Each option varies in length, alignment, and approach to crossing the R134, Old Nangor Road, Baldonnell Road, the Griffeen River, and the R120, before entering the Data and Power Hub Services Facility and the Milltown AGI.

- ▶ Option A (c. 780 m; Figure 3-2 in Chapter 3). Follows Old Nangor Road from its connection with the R134, then enters agricultural land to the south before crossing the R120 and routing into the Data and Power Hub Services Facility and the Milltown AGI.
- ▶ Option B (c. 760 m; Figure 3-3 in Chapter 3) Similar to Option A, following Old Nangor Road, but crosses the R120 at the Old Nangor Road intersection and rejoins the originally agreed route within the SDCC lands opposite the R120.
- ▶ Option C (c. 780 m; Figure 3-4 in Chapter 3) Enters SDCC-owned land approximately 50 m west of Options A and B along the R134, running parallel to Old Nangor Road for c. 120 m to avoid underground service constraints. It then turns west to cross Baldonnell Road and the Griffeen River perpendicularly, before continuing southwest to cross Old Nangor Road and proceeding through agricultural land. From there, it follows the same route as Option A across the R120 and into the Data and Power Hub Services Facility and the Milltown AGI.
- ▶ Option D (c. 750 m; Figure 3-5 in Chapter 3). The shortest option, combining preferred elements of Options B and C. It enters the verge of Old Nangor Road at the R134, runs parallel for c. 85 m, then crosses into SDCC-owned land. It follows a similar alignment to Option C over Baldonnell Road and the Griffeen River, before continuing west to cross the R120 and join the Option B approach into the Data and Power Hub Services Facility and the Milltown AGI.
- ▶ Option E (c. 910 m; Figure 3-6 in Chapter 3). The longest option, combining elements of Options C and D. It enters the verge of Old Nangor Road at the R134 and runs parallel for c. 85 m before entering SDCC lands and routing along the field boundary. Its Griffeen River crossing mirrors Options C and D, providing the shortest combined crossing of Baldonnell Road and the Griffeen river. After this crossing, two alignment variations are possible to cross the R120—Option E-1 (orange) and Option E-2 (pink)—as shown in Figure 3-6 in Chapter 3.

### 3.6 Preferred Route Selection

The EIAR team has evaluated all identified route options for the proposed pipeline. In general, the potential environmental effects associated with each route are broadly similar. While there are minor differences in proximity to sensitive receptors, construction duration, and specific ecological or archaeological considerations, none of the options are anticipated to result in significant adverse impacts. This evaluation is detailed in Section 3.4.6 of Chapter 3.

Option E-2 was selected for final design and application submission due to its greater separation from residential properties, sufficient space for the construction of launch and reception pits for a trenchless crossing of the Griffeen River, and avoidance of potential impacts on the farmhouse (NIAH 11208015).

### **3.7 Alternative Design**

The proposed underground transmission gas pipeline design is based on requirements stipulated by the GNI. Therefore, from an alternative 'design' point of view, the flexibility to select an alternative underground transmission gas pipeline design is not available to the Applicant.

Pipeline design parameters (diameter, wall thickness, grade, design factor and proximity distances) are governed by national standards and operator specifications for integration into the transmission network. Within these constraints, route-level refinements remain possible at detailed design to increase separations from receptors, adjust special crossings, and minimise temporary works footprint. Process alternatives are limited given the requirement to integrate with existing transmission system operations, safety and integrity management standards.

### **3.8 Alternative Construction Methods and Mitigation Strategies**

In evaluating route alternatives, two construction approaches for crossing the Griffeen River were considered: open-cut trenching and trenchless techniques. Trenchless techniques are the chosen mitigation method to avoid direct in-channel works, protect channel integrity and banks, and reduce the potential for sediment release and hydrological connectivity during construction. The route options were assessed to ensure adequate space for launch and reception pits, free from third-party services, thereby reducing construction complexity and risk. The route options were considered on the basis of allowing sufficient space for the construction of launch and reception pits, free from third-party services thus reducing construction complexity and risk.

Additionally, route selection ensured that the crossing of the Baldonnell Stream could be accommodated at an existing culvert location.

Watercourse construction method selection is supported by standard construction-phase controls, including pollution prevention and spill response protocols, silt management measures, and reinstatement of affected areas to their pre-works condition. The adoption of trenchless techniques, as well as crossing the Baldonnell Stream at an existing culvert location is a key embedded mitigation within the project design.

For each aspect of the environment, each EIA Report specialist has considered the existing environment, likely impacts of the Proposed Development and proposed feasible mitigation measures to address the most significant potential impacts using measures appropriate to the environmental setting of the Proposed Development.

In deciding on the most suitable mitigation measure the specialist has considered relevant guidance and legislation. In each case, a comparison of environmental effects was made, and the specialist has reviewed the possible mitigation measures available and considered the use of the mitigation in terms of the likely residual impact on the environment. The four established strategies for mitigation of effects have been considered: avoidance, prevention, reduction and offsetting (not required in this development). Mitigation measures have also been considered based on the effect on quality, duration of impact, probability and significance of effects.

The selected mitigation measures are set out in each of the EIA Report Chapters.

### **3.9 Alternative Processes**

This section typically examines the project processes in relation to likely emissions to air and water, likely generation of waste and likely effect on traffic to determine the process that is least likely to impact on these parameters.

The underground transmission gas pipeline will become an integral part of the national transmission network which is currently operated by GNI. As such the underground transmission gas pipeline must meet GNI's specifications to ensure it meets the requirements of the national infrastructure and can provide a reliable gas supply to the Data and Power Hub Services Ltd. peaking power plant site. Therefore, from an alternative 'process design' point of view, the flexibility to select alternative processes for integrating into the current national gas network is not available.

As appropriate, alternative processes are considered on an ongoing basis by GNI as a part of each of their operations based on many factors including technical feasibility, environmental impact, efficiency, security, reliability and cost.

## 4. POPULATION AND HUMAN HEALTH

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### 4.1 Introduction

This chapter has been prepared to assess the likely significant impacts on Human Health and Population in respect of the Proposed Development.

Human health should be considered in the context of environmental pathways which may affect health such as air quality, noise, water and soil quality. All can contribute to negative effects on human health by facilitating the transport of contaminants or pollutants. An evaluation of the effects of these pathways on health, by considering the accepted standards of safety in dose, exposure or risk of air quality and noise levels for example, is considered appropriate, as these standards have been arrived at via scientific and medical research. Where these topics are dealt with in further detail elsewhere in this EIA Report, the relevant chapters have been cross referenced in this Chapter to provide the CRU with a context for their determination.

### 4.2 Baseline Environment

#### *Population Health Sensitivity*

The Electoral Divisions (ED) included in the Study Area are those containing or within 1km of the proposed development site. In the case of the proposed development, the site is located across seven (7 no.) ED; Clondalkin-Dunawley (3006), Clondalkin Village (3010), Newcastle (3018), Clondalkin-Cappaghmore (3005), Lucan-St. Helen's (3017), Clondalkin-Monastery (3007) and Clondalkin-Moorfield (3008). The study area has seen a population growth between the 2016 and 2022 census, although Clondalkin-Dunawley, Clondalkin-Cappaghmore and Clondalkin-Monastery ED saw a slight decrease. The Pobal HP Deprivation Index shows the area be 'Disadvantaged' to 'Marginally Above Average'. There is a low age dependency ratio, therefore a large proportion of the population is within working age, thus considered as largely independent and judged to be not sensitive to change. A high proportion [54.48 – 62.17%] describes their health status as 'Very Good' and a low proportion as 'Bad' or 'Very Bad'. The majority of the study area has a lower % of Persons with a disability than the national average. The population within the study area is therefore not particularly sensitive to change, with a ranking of low to medium sensitivity.

#### *Location and Character of the Local Environment*

While a general study area of ED within 1 km from the site location is included for population statistics, the wider area of 2.5 km from the site location has been used to inform the baseline description of the area.

There are primary and secondary schools, healthcare services, emergency services and places of worship in the vicinity of the proposed development site. In terms of landscape amenity, large buildings and infrastructure are the dominant elements of the landscape and visual amenity is limited. This area can be considered of low sensitivity to the Proposed Development, which will be located entirely underground when operational. There are no listed or scenic views, no landscape or amenity designations or protected trees pertaining to the site, and no protected structures or National Monuments on the site. Tourism is not a major industry in the immediate environs of the site.

The proposed development site is not at risk of any major accidents, hazards of natural disasters. There are no potential residual flood risks as the proposed development will not affect any other existing infrastructure should an extreme event occur.

## 4.3 Potential Impacts of the Proposed Development

### 4.3.4 Construction Phase

The main potential impacts on population and human health from the proposed development are potential for spills/leaks, air emissions, noise, visual, and traffic impacts:

- ▶ Construction will have an indirect positive effect on support industries and local services and is considered to have an ***imperceptible, temporary and positive*** impact on the economy and employment of the local and wider area;
- ▶ The potential construction phase impact of the Proposed Development on the local population with regard to landscape and visual impacts is ***slight to moderate and negative***.
- ▶ During construction of the proposed development, there is a risk of accidental pollution incidences to land, soil, geology and hydrogeology from suspended solids, cement/concrete and hydrocarbons. The potential impact is ***neutral, imperceptible and temporary***;
- ▶ During construction of the proposed development, a reduction in water quality via unmitigated pollutants entering (the Baldonnell Stream (EPA Code: 09B09) and the Griffeen River (EPA Code: 09G01) (as set out in Section 6.5.1.2) has the potential to lead to negative impacts on human health and populations. Hydrocarbons and petroleum products for example have the greatest risk for human health when they are in drinking water. However, it is noted that there are no recorded Recreational Waters, Bathing Waterbodies, or Surface Water Drinking RPA, located downstream in the environments. The potential impact is ***negative, slight and temporary***.
- ▶ The key elements of construction of the proposed development with potential impacts on populations and human health from air quality and climate impacts are dust soiling effects, dust (PM<sub>10</sub> and PM<sub>2.5</sub>) emissions, engine emissions from construction traffic and changes in traffic flows on nearby road links. In the absence of mitigation, dust impacts on Human Health are predicted to be ***temporary, negative and imperceptible***.
- ▶ As detailed in Chapter 10 (Noise and Vibration), in the absence of mitigation there is the potential for ***temporary, not significant to significant and negative*** impacts to human health as a result of construction activities.
- ▶ As detailed in Chapter 13 (Material Assets - Traffic and Transportation), the proposed development will generate vehicular trips to and from site during the construction phase, increasing traffic flows at nearby existing junctions. As the works associated with the pipeline works will require trenching and reinstatement at the sections of public roads there will be a need to carry out the works under traffic management via lane closure, shuttle working or by road closure with associated diversion. The impact on human beings and in particular road users such as local businesses, and residences would be ***temporary, negative and moderate***.
- ▶ The likelihood of a Seveso establishment initiating a major accident at the proposed development is negligible, and the likelihood of the project initiating major accident at a nearby a Seveso establishment during construction is considered negligible. The potential impact is therefore ***imperceptible and unlikely***.

### 4.3.5 Operational Phase

The main potential impacts on population and human health from the proposed development are potential for spills/leaks, air emissions, noise, visual, and traffic impacts:

- ▶ It is not expected there will be any likely significant effects on local residential population figures in association with the operation of the proposed development.
- ▶ Operational stage impacts mainly relate to the maintenance works for the pipeline corridor, which will be infrequent and will be brief in nature. Maintenance operations will be much less intensive than the activity at the construction stage. In combination with the Medium-Low/Low

landscape sensitivity, the significance of operational stage landscape impact is deemed ***imperceptible, permanent*** and of a ***neutral*** quality.

- ▶ During the operational phase of the proposed development, there is a risk of accidental pollution incidences to land, soil, geology and hydrogeology from suspended solids, cement/concrete and hydrocarbons. The potential impact is ***neutral, imperceptible and long-term***;
- ▶ The proposed underground gas transmission pipeline will have no potable water or wastewater demand and no new hardstanding or surface water generation. There are no potential adverse impacts on water resources during operation. The potential impact is ***neutral, imperceptible and long-term***;
- ▶ With reference to Chapter 8 (Air Quality), during operation the transmission gas pipeline will be buried underground and therefore there will be no emissions to atmosphere. There is the potential for maintenance vehicles accessing the site to result in emissions of NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>. However, due to the infrequent nature of maintenance activities and the low number of vehicles involved emissions are not predicted to be significant. In the absence of mitigation, the potential impacts on Human Health are predicted to be ***imperceptible, direct, neutral and long-term***.
- ▶ As noted in Chapter 10 (Noise and Vibration), due to the fact that the proposed transmission gas pipeline route will be located underground there are no operational operation noise impacts associated with the Proposed Development. The resultant noise effect is stated to be ***neutral, imperceptible and long-term***.
- ▶ As detailed in Chapter 13 (Material Assets - Traffic and Transportation), as there are no permanent employees required for the operational phase there will be no additional trips on the external roads network. With no additional traffic during the operational phase on the existing road network there is ***no impact***.
- ▶ The likelihood of a flood initiating a major accident at the proposed development is negligible and the likelihood of the proposed project causing a flood is negligible. The potential effect is therefore ***imperceptible and unlikely***.

## 4.4 Mitigation and Residual Effects (Post-Mitigation)

### 4.4.4 Construction Phase

The mitigation measures to address the potential impacts on Population and Human Health from the construction phase of the proposed development and post-mitigation residual effects include:

- ▶ Site hoarding and fencing will be appropriately scaled, finished and maintained for the period of construction of each section of the works as appropriate. To reduce the potential negative impacts during the construction phase, good site management and housekeeping practices will be adhered to. The visual impact of the site compound and scaffolding visible during the construction phase are of a short term nature only and therefore require no remedial action other than as stated above. The residual construction stage significance of visual impact is considered to be ***moderate to slight, negative and short term***.
- ▶ All excavated materials will be visually assessed by suitably qualified persons for signs of possible contamination such as staining or strong odours. Should any unusual staining or odour be noticed, samples of this soil will be analysed for the presence of potential contaminants to ensure that historical pollution of the soil has not occurred. Should it be determined that any of the soil excavated is contaminated, this will be segregated and appropriately disposed of by a suitably permitted/licensed waste disposal contractor. All sampling and soil handling will be undertaken by suitably qualified and trained persons using suitable personal protective equipment to avoid risks to human health. The residual effect on human health and populations during the construction phase is considered to be ***neutral, imperceptible and short term***.
- ▶ Mitigation measures relating to Air Quality include measures for dust control in relation to site management, site roads, land clearing, storage piles and site traffic on public roads. Therefore,

the residual impact during the construction phase in relation to Air Quality is *neutral, direct, imperceptible* and *temporary*.

- ▶ Mitigation measures proposed to minimise the potential effects on human health in terms of noise and vibration during the construction phase are set out in Chapter 10 (Noise and Vibration). Provided that the mitigation measures detailed in Chapter 10 are put in place, such as the selection of quiet plant, and best practice noise and vibration control measures will be employed by the contractor during the construction phase, the likelihood of a significant impact will be reduced sufficiently. For construction phase and activities, the overall residual noise effects are *negative, not significant to moderate* and *short term* in duration.
- ▶ Traffic related mitigation measures are detailed in Chapter 13 (Material Assets - Traffic and Transportation). The residual effect of construction works on Traffic and Transportation will be *short term, moderate* and *negative*.
- ▶ The potential impact is *imperceptible*, and *unlikely*, in respect of Major Accident Hazards or Natural Disasters on Population and Human Health during the construction phase of the proposed development. Therefore, no specific mitigation measures are required.

#### 4.4.5 Operational Phase

The mitigation measures to address the potential impacts on Population and Human Health from the operational phase of the Proposed Development and post-mitigation residual effects include:

- ▶ The proposed development will result in an *imperceptible* impact due to the underground nature of the development, therefore no mitigation is proposed.
- ▶ Any disturbed areas in the surrounds of the river and stream crossings within the study area (Griffeen River and Baldonnell Stream) will be reinstated post construction to the original state or as agreed with SDCC or the relevant landowners. Areas of vegetation cleared or grounds disturbed will be reinstated with native riparian species of local provenance to reflect the natural characteristics of the existing watercourses. Once the construction stage works are complete, the road surface and/or areas of amenity grass surrounding the proposed pipeline will be fully reinstated. The residual operational stage landscape and visual impact is deemed *imperceptible, neutral* and *permanent*.
- ▶ With references to Chapters 5 and 6, there are no potential impacts to human health and population from land or water emissions during the operational phase, therefore no mitigation is required. There are no residual effects.
- ▶ As noted in Chapter 8 (Air Quality), no mitigation is proposed for the operational phase of the Proposed Development as impacts to air quality will be imperceptible. The residual effect of the operational phase impacts associated with the Proposed Development are predicted to be *neutral, long-term* and *imperceptible* as the transmission gas pipeline will be buried underground once constructed and there will be minimal emissions associated with maintenance vehicles accessing the site.
- ▶ As noted in Chapter 10 (Noise and Vibration), as the operational noise effect associated with the Proposed Development is *imperceptible* at nearby sensitive receptors, mitigation measures are not required. As the operational noise impact associated with the Proposed Development is *neutral, imperceptible* and *long term*, there are no residual noise or vibration effects associated with the Proposed Development.
- ▶ With reference to Chapter 13 (Material Assets - Traffic and Transportation), no mitigation is proposed for the operation phase of the proposed development as it is predicted to have an imperceptible impact on the operation of the local roads. The residual impact of the proposed development will be *long-term* in duration of *imperceptible, neutral* effect.
- ▶ There are no significant potential impacts on Human Health from Major Accident Hazards and/or Natural Disasters; therefore, there is no mitigation required and there are no residual effects.

## 5. LAND, SOILS AND GEOLOGY

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### 5.1 Introduction

This chapter of the EIAR has been prepared by AWN Consulting Ltd. which assesses and evaluates the likely significant impacts of the proposed Gas to Milltown Pipeline on the land, soil and geological aspects of the site and surrounding area.

### 5.2 Baseline Environment

The receiving environment is discussed in terms of land, soils and geology and site history, including potential for existing historical contamination.

The proposed Gas to Milltown Pipeline that is the subject of this application is approximately 1.175 km in length and is located in the Grangecastle area, Clondalkin, Dublin 22. The site area consists of the proposed underground transmission gas pipeline route and adjacent working areas.

The proposed Gas to Milltown Pipeline is located predominately within grass verge and greenfield sites. From the tie-in location, the pipeline routes south, crossing the New Nangor Road (R134) (RDX 01), and enters the adjacent grass verge. It then continues west, running parallel to the R134 alignment before exiting onto the Old Nangor Road. The route subsequently enters lands under the jurisdiction of South Dublin County Council (SDCC), crossing the Baldonnell Stream (WCX 01), Baldonnell Rd (RDX 02), and Griffeen River (RVX 01), and the R120 before terminating at Milltown AGI, situated within the proposed Data and Power Hub Services Facility site.

The immediate vicinity includes industrial and commercial zones, notably the Grange Castle Business Park, which hosts major multinational facilities. The area also includes agricultural lands and undeveloped plots earmarked for future employment growth under the South Dublin County Development Plan (2022-2028).

Historic Ordnance Survey Ireland (OSI) maps and archival records indicate that the Grange Castle area has a long history of settlement and agricultural use. By the mid 20th century (approximately 1940-1960), OSI mapping shows the area as predominantly rural farmland interspersed with small roads and drainage features. From the late 1990s, the area underwent significant transformation with the development of Grange Castle Business Park, a strategic employment hub promoted by South Dublin County Council and IDA Ireland. Although the broader Grange Castle area contains significant industrial and commercial development, the pipeline route itself is not located within industrial lands. Historic Ordnance Survey mapping and archival sources show that the pipeline route itself was historically undeveloped greenfield land comprising agricultural fields, drainage features, and minor rural accessways until the construction of the surrounding road network. There is no evidence of past industrial uses, landfilling, or contaminative activities directly within the pipeline corridor.

The GSI/Teagasc mapping indicates that the predominant soil type along the route of the proposed Gas to Milltown Pipeline is BminPD (basic deep poorly drained mineral soil). Significant areas of BminDW (basic deep well-drained mineral soil) are also present along the R120. In addition, substantial sections of Made Ground occur along Baldonnell Road and the R120, which is consistent with the urbanised nature of the site. Neither the EPA nor GSI mapping identifies any alluvial deposits within the proposed development area; however, it is reasonable to assume that localised alluvial deposits may occur adjacent to the Griffeen River and Baldonnell Stream that have been heavily modified during the development of the surrounding lands.

Inspection of the available GSI (2025) records show the site is underlain by the Lucan formation (Late Chadian to Asbian stage, Rock Unit code: CDLUCN). This geological formation comprises of

dark grey to black, fine-grained, occasionally cherty, micritic limestones that weather paler, usually to pale grey. There are rare dark coarser grained calcarenitic limestones, sometimes graded, and interbedded dark grey calcar.

There are no geological heritage areas within the site boundary, the closest site being 5.2 km from the proposed development site. There are no mineral localities within the site boundary, The nearest recorded site is approximately 2.47 km east, in Fairview, Co. Dublin, and is classified by the GSI (2025) as a Clay, Brick (CLBR) resource (Location Ref: 3254).

## 5.3 Potential Impacts of the Proposed Development

### 5.3.4 Construction Phase

In absence of mitigation measures, the construction phase would present potential impacts associated to the following activities:

- ▶ Excavations and infilling.
- ▶ Accidental spills or leaks of hydrocarbons from construction vehicles or alkaline water from cement works.
- ▶ Management of dewatering and rainfall runoff.

Without the consideration and employment of mitigation measures the potential impacts during the construction phase on land, soils and geology are ***negative, significant*** and ***temporary***.

### 5.3.5 Operational Phase

The proposed Gas to Milltown Pipeline will be installed beneath existing hardstanding areas. All trenches created during construction will be fully reinstated, ensuring that the operational phase does not introduce any new impermeable surfaces or alter existing drainage patterns. There will be no bulk storage of chemicals or hazardous substances during the operational phase.

There is limited potential for leaks or spills of petroleum hydrocarbons during site maintenance activities during operation of the development; unmitigated leaks or spills may lead to contamination of soil or groundwater.

Without the consideration and employment of mitigation measures the potential impacts during the operational phase on land, soils and geology are ***negative, imperceptible*** and ***long term***.

## 5.4 Mitigation and Residual Effects (Post-Mitigation)

### 5.4.4 Construction Phase

In order to reduce impacts on the soils and geological environment, a number of mitigation measures will be adopted as part of the construction works on site.

- ▶ Control of soil excavation.
- ▶ Regular source of fill and aggregates.
- ▶ Surface water management during construction.
- ▶ Fuel and chemical handling.
- ▶ Implementation of the mitigation measures set out in the EIAR via an Outline Construction & Environmental Management Plan (CEMP).

The residual effect on land, soils and geology during the construction phase is considered to be ***neutral, imperceptible*** and ***temporary***.

#### 5.4.5 Operational Phase

There will be no requirements for mitigations against increased run-off and sediment loading post construction phase of the proposed Gas to Milltown Pipeline as the underground gas transmission pipeline will not alter the existing hardstanding areas (all trenches established across roads to facilitate the proposed pipeline will be fully reinstated).

During operation measures there is no requirement for bulk storage of petroleum products. Due to the nature of the proposed Gas to Milltown Pipeline in operation there is no risk of potential leaks and spillages of fuel and oil post mitigation.

The residual effect on land, soils and geology during the operational phase of the proposed Gas to Milltown Pipeline is considered to be *neutral, imperceptible* and *long-term*.

## 6. HYDROLOGY AND HYDROGEOLOGY

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### 6.1 Introduction

This chapter of the EIAR has been prepared by AWN Consulting Ltd. which assesses and evaluates the likely significant impacts of the proposed Gas to Milltown Pipeline on the hydrological and hydrogeological environment.

### 6.2 Baseline Environment

The proposed Gas to Milltown Pipeline that is the subject of this application is approximately 1.175 km in length and is located in the Grangecastle area, Clondalkin, Dublin 22. The site area consists of the proposed underground transmission gas pipeline route and adjacent working areas.

The proposed Gas to Milltown Pipeline is located predominately within grass verge and greenfield sites. From the tie-in location, the pipeline routes south, crossing the New Nangor Road (R134) (RDX 01), and enters the adjacent grass verge. It then continues west, running parallel to the R134 alignment before exiting onto the Old Nangor Road. The route subsequently enters lands under the jurisdiction of South Dublin County Council (SDCC), crossing the Baldonnell Stream (WCX 01), Baldonnell Rd (RDX 02), and Griffeen River (RVX 01), and the R120 before terminating at Milltown AGI, situated within the proposed Data and Power Hub Services Facility site.

The topography of the site is generally flat to gently undulating, typical of the low-lying terrain in southwest Dublin. Elevation changes across the site are minimal, with slight gradients that influence surface water flow direction toward existing roadside drainage infrastructure. The pipeline route includes roadside drainage features that connect to the wider municipal stormwater system.

The EPA Water Features Database (2025) identifies two named watercourses intersecting the proposed Gas to Milltown Pipeline: the Baldonnell Stream (EPA Code: IE\_EA\_09L012100) and the Griffeen River (EPA Code: IE\_EA\_09L012100).

The Baldonnell Stream, located near Nangor Road has been extensively modified by development within Grange Castle Business Park. Its current alignment comprises engineered channels, culverts, and piped sections, particularly at road and infrastructure crossings. The stream flows north through Profile Park, then west along the southern side of Nangor Road before joining the Griffeen River near the Baldonnell/Nangor Road (R134) junction. The Baldonnell Stream's reconstructed channel originates near Grange Castle Golf Club, runs north through Profile Park, and then west parallel to Nangor Road (R134), where it passes through a piped section before merging with the Griffeen River. This realignment was implemented as part of the Adamstown Road (R120) and Nangor Road (R134) Improvement Scheme in the late 2010s.

Similarly, the Griffeen River has undergone both historic and more recent realignments, including modifications associated with the former mill at Milltown and other anthropogenic works. Its current course includes engineered sections and diversions reflecting these historical and modern interventions. From the point where it intersects the proposed Gas to Milltown Pipeline, the Griffeen River flows northwards before discharging into the River Liffey approximately 4.3 km north / 5.2 river km downstream of the proposed Gas to Milltown Pipeline. Other tributary streams of the Griffeen River to the north of the proposed Gas to Milltown Pipeline include the Milltown Stream (EPA Code: IE\_EA\_09L012100).

A review of the Environmental Protection Agency's (EPA) online mapping that includes the Register of Protected Areas (RPA) under the Water Framework Directive (WFD) has shown that there are no Recreational Waters or Bathing Waterbodies located in the vicinity of the proposed Gas to

Milltown Pipeline in the Liffey\_170 WFD surface waterbody i.e. the Griffeen River or Baldonnell Stream or further downstream within the Liffey\_180 and Liffey\_190 WFD surface waterbodies i.e. the River Liffey and the Liffey Estuary Upper and Lower transitional waterbodies.

A Site-Specific Flood Risk Assessment (FRA) has been undertaken by AWN Consulting Ltd (November 2025), for the proposed Gas to Milltown Pipeline submitted as a standalone document as part of the planning application. The FRA has been prepared in accordance with 'The Planning System and Flood Risk Management Guidelines for Planning Authorities' (DoEHLG, 2009). Pluvial flood mapping from the South Dublin County Council Strategic Flood Risk Assessment (SFRA, July 2022) identifies limited sections of the western portion of the proposed Gas to Milltown Pipeline route within medium probability pluvial flood extents (1% AEP or 1-in-100-year event), primarily along road corridors. These areas represent localised depressions where temporary ponding may occur during intense rainfall. The residual risk is considered low, as the pipeline will be fully subsurface during operation and reinstated to original ground levels post-construction, with no increase in impermeable surfaces or alteration of drainage patterns. The SFRA also indicates that portions of the western pipeline route intersect Flood Zones A and B associated with the Griffeen River and Baldonnell Stream. These zones correspond to areas of high and moderate fluvial flood probability. It is noted that the Baldonnell Stream and Griffeen River have been significantly modified and culverted as part of Grange Castle Business Park development, reducing its original floodplain extent. Based on GSI mapping and site conditions, the risk of groundwater flooding along the pipeline route is considered low.

## 6.3 Potential Impacts of the Proposed Development

### 6.3.4 Construction Phase

In absence of mitigation measures, the construction phase would present potential impacts associated to the following activities:

- ▶ Increased surface run-off and sediment loading in run-off.
- ▶ Accidental spills or leaks of hydrocarbons from construction vehicles or alkaline water from cement works impacting run-off.
- ▶ Soil excavation and removal.
- ▶ During excavations for the development, some slight temporary dewatering is expected.

Without the consideration and employment of mitigation measures the potential impacts during the construction phase on hydrology and hydrogeology are **negative, slight** and **temporary**.

### 6.3.5 Operational Phase

Once operational and reinstatement has occurred, the proposed Gas to Milltown Pipeline will be installed beneath existing hardstanding areas. All trenches created during construction will be fully reinstated, ensuring that the operational phase does not introduce any new impermeable surfaces or alter existing drainage patterns. Consequently, there will be no additional surface water generation.

There is limited potential for leaks or spills of petroleum hydrocarbons during routine maintenance activities. The proposed Gas to Milltown Pipeline does not require any potable water supply or generate wastewater during operation. Therefore, there are no impacts on the hydrological or hydrogeological environment during operation of the proposed Gas to Milltown Pipeline from wastewater loading.

In the absence of mitigation, the potential impacts on surface water quality during the operational phase are assessed as **neutral, imperceptible**, and **long-term**.

## 6.4 Mitigation and Residual Effects (Post-Mitigation)

### 6.4.4 Construction Phase

In order to reduce impacts on the hydrological and hydrogeological environment, a number of mitigation measures will be adopted as part of the construction works on site.

- ▶ Control of dewatering process.
- ▶ Surface water management during construction.
- ▶ Fuel and chemical handling.
- ▶ Implementation of the mitigation measures set out in the EIAR via an Outline Construction & Environmental Management Plan (CEMP).

The predicted impact on the hydrological and hydrogeological environment during the construction phase is *neutral, imperceptible* and *temporary*.

### 6.4.5 Operational Phase

There will be no requirements for mitigations against increased run-off and sediment loading post construction phase of the proposed Gas to Milltown Pipeline as the underground gas transmission pipeline will not alter the existing hardstanding areas (all trenches established across roads to facilitate the proposed pipeline will be fully reinstated).

During operation measures there is no requirement for bulk storage of petroleum products. Due to the nature of the proposed Gas to Milltown Pipeline in operation there is no risk of potential leaks and spillages of fuel and oil post mitigation.

The residual effect on the hydrological and hydrogeological environment during the operational phase of the proposed Gas to Milltown Pipeline is considered to be *neutral, imperceptible* and *long-term*.

## 7. BIODIVERSITY

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### 7.1 Introduction

This chapter provides an assessment of the effects of the Proposed Development on the ecological environment, i.e., Biodiversity, flora and fauna.

### 7.2 Baseline Environment

The lands on which the proposed development are to be constructed, comprise a mixture of built and artificial habitats with fallow formally managed improved grassland, pockets of mixed woodland and scrub and two water courses: the Baldonnell Stream and the Griffeen River.

The lands through which the pipeline is to run comprise large areas of rank, unmanaged agricultural grassland, amenity grassland, arable fields, residential buildings and gardens, public roads and footpaths, relatively minor watercourses, hedgerows and treelines, scrub and bare ground.

There were no invasive species recorded in the Proposed Development areas.

### 7.3 Potential Impacts of the Proposed Development

#### 7.3.4 Construction Phase

- ▶ Trenchless crossing of the Griffeen River and Baldonnell Stream will ensure there are no impacts on this habitat. The potential effects on local ecology are **neutral** and **imperceptible** for the construction phase.
- ▶ There will be a temporary loss of some areas of improved grassland during construction. Given the historical management of grassland in the subject areas, the effects on local ecology are predicted to be **negative** and **slight** for the construction phase.
- ▶ There will be a temporary loss of small areas of amenity grassland during construction. The potential effects on local ecology are **negative** and **slight** for the construction phase.
- ▶ There will be a temporary loss of small areas of woodland/scrub during construction. The potential effects on local ecology are **negative** and **slight** for the construction phase.
- ▶ There will be no impact on this Ornamental and non-native shrubs. The potential effects on local ecology are **neutral** and **imperceptible** for the construction phase.
- ▶ There will be a temporary loss of small areas of hedgerow during construction. The potential effects on local ecology are negative and slight for the construction phase.
- ▶ There will be no impact Treelines. The potential effects on local ecology are **neutral** and **imperceptible** for the construction phase.
- ▶ Recolonising bare ground is of low ecological value. The potential effects on local ecology are **neutral** and **imperceptible** for the construction phase.
- ▶ Buildings and artificial surfaces are of low ecological value. The potential effects on local ecology are **neutral** and **imperceptible** for the construction phase.
- ▶ There will be a temporary loss of small areas of arable crops during construction. The potential effects on local ecology are **negative** and **slight** for the construction phase.
- ▶ There were no badgers recorded on site and there are no predicted negative effects on badgers during the construction phase.
- ▶ There were no otters recorded on site and there are no predicted negative effects on otters during the construction phase.
- ▶ No potential bat roost features in mature trees were identified within the site boundary. The potential effects on bat habitat are **negative** and **slight** for the construction phase.

- ▶ There will be a minor loss of grassland, scrub and hedgerow and the risk of direct impacts on birds during the construction phase can be avoided by timing. The potential effects on bird habitat are *negative* and *slight* for the construction phase.
- ▶ Trenchless crossing of the Griffeen River and Baldonnell Stream will ensure there are no impacts on amphibians. The potential effects on local ecology are *neutral* and *imperceptible* for the construction phase.

### 7.3.5 Operational Phase

The development once constructed will be a sealed underground transmission pipe and will produce no relevant environmental effects.

Overall site development will result in a neutral modification of habitats which have already been modified with development. A landscape plan will be implemented as part of the development and planting will be undertaken in compliance with the requirements of the South Dublin County Development Plan and as part of the development to reinstate the habitat features in agreement with the landowners and where practicable with respect to the gas infrastructure in accordance with GNI's Landscaping for Biodiversity Guidelines.

The potential effects on habitats are *neutral* and *imperceptible* for the operational phase.

## 7.4 Mitigation and Residual Effects (Post-Mitigation)

### 7.4.4 Construction Phase

To ensure that construction of the pipeline is carried out responsibly and with full protection of the surrounding environment, a qualified Ecological Clerk of Works (ECoW) will be appointed at the very start of the project. Their role is to guide the construction team on all ecological commitments, monitor works on the ground, and make sure that environmental protection measures are correctly implemented. The ECoW will work closely with the Site Manager and project staff, all of whom will be trained so that everyone on site understands their responsibilities and follows best environmental practice. The ECoW will have the authority to pause works if required to prevent ecological harm.

Before any construction begins, working areas will be clearly marked, and vegetation will only be removed within these defined areas. Hedgerows and other green features will be retained wherever possible, and any unavoidable works will follow strict rules such as avoiding vegetation clearance during the bird nesting season unless checked and approved by an ecologist. Similar precautionary measures will apply to lighting, with temporary construction lights designed to minimise disturbance to bats by directing light downwards and using low-impact bulb types.

To protect biodiversity and prevent the spread of invasive species, strict biosecurity measures will be followed. These include cleaning machinery and equipment before arriving on site, restricting vehicle movements to agreed routes, identifying any invasive plants, and carefully managing soils so that no unwanted species are spread. Workers will receive toolbox talks to ensure they understand these requirements, and ongoing ecological supervision will help ensure compliance.

Together, these measures ensure that construction is carried out in an environmentally sensitive and controlled manner, avoiding impacts on habitats and wildlife and maintaining high ecological standards throughout the project.

With the employment of appropriate mitigation measures with regard to local biodiversity, the Proposed Development effect on biodiversity is anticipated to be *temporary, negative* and *not significant*.

#### **7.4.5 Operational Phase**

The development once constructed will be a sealed underground transmission pipe and will produce no relevant environmental effects.

With the employment of appropriate mitigation measures with regard to local biodiversity, the Proposed Development will have a *neutral, imperceptible* and *long-term* effect on biodiversity.

## 8. AIR QUALITY

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### 8.1 Introduction

The assessment of potential air quality impacts associated with the Proposed Development is contained within Chapter 8. The air quality assessment has focused on:

- ▶ Potential construction dust emissions and impacts to nearby sensitive receptors such as residential properties, schools, hospitals, etc.; and
- ▶ Potential vehicle emissions from traffic accessing the site for construction works and during operation.

### 8.2 Baseline Environment

Baseline data and data available from similar environments indicates that levels of nitrogen dioxide (NO<sub>2</sub>), particulate matter less than 10 microns (PM<sub>10</sub>) and particulate matter less than 2.5 microns (PM<sub>2.5</sub>) in the study area are generally well below the current National and European Union (EU) ambient air quality standards.

### 8.3 Potential Impacts of the Proposed Development

#### 8.3.4 Construction Phase

An assessment of the potential dust impacts as a result of the construction phase of the proposed development was carried out based on the UK Institute for Air Quality Management 2024 guidance document '*Guidance on the Assessment of Dust from Demolition and Construction*'. This established that there is a high risk of dust related impacts associated with the proposed development. In the absence of mitigation there is the potential for **temporary, negative and not significant** impacts to air quality, which is a potentially significant impact in EIA terms. However, with best practice mitigation in place no significant effects are expected.

In addition, construction phase traffic emissions have the potential to impact air quality, particularly due to the increase in the number of HGVs accessing the site. The construction stage traffic has been reviewed and a detailed air quality assessment has been scoped out as none of the road links impacted by the Proposed Development satisfy the TII assessment criteria. Following the completion of the initial site clearance works, the generation of HGV movements during the build period will be evenly spread throughout the day and, as such, will not impact significantly during the peak traffic periods. It can therefore be determined that the construction stage traffic will have a **temporary, direct, localised, negative and not significant** impact on air quality.

#### 8.3.5 Operational Phase

There is the potential for maintenance vehicles accessing the site to result in emissions of NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>. However, due to the infrequent nature of maintenance activities and the low number of vehicles involved emissions are not predicted to be significant. It can therefore be determined that the operational phase emissions will have a **long-term, direct, localised, negative and not significant** impact on air quality.

### 8.4 Mitigation and Residual Effects (Post-Mitigation)

#### 8.4.4 Construction Phase

Detailed dust mitigation measures are outlined within Section 8.6.1 of Chapter 8 to ensure that no significant impacts as a result of construction dust emissions occurs at nearby sensitive receptors.

Once these best practice mitigation measures, derived from the Institute for Air Quality Management 2024 guidance '*Guidance on the Assessment of Dust from Demolition and Construction*' as well as other relevant dust management guidance, are implemented the impacts to air quality during the construction of the proposed development are considered, **temporary, direct, negative** and **localised**, which is overall **not significant** in EIA terms, posing no nuisance at nearby sensitive receptors (such as local residences).

#### **8.4.5 Operational Phase**

No site-specific mitigation measures are proposed for the operational phase of the development as impacts to air quality are predicted to be not significant.

## 9. CLIMATE

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### 9.1 Introduction

The assessment of Climate is contained within Chapter 9. The impact assessment included the following:

- ▶ The potential greenhouse gas emissions during the construction and operational phases of the development.
- ▶ The vulnerability of the project to climate change, including considerations for increased rainfall and other projected climate impacts.

### 9.2 Baseline Environment

The existing climate baseline can be determined by reference to data from the EPA on Ireland's total greenhouse gas (GHG) emissions and alignment with Ireland's 2030 sectoral emissions ceilings and carbon budgets. The EPA state that Ireland had total GHG emissions of 57.6 Mt CO<sub>2</sub>e in 2024. This is 1.03 Mt CO<sub>2</sub>e higher than Ireland's annual target for emissions in 2024. EPA projections indicate that Ireland has used 82.5% of the 295 Mt CO<sub>2</sub>e Carbon Budget for the five-year period 2021-2025. This leaves 17.5% of the budget available for 2025, requiring a substantial 10.3% annual emissions reduction for 2025 to stay within budget.

### 9.3 Potential Impacts of the Proposed Development

The potential impacts on climate have been assessed in two distinct ways – a greenhouse gas assessment (GHGA) and a climate change risk assessment (CCRA). The GHGA quantifies the GHG emissions from a project over its lifetime and compares these emissions to relevant carbon budgets, targets and policy to contextualise magnitude. The CCRA considers a projects vulnerability to climate change and identifies adaptation measures to increase project resilience.

#### 9.3.4 Greenhouse Gas Assessment

Calculation of the GHG emissions associated with the construction and operation of the proposed development was carried out using the online Transport Infrastructure Ireland Carbon Tool. The GHG emissions associated with the proposed development are predicted to be a small fraction of Ireland's 2030 non-ETS of 27.7 MtCO<sub>2</sub>e, and a small fraction of the relevant sectoral 2030 emissions ceilings. The majority of GHG emissions during the construction phase are associated with the embodied carbon of materials. When considered over the full lifecycle of the development, these emissions represent a minimal contribution to national GHG budgets.

Impacts to climate from the construction and operational phases are deemed *direct, long-term, negative* and *slight*, which is considered *not significant*.

#### 9.3.5 Climate Change Risk Assessment

A CCRA was conducted to consider the vulnerability of the proposed development to climate change, as per the TII 2022 PE-ENV-01104 guidance. This involves an analysis of the sensitivity and exposure of the development to future climate hazards which together provide a measure of vulnerability. The hazards assessed included flooding (pluvial, fluvial); extreme heat and extreme cold. The proposed development is predicted to have at most low vulnerabilities to the various climate hazards and therefore climate change risk is considered *direct, long-term, negative* and *imperceptible*, which is considered overall *not significant* with regard to the construction and operational phase.

Overall, no significant impacts to climate are predicted during the construction or operational phases of the proposed development.

#### 9.4 Mitigation and Residual Effects (Post-Mitigation)

A number of best practice mitigation measures are proposed for the construction and operational phases of the proposed development to ensure that impacts to climate are minimised.

The impact to climate as a result of a proposed development must be assessed as a whole for all phases. The proposed development will result in some impacts to climate through the release of GHGs. TII PE-ENV-01104 guidance references the Institute of Sustainability and Environmental Professionals (ISEP) (formerly IEMA) guidance which states that the crux of assessing significance is "*not whether a project emits GHG emissions, nor even the magnitude of GHG emissions alone, but whether it contributes to reducing GHG emissions relative to a comparable baseline consistent with a trajectory towards net zero by 2050*". The proposed development has proposed some best practice mitigation measures and is committing to reducing climate impacts where feasible. The proposed development is fully in line with national climate policy and in terms of CAP25.

The effect of the proposed development in relation to GHG emissions is considered ***direct, long-term, negative*** and ***slight***, which is overall ***not significant***.

In relation to climate change vulnerability, it has been assessed that there are no significant risks to the proposed development as a result of climate change. The residual effect of climate change on the proposed development is considered ***direct, long-term, negative*** and ***imperceptible***, which is overall ***not significant*** in EIA terms.

## 10. NOISE AND VIBRATION

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AWN Consulting have prepared the Noise and Vibration Chapter for the Proposed Development which entails construction of a gas pipeline.

### 10.1 Baseline Environment

The area surrounding the Proposed Development predominantly consists of commercial/industrial units located to both the north and south. As the pipeline crosses Peamount Road (R120) and reaches Milltown AGI location, there are commercial/industrial units as well as an individual residential property located in the vicinity. To understand current noise levels, an unattended noise survey was carried out close to this residential property along Peamount Road (R120). The existing noise environment in the vicinity of the nearest noise sensitive locations are dictated by transportation sources from local and distant roads.

### 10.2 Potential Impacts of the Proposed Development

#### 10.2.4 Construction Phase

Indicative construction noise calculations have been carried out for the following aspects of the construction phase:

- ▶ Tie-in Point;
- ▶ Underground Transmission Gas Pipeline Route;
- ▶ River Crossing; and
- ▶ Tie in with AGI site.

The findings of the assessment indicate that the associated effect is stated to be ***negative, not significant*** to ***very significant*** and ***temporary*** during the majority of construction works.

In the case of pipeline route works, solid screening is required at noise-generating equipment to avoid a significant impact when works are taking place within 50m distance from residential noise sensitive receivers to avoid a significant noise impact.

The potential for elevated levels of vibration at sensitive locations during construction activities is typically confined to road surface breaking activities. The findings of the vibration assessment indicate that the associated effect is stated to be ***negative, not significant*** and ***temporary***.

#### 10.2.5 Operational Phase

As the proposed pipeline route will be located underground there are no operational operation noise impacts associated with the Proposed Development. Mitigation measures are therefore not required.

The resultant noise effect is stated to be neutral, imperceptible and long term.

## 10.3 Mitigation and Residual Effects (Post-Mitigation)

### 10.3.4 Construction Phase

Detailed noise and vibration mitigation measures are outlined within Section 10.6 of Chapter 10. Reference has been made to BS 5228-1 and BS 5228-2 which offer detailed guidance on the control of noise and vibration from construction activities.

In the case of the pipeline route and tie-in with AGI site works, solid barriers are required at noise-generating equipment to avoid a significant noise impact at the nearest residential property.

The associated construction noise effect is stated to be *negative, not significant* to *very significant* and *temporary*.

Vibration monitoring will be undertaken at the residential dwelling along Peamount Road (R120), where proposed works have the potential to be at or exceed the vibration limit values.

The associated construction vibration effect is stated to be *negative, not significant* and *temporary*.

### 10.3.5 Operational Phase

As the operational noise effect associated with the proposed development is *neutral, imperceptible* and *long term* at noise-sensitive locations, mitigation measures are not required.

## 11. LANDSCAPE AND VISUAL

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### 11.1 Introduction

This Landscape and Visual Assessment (LVIA) has been prepared in respect of a S39A application to the Commission for Regulation of Utilities (CRU) for the GNI134 underground transmission gas pipeline extension in the surrounds of Grange Castle Business Park in west County Dublin. The LVIA report describes the landscape context of the Proposed Development and assesses the likely landscape and visual impacts of the Proposed Development on the receiving environment.

**Landscape Impact Assessment (LIA)** relates to assessing effects of a development on the landscape as a resource in its own right and is concerned with how the proposal will affect the elements that make up the landscape, the aesthetic and perceptual aspects of the landscape and its distinctive character.

**Visual Impact Assessment (VIA)** relates to assessing effects of a development on specific views and on the general visual amenity experienced by people. This deals with how the surroundings of individuals or groups of people may be specifically affected by changes in the content and character of views as a result of the change or loss of existing elements of the landscape and/or introduction of new elements. Visual impacts may occur from; Visual Obstruction (blocking of a view, be it full, partial or intermittent) or; Visual Intrusion (interruption of a view without blocking).

### 11.2 Baseline Environment

The landscape of the site and study area is largely flat. The site is located at the c. 70m contour, with the terrain in the study area sloping down gently in a northerly direction towards the River Liffey corridor situated just under 4km north of the site at its nearest point. The nearest natural watercourse to the Proposed Development is the Griffeen River, which intersects the site in its western extent and flows through the study area in a general northerly direction. The Grand Canal is also located just under 1km north of the site at its nearest point. In terms of land use, the site and its surrounds are heavily influenced by large-scale commercial and industrial facilities. Grange Castle Business Park and Kilcarbery Park extend north from the site and comprise several large-scale pharmaceutical facilities, data centres and other large-scale manufacturing plants. Profile Park extends south and east of the site and comprises numerous data centres, and other highly anthropogenic land uses. To the west, the landscape transitions to more typical hinterland land use, such as areas of agricultural farmland. To the east, the landscape is influenced by large parklands and residential land uses. In terms of the surrounding road network, the R134 and the R120 regional roads account for the most notable major route corridors in respect of the Proposed Development, both of which form part of the Proposed Development site. Several local access roads also occur in the surrounding landscape, many of which provide access to the surrounding business and industrial parks. The most notable aspect of amenity within the study area relates to two Golf Courses. Grange Castle Golf Club is situated immediately south of the R134 regional road, whilst Newcastle Golf Centre is situated a short distance west of the R120 regional road. Other aspects of amenity within the wider landscape include the Grand Canal Way National Waymarked Trail, which is situated along the Grand Canal Corridor some c. 1km north of the site, as well as Corkagh Park and St. Cuthbert's Park.

## 11.3 Potential Impacts of the Proposed Development

### 11.3.4 Assessment of Receptor Sensitivity

#### 11.3.4.1 Landscape

The study area constitutes a highly modified setting influenced by large-scale commercial and industrial developments such as the established Grange Castle Business Park and Kilcarbery Park and the more recent Profile Park complex. These business and industrial developments impart a strong anthropogenic character on the local landscape due to the utilitarian forms of many of the structures and buildings contained within them, such as large-scale administration buildings, large warehousing buildings, wastewater treatment facilities, stacks, industrial scale sheds and extensive parking areas. The study area is also influenced by existing major route corridors including the R134 and R120 regional roads. The Griffen River is one of the most notable natural landscape features within the study area, whilst the western aspect of the study area is also influenced by more hinterland land uses, and the eastern aspect is also influenced by large parklands and residential land use. In terms of landscape policy and designations, the Proposed Development and study area are located within both the 'Urban' LCA and 'Newcastle Lowlands' LCA. The nature of the 'Urban' LCA is largely built-up, and therefore has the capacity to absorb additional development. Though the 'Newcastle Lowlands LCA' is classified as having a 'Medium' landscape sensitivity, the nature of the Proposed Development is unlikely to compromise the overall landscape character. In addition, the Proposed Development site, as well as much of the study area, are contained within the 'Enterprise and Employment (EE)' land use zone, further reinforcing the functional nature of the site and its surrounding landscape context. Overall, it is considered that this is a highly anthropogenic landscape context that is influenced by numerous utilitarian land uses and built features. On balance the landscape sensitivity to this form of development is deemed to be **Low**.

#### 11.3.4.2 Visual

The most notable visual receptors within the study area include Local Community Receptors, Amenity Receptors (Local Golf Courses), and Major Route receptors. Both local community receptors and recreational receptors were classified with a **Medium-low** receptor sensitivity, whilst major route receptors are less susceptible to change and were classified with a **Low** sensitivity.

### 11.3.5 Construction Phase

Construction phase impacts on the landscape and visual receptors are considered to be 'short term' in duration. A summary of construction activities within the site are included below:

- ▶ HGVs transporting materials to and from the site;
- ▶ Movement of heavy earth-moving machinery on-site;
- ▶ Temporary storage of excavated materials and construction materials on-site;
- ▶ Security fencing and site lighting.
- ▶ Trees and hedgerows to be retained will be protected in accordance with British Standard BS5837: 2012 'Trees in Relation to Design, Demolition and Construction'

Whilst there will be some physical construction stage works, these are considered to be relatively modest, much of which relates to soil stripping and excavation of a relatively narrow trench within the road and along the roadside verge.

During construction, the main visual impacts will arise from frequent heavy vehicle movements and worker vehicles travelling to and from the site, whilst the proposed works also have the potential to generate higher volumes of traffic on the surrounding road network. Stockpiles of material and construction related machinery also have the potential to generate some low level localised visual impacts.

Overall, the residual construction stage significance of landscape impacts is deemed to be no greater than **Slight, Negative** and **Short term**. The residual construction stage significance of visual impact is considered to be **Moderate-slight, Negative** and **Short term**, which will be principally generated by views of temporary stockpiled materials and construction related machinery.

### 11.3.6 Operational Phase

Once the construction phase is complete, any disturbed road surface / grassland will be reinstated along the pipeline corridor. Thus, there will be little evidence of the proposed pipeline. Operational stage impacts mainly relate to the maintenance works for the pipeline corridor, which will be infrequent and will be brief in nature. Maintenance operations will be much less intensive than the activity at the construction stage.

Thus, the residual significance of operational stage landscape impact is deemed **Imperceptible, Neutral** and **Permanent**, whilst the residual significance of operational stage visual impact is also deemed **Imperceptible, Neutral** and **Permanent**

## 11.4 Mitigation and Residual Effects (Post-Mitigation)

### 11.4.4 Construction Phase

Whilst several mitigation measures will be implemented during the construction stage including the implementation of site management procedures, erection of site hoarding and fencing, and protection of existing trees and areas of vegetation, it is not considered that the residual construction stage effects will notably differ from the aforementioned construction stage impacts in Section 11.3.5 above. Overall, the residual construction stage significance of landscape impact is deemed to be no greater than **Slight, Negative** and **Short term**. The residual construction stage significance of visual impact is considered to be **Moderate-slight, Negative** and **Short term**.

### 11.4.5 Operational Phase

Whilst the residual operational stage impacts will be much the same the impacts stated in Section 11.3.6 above, it is important to note that all areas of disturbed ground and vegetation will be reinstated post construction completion with native species of local provenance. Thus, the residual significance of operational stage landscape impact is deemed **Imperceptible, Neutral** and **Permanent**, whilst the residual significance of operational stage visual impact will reduce to **Imperceptible, Neutral** and **Permanent**.

## 12. ARCHAEOLOGICAL, ARCHITECTURAL AND CULTURAL HERITAGE

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### 12.1 Introduction

This section assesses the predicted impacts of the Proposed Development on archaeological, architectural and cultural heritage.

### 12.2 Baseline Environment

The baseline survey indicates that whilst the Proposed Development will not impact on any recorded archaeological or architectural heritage sites, it traverses a rich landscape which has substantial evidence in the form of archaeological sites, findings from excavations, and discovered artefacts of continuous human habitation from at least the Bronze Age to the present day.

### 12.3 Potential Impacts of the Proposed Development

#### 12.3.4 Construction Phase

- ▶ There is one recorded archaeological sites within the redline boundary for the Proposed Development. However, this site, Nangor Castle (SMR no. DU017-037----) has been subjected to substantial development in recent times.
- ▶ There are a further ten recorded archaeological sites within the study area, none of which will be impacted directly or indirectly by the construction phase.
- ▶ There have been a large number of archaeological excavations undertaken within the study area (including at Nangor Castle), many of which recorded archaeological remains from prehistoric to medieval and post-medieval in date.
- ▶ Significant portions of the Proposed Development will traverse previously developed ground, most notably the Construction Compound, located on the site of a recorded monument, the above mentioned Nangor Castle (SMR no. DU017-037----). Previous development works relating to road building and other commercial development, means the likelihood of archaeological remains surviving is very low.
- ▶ There is the potential to impact on previously unrecorded archaeological features during the construction phase where the Proposed Development traverses green field spaces, in particular in the townlands of Clutterland and Part of Milltown. There is also the potential for features relating to townland boundaries to survive sub-surface, even in previously disturbed areas.
- ▶ The Proposed Development traverses three townland boundaries. These are considered to be of high archaeological potential.
- ▶ The Proposed Route traverses one watercourse, which forms one of the above townland boundaries. Rivers, particularly those at boundaries, are considered to be of high archaeological potential.
- ▶ Potential impacts on archaeological and cultural heritage associated with the Proposed Development involves ground disturbance associated with the construction phase. Should archaeological remains survive below surface, then ground disturbance in these areas would remove sub-surface features.
- ▶ There are nine architectural heritage sites recorded within the study area, none of which will be impacted, directly or indirectly, by the proposed development.

In the absence of mitigation measures the potential impact of the construction phase of the Proposed Development on archaeological, cultural or architectural heritage during the construction phase is ***permanent, negative and not significant***.

### 12.3.5 Operational Phase

There will be no ground disturbance during the operational phase of the Proposed Development.

## 12.4 Mitigation and Residual Effects (Post-Mitigation)

### 12.4.4 Construction Phase

A suitably qualified archaeological consultant should be appointed to oversee the project from design through to planning and construction phase.

A geophysical survey of the green-/brown-field areas of the Proposed Development in Clutterland and Part of Milltown, under license to the National Monuments Service of the Department of Culture, Heritage and the Gaeltacht, should be undertaken across the entire route planning corridor.

Pre-development archaeological testing, under license to the National Monuments Service of the Department of Housing, Local Government and Heritage, should be undertaken in advance of construction, as follows:

- ▶ Trenches should largely target anomalies identified by the geophysical survey, as well as townland boundaries. A number of trenches should also be excavated in areas where no features were highlighted.
- ▶ A suitably qualified underwater archaeology specialist should assess the watercourses along the Proposed Route and undertake a wade or dive survey as appropriate under license to the National Monuments Service of the Department of Housing, Local Government and Heritage.
- ▶ Should archaeological or architectural heritage features, deposits or structures be uncovered during survey should be cleaned by hand, investigated and recorded.
- ▶ Archaeological excavation of features, deposits or structured identified, should be undertaken in advance of construction, in consultation with and under license to the National Monuments Service of the Department of Housing, Local Government and Heritage.

Applying these mitigation measures will ensure that the effect on the archaeology and architectural heritage will be *permanent, neutral* and *imperceptible*.

***Please note that the recommendations given here are subject to the approval of the National Monuments Service, Department of Housing, Local Government and Heritage.***

### 12.4.5 Operational Phase

As there are no potential impacts on archaeological, architectural and cultural heritage expected as a result of the operational phase of the Proposed Development, no mitigation is required.

## 13. MATERIAL ASSETS – TRAFFIC AND TRANSPORTATION

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### 13.1 Introduction

The proposed development comprises a laying approximately 1.2km of gas pipeline and associated work located predominantly within public roadway and open green space. The evaluation undertakes a Traffic and Transportation assessment of any likely or significant impact arising from the development.

### 13.2 Baseline Environment

The proposed development site is located in public roadway reserve along the R134 New Nangor Road west of the Profile Park entrance and through open green space in the Grange Castle area of South County Dublin. The proposed gas pipeline will traverse Baldonnell Road and R120 Peamount Road along its route.

### 13.3 Potential Impacts of the Proposed Development

#### 13.3.4 Construction Phase

At the construction stage the site will generate a maximum of 40 operatives' light vehicles (LV) per day together with up to seven Heavy Vehicle (HV) movements daily during the six-month construction period.

All traffic will access the gas pipeline laying site via the roads through which the pipeline will be routed and through accesses into the green open space sections. The works will result in an increase of vehicular trips on the local road network, but these will not have a significant impact on the road capacities.

The increase in traffic during the construction phase of the Gas to Milltown Pipeline on the existing roads has the potential for *negative, negligible and temporary effects* on the existing road network.

The works associated with the pipeline will require trenching and reinstatement at the sections of public roads. The route will be within adjacent footpath where feasible. There will be a need to carry out the works under traffic management via lane closure, shuttle working or by road closure with associated diversion, however these will be applicable for only a short amount of the overall construction duration. Works will be carried out during interpeak times (10.00 to 16.00 hours) during weekdays or weekends (08.00 to 18.00 hours) to minimise the impacts on the local traffic environment. Working hours will be agreed with the local authority in the case of public roads and with affected landowners where carried out within private lands/estates prior to commencement of works.

The various works within the main traffic lanes of public roads during the construction phase of the Gas to Milltown Pipeline has the potential for a *negative, moderate and temporary effects* (Effects lasting less than a year) on the existing road network.

#### 13.3.5 Operational Phase

Once operational, proposed development will not require on-site staff. Routine checks are limited to one GNI maintenance van visiting the route approximately every two weeks to a month, with more extensive inspection works occurring only every 7–10 years.

Given this very low level of activity, the operational phase will result in negligible additional traffic, and no measurable impact on the surrounding road network is anticipated.

The potential traffic impact is *neutral, imperceptible* and *long-term*.

## 13.4 Mitigation and Residual Effects (Post-Mitigation)

### 13.4.4 Construction Phase

The measures incorporated will include:

- ▶ Works will be carried out during interpeak times (10.00 to 16.00 hours) during weekdays or at weekends (08.00 to 18.00 hours), subject to agreement with the local authority and private estate owners.
- ▶ Road Crossings will be carried out over night or at weekends during periods of lower traffic flow subject to agreement with the local authority.
- ▶ Carrying out road crossing works under traffic management/road closures and diversions.
- ▶ Monitoring of traffic management impacts on local congestion and adapting work times in response.
- ▶ Regular cleaning of the road.
- ▶ Surface of the car park will be prepared and finished to a standard sufficient to avoid mud spillage onto adjoining roads.
- ▶ Monitoring and control of construction traffic during construction works.
- ▶ Temporary reinstatement of roadways and paths on a daily basis.
- ▶ Provision of multiple temporary working compounds to reduce travel distances to local work sites and to spread construction traffic volumes on the road network.
- ▶ Material deliveries and collections from site will be planned, scheduled and staggered to avoid unnecessary build-up of construction work related traffic.
- ▶ All works carried out within public roadways will be carried out under Traffic Signs Manual Chapter 8 requirements.

The residual effect, taking into account all the mitigation and monitoring measures for the construction works of the pipeline will be *temporary, moderate and negative*.

### 13.4.5 Operational Phase

Due to there being no significant traffic associated with the operational phase of the development there are no further measures required.

The proposed development will have *an imperceptible, neutral, and long term* on the traffic and transportation environment.

## 14. MATERIAL ASSETS – UTILITIES

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### 14.1 Introduction

This chapter assesses ownership and access, built services and infrastructure, which have not already been addressed elsewhere in this EIA Report. The associated built services and infrastructure in the vicinity of the site are summarised in the following sections; further detail is provided within the planning application documentation.

### 14.2 Baseline Environment

The vast majority of the site consists of public roads and grassy verges where the hot tap connections to BGE/72 and NEP 1, the trenchless crossing of the Griffeen River and the 2 no. open cut crossings of the Baldonnell Stream will take place. Connection to the permitted AGIs will take place within the respective Customer Project Facility boundaries. The route is surrounded by residential estates and recreational open spaces, Grange Castle Business Park, Profile Park and Grange Castle Golf Club.

During construction, access to the construction working area for the transmission gas pipeline routes will be via the public and private roads that the routes follow, including the Nangor Road, Peamount Road, Fonthill Road South, Grange Castle Road and Profile Park internal road network. Due to the urban nature and residential and industrial use of the Site and its environs, numerous overhead and underground services are present. These services include potable water mains, foul water sewers, existing gas distribution mains, high voltage electrical cables, and telephone and fibre-optic cables.

### 14.3 Potential Impacts of the Proposed Development

#### 14.3.4 Construction Phase

- ▶ During the construction phase there are potential temporary nuisances such as dust, noise, as well as the potential for pollution of groundwater or surface water when crossing the Griffeen River and Baldonnell Stream.
- ▶ The potential impact associated with land use and property for the construction phase will be **negative, imperceptible**, and **short term**, with a localised extent.
- ▶ The power requirements for the construction phase will be relatively minor, no connection to the public network will be made. The potential impact associated with power and electrical supply for the construction phase will be a **neutral, imperceptible** and **short term**.
- ▶ During the construction phase, there is potential for an increase in run-off due to the introduction of impermeable surfaces and the compaction of soils. This will reduce the infiltration capacity and increase the rate and volume of direct surface run-off. The potential impact of this is a possible increase in surface water run-off and sediment loading which could potentially impact the Nangor Road, Grange Castle Road, Peamount Road, Fonthill Road South or Profile Park internal road network stormwater systems. Run-off containing large amounts of silt can cause damage to surface water systems and receiving watercourses. The potential impact on surface water and foul drainage for the construction phase is **negative, not significant**, and **short term**.
- ▶ During the construction phase the water requirements for the site will be minimal and facilitated through road tanker delivery. This will serve the construction compound, welfare facilities and any other construction activities for the duration of construction works on the Proposed Development.

The demand during the construction phase is not expected to be significant enough to have any potential impact on the existing water supply network. The potential impact on potable water infrastructure for the construction phase is *neutral, imperceptible, and short term*.

There are no potential impacts associated with the natural gas network or telecommunications for the Proposed Development during the construction phase.

### 14.3.5 Operational Phase

When operational the Proposed Development will not require connections to any utilities infrastructure. There will be no consumption of power or potable water. There will be no generation of surface water or foul wastewater.

In this instance the nature of the Proposed Development ensures that rather than utilising gas, the Proposed Development will connect existing infrastructure to the permitted Microsoft Facility, Data & Power Hub Services Facility, Vantage Facility and Greener Ideas Facility. The underground transmission gas pipeline in itself does not have any operational gas requirements.

## 14.4 Mitigation and Residual Effects (Post-Mitigation)

### 14.4.4 Construction Phase

- ▶ Ongoing consultation with Irish Water, EirGrid, ESB Networks, and other relevant service providers within the locality and compliance with any requirements or guidelines they may have will ensure a smooth construction schedule without disruption to local and business community. The works contractor will be obliged to put best practice measures in place to ensure that there are no interruptions to these utilities, unless this has been agreed in advance.
- ▶ All applicable standards, guidelines and codes of practice will be adhered to regarding both installation of the gas transmission pipeline and working in the vicinity of existing services, in particular the Gas Networks Ireland (GNI) Guidelines for Designers and Builders – Industrial and Commercial (Non-Domestic) Sites (2018) and the Health & Safety Authority (HSA) Code of Practice for Avoiding Danger from Underground Services (2016).
- ▶ All plant, machinery and equipment will be stored within the temporary construction compound or within the Works Area. Oils and fuels will not be stored on site and will be stored in an appropriate bunded area within the temporary storage compound.
- ▶ Mitigation via avoiding interactions with services where possible has been incorporated into the routing of the pipelines, which make use of surrounding verges and grassy areas to avoid existing services when necessary. The GNI134 pipeline will be routed through a SDCC owned field to the west of Old Nangor Road for a length of 180m to avoid a high-density area of third party services along the R120. Several sections of the GNI136 pipeline will be routed through the verge and cycling paths to ensure a sufficient separation distance between both third-party services and the proposed GNI134 pipeline. The GNI137 pipeline will initially be routed through the western lane of the Profile Park internal road network to avoid existing services in the road.

The works contractor will be obliged to put best practice measures to ensure that there are no interruptions to services from the existing telecommunications network, watermain, sewer and electrical grid. Any planned interruptions will be agreed in advance with the utilities suppliers. Strict quality control measures will be undertaken while laying pipes to minimise or eradicate infiltration and ex-filtration. The predicted impact will be *neutral, imperceptible, and short term* for the construction phase.

### 14.4.5 Operational Phase

There are no potential impacts during the operational phase in respect of material assets utilities and therefore no mitigation measures are proposed.

There are no potential impacts during the operational phase in respect of material assets utilities and therefore residual effects the material assets during the operational phase will be *neutral, imperceptible* and *long-term*.

## 15. MATERIAL ASSETS - WASTE

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### 15.1 Introduction

The assessment of Material Assets – Waste is contained within Chapter 15. The waste management assessment has focussed on:

- ▶ Construction waste management
- ▶ Operational Waste Management

### 15.2 Baseline Environment

The receiving environment is largely defined by South Dublin County Council (SDCC) as the local authority responsible for setting and administering waste management activities in the area through regional and development zone specific policies and regulations.

There will be waste materials generated from site excavations, construction of the pipeline and associated services and small quantities from the operational phase of the development.

### 15.3 Potential Impacts of the Proposed Development

#### 15.3.4 Construction Phase

During the construction phase the mismanagement of waste, including the inadequate storage of waste, inadequate handling of hazardous waste, the use of inappropriate or insufficient segregation techniques, and the use of non-permitted waste contractors, would likely lead to negative impacts such as waste unnecessarily being diverted to landfill, litter pollution which may lead to vermin, runoff pollution from waste, fly tipping and illegal dumping of waste. In the absence of mitigation, the effect on the local and regional environment is likely to be *indirect, long-term, significant* and *negative*.

#### 15.3.5 Operational Phase

The potential impacts on the environment during the operational phase of the proposed development would be caused by improper, or lack of waste management. In the absence of mitigation, the effect on the local and regional environment is likely to be *indirect, long-term, significant* and *negative*.

### 15.4 Mitigation and Residual Effects (Post-Mitigation)

#### 15.4.4 Construction Phase

During the construction phase, typical construction waste materials will be generated which will be source segregated on-site into appropriate skips/containers, within designated waste storage areas and removed from site by suitably permitted waste contractors as required, to authorised waste facilities, by appropriately licensed waste contractors. While the accurate keeping of waste records will be undertaken.

All waste leaving the site will be recorded and copies of relevant documentation maintained.

This will all be overseen by the main contractor, who will appoint a construction phase Resource Manager to ensure effective management of waste during the excavation and construction works. All construction staff will be provided with training regarding the waste management procedures on site.

A carefully planned approach to waste management and adherence to the site-specific Resource and Waste Management Plan (Appendix 15.1) and Chapter 15 during the construction phase, this will ensure that the effect on the environment will be *temporary, neutral* and *imperceptible*.

#### **15.4.5 Operational Phase**

During the operational phase, it is anticipated that small amounts of waste will be generated at the proposed development by staff or subcontractors during their inspections and maintenance works. The waste materials will be removed by the staff or subcontractors. The staff or subcontractors removing waste from the site will ensure source segregation is a priority. Waste will be removed off-site by the staff or subcontractors for re-use, recycling, recovery and/or disposal.

Operational waste that may be generated includes cardboard, plastic, paper, glass, dry mixed recyclables, mixed non-recyclables, batteries, WEEE waste, organic waste, metals/wiring, timber, operational oils and paints.

All recyclable materials will be segregated at source where possible to ensure maximum diversion of materials from landfill. This strategy will be supplemented, as required, by the operator as required with any new information on waste segregation, storage, reuse and recycling initiatives that are subsequently introduced.

Provided the mitigation measures in Chapter 15 are implemented, and a high rate of reuse, recycling and recovery is achieved, the predicted effect of the operational phase on the environment will be *long-term, neutral* and *imperceptible*.

## 16. INTERACTIONS

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The Environmental Impact Assessment Report not only looks at each environmental topic on its own, but also considers how different environmental effects might interact with one another. Chapter 16 brings those environmental factors together and describes whether impacts in one area—such as noise, air quality, soils, biodiversity, or traffic—could combine to create additional or more significant effects. The assessment covers both the construction and operational phases, although in practice almost all potential interactions relate only to construction, because once the pipeline is installed underground it produces no emissions, noise, traffic, or visible change at the surface.

During construction, many of the typical activities—excavation, movement of machinery, temporary roadworks, and soil handling—have the potential to give rise to temporary impacts. These may include dust generation, noise, vibration, minor landscape disturbance, temporary traffic disruption, and localised impacts on soils and water if not properly controlled. The interactions assessment considers whether these effects might overlap in influence one another in a way that could make their combined impact more significant. For example, dust and noise may both affect human health and amenity, or soil excavation and rainfall could combine to increase sediment run-off. However, in all cases, with the standard construction controls and mitigation measures already included as part of the project design, these effects remain temporary, localised, and small in scale.

Because the pipeline is entirely buried during operation, with no above-ground activity or emissions, the operational phase does not produce any meaningful environmental interactions. It does not generate noise, vibration, air emissions, traffic, light, or visual impacts, and it does not alter land use once reinstatement is complete. As a result, no interactive or combined effects occur once the pipeline is in service.

Overall, the chapter concludes that the project will not give rise to any significant interacting or cumulative effects between environmental topics. Any interactions that do occur during construction are well understood, short-lived, and effectively managed through the mitigation measures set out in the EIAR. When the pipeline becomes operational, it remains passive and unobtrusive, and therefore does not contribute to any further environmental interactions.

## 17. CUMULATIVE IMPACTS

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The cumulative impacts chapter (Chapter 17) considers whether the proposed Gas to Milltown Pipeline, when combined with other existing, permitted, or planned developments in the surrounding area, could give rise to environmental effects greater than those caused by the project on its own. This includes looking at other development within Grange Castle Business Park and nearby lands, as well as related development such as the Data and Power Hub Services Facility, the Milltown AGI, and the Gas to Microsoft Pipeline to understand whether their construction or operation could overlap with, or add to, the effects associated with this project.

The assessment shows that most cumulative impacts, where they occur, arise only during the construction phase. Construction of the pipeline involves typical activities such as excavation, traffic movements, temporary stockpiling of materials, and the use of construction compounds. These activities have the potential to overlap with works for other permitted developments in the area, especially those associated with the wider infrastructure of Grange Castle. Where construction periods do coincide, the combined effects on issues such as noise, dust, traffic, soil disturbance, water quality, or general construction disturbance remain temporary, localised, and controlled through the mitigation measures already embedded in the project's Environmental Management Plans. In cases where other projects, such as the Gas to Microsoft Pipeline, will already be completed before this project begins, there is no potential for cumulative construction effects at all.

For biodiversity, water, land and soils, and human health, the assessment concludes that the project's impacts are small in scale and short-term and do not combine with other developments to create any significant additional effects. The design approach and the use of trenchless technology at the Griffeen River and adherence to the CEMP mitigation ensures that sensitive receptors such as watercourses, habitats and nearby residents are protected even when other activity is ongoing in the vicinity.

During operation, the pipeline does not generate noise, emissions, traffic, or visual impacts, and it remains entirely underground. For this reason, the operational phase does not contribute to cumulative effects for any environmental topic. The only cumulative consideration of note relates to indirect greenhouse gas emissions, which are tied to the operation of the separate, permitted energy facility that will use the gas supplied by the pipeline. These emissions are assessed under their own licensing and regulatory frameworks and are controlled through the EU Emissions Trading System. The Gas to Milltown Pipeline itself has a negligible operational carbon footprint.

Across all environmental topics, the assessment concludes that the proposed development will not cause any significant cumulative negative effects when considered alongside other developments in the area. Where cumulative impacts do arise, they are temporary and minor, and are effectively reduced through established mitigation measures. Once operational, the buried pipeline does not interact with any other development and does not contribute to cumulative impacts in any meaningful way.