

12.0 MATERIAL ASSETS

12.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) has been prepared by Golder Associates Ireland Ltd (Golder) for the L Behan Aggregates and Recycling Ltd Section 37L Application (of the Planning and Development (Amendment) (No. 2) Regulations 2015) to An Bord Pleanála (ABP). The Application has been made for the proposed quarrying activities (the Proposed Development) located at the lands at Windmillhill, south of Rathcoole in South Dublin (the Site).

Material assets comprise the physical resources in the environment, which may be of human or natural origin. The objective of the assessment contained in the following sections is to ensure that these assets have been used in a sustainable manner with respect to operations at the Proposed Development.

Material Assets in the vicinity of the Site comprise of built services and infrastructure, such as surface water drainage, telecommunications, electricity, gas and water supply infrastructure and geological resources.

Other material assets include roads and traffic, which have been assessed in Chapter 11 of this EIAR. Please refer to Chapter 8 (Noise and Vibration) for the assessment of potential effects of blasting and vibration on neighbouring dwellings.

The following assessment was prepared by Kevin McGillicuddy (BA (Mod), MSc). Kevin is a Practitioner Member of the Institute of Environmental Management and Assessment and has more than 8 years' experience in environmental consultancy.

12.2 Legislative Requirements

Annex IV of the amended EIA Directive (2014/52/EU) requires that the developer provides a description of the factors (specified in Article 3(1)) which are likely to be significantly affected by the project, including a study of the potential impacts to material assets.

The 2014/52/EU Directive was transposed into Irish law through European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (SI No. 296 of 2018) which amended the Planning and Development Act, 2000, and the Planning and Development Regulations, 2001. This EIAR has been produced in accordance with these relevant legislative requirements and Statutory Instruments.

12.3 Assessment Methodology and Significance Criteria

12.3.1 Technical Scope

This assessment has been made with guidance from the 'Guidelines on the information to be contained in environmental impact assessment reports', published in 'draft' by the EPA in August 2017 (the 2017 EPA draft guidelines¹). The guidelines were drafted by the EPA with a view to facilitating compliance with EIA Directive (2014/52/EU).

The 2017 EPA draft guidelines suggest the following subheadings under which to arrange issues concerning 'Built Services': *"Electricity, Telecommunications, Gas, Water Supply Infrastructure, Sewerage"*.

The assessment also considered 'Advice Notes for Preparing Environmental Impact Statements', also published in 'draft' by the EPA in September 2015.

Having regard to the above guidance, particularly the 2017 EPA draft guidelines, and the characteristics and context of the lands that are the subject of this application, this EIAR chapter aims to identify the likely significant

¹ Environmental Protection Agency (2017) Guidelines on the information to be contained in Environmental Impact Assessment Reports, Draft, August 2017

effects that the Proposed Development may have on 'built services' and other relevant material assets which are discussed under the following headings:

- Electricity network utilities;
- Gas infrastructure;
- Telecommunications;
- Local water supplies and foul water network;
- Surface water network;
- Waste management infrastructure; and
- Geological resource.

12.3.2 Prediction of Impacts and Effects Prior to Mitigation

This chapter of the EIAR describes the likely significant direct effects of the Proposed Development on the material assets in the surrounding environment. The potential indirect/secondary, cumulative, do-nothing, worst case, indeterminable, irreversible, residual, and synergistic effects of the Proposed Development are also described, where appropriate. The extent, context and frequency of effects has also been considered in the assessment process.

Prediction methods are required to identify and assess the significant effects of the Proposed Development on the environment. The predictive method used for this assessment is a common framework of assessment criteria and terminology based on the EPA's 2017 draft guidelines, with some adjustments to improve clarity.

This common framework follows a 'matrix approach' to environmental assessment which has been presented in Chapter 1 (Introduction) of this EIAR.

12.3.3 EIA Significance Terminology

As identified in Chapter 1 (Introduction) of this EIAR, a common framework of assessment criteria and terminology has been used based on the EPA's 2017 draft guidelines. This common framework follows a 'matrix approach' to environmental assessment which is based on the characteristics of the impact (magnitude and nature) and the value (sensitivity) of the receptor.

The assessment reported below is based on the common framework described in Chapter 1 of this EIAR. It has been assumed that the value (sensitivity) of the material assets is no greater than **Medium**, which equates to 'Medium or high importance and rarity, regional scale, limited potential for substitution' (see Table 1.4 of Chapter 1). This sensitivity has been assumed given the importance of the assets to users surrounding the Proposed Development, and the sensitivity of the users to potential disruption.

A description of the significance categories used is provided in Table 12.1. Effects that are either **Large or Profound** are considered to be **Significant**, and effects that are **Moderate, Slight or Imperceptible** are considered to be **Not Significant**. How the level of effect is determined, based on the environmental value and magnitude of impact, is explained in Table 1.6 of Chapter 1.

Table 12.1: Significance categories and typical descriptions.

| Significance Category | Typical Description |
|-----------------------|--|
| Profound | An effect which obliterates sensitive characteristics. |

| Significance Category | Typical Description |
|-----------------------|---|
| | Only adverse effects are usually assigned this level of significance. These factors are key issues in the decision-making and consent process. These effects are generally, but not exclusively, associated with sites or features of international, national or regional importance which are likely to suffer a most damaging impact and loss of resource integrity. However, a major change in a site or feature of local importance may also be included in this significance category. |
| Large | An effect which, by its character, magnitude, duration or intensity alters a significant proportion of a sensitive aspect of the environment. These can be beneficial or adverse effects and are considered to be very important issues which are likely to be substantial in the decision-making process. |
| Moderate | An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends. These are beneficial or adverse effects which may be important but are not likely to be central to decision-making or consent. The cumulative effects of these factors may influence consent or decision-making if they should lead to an increase in the overall adverse effect on a particular resource or receptor. |
| Slight | An effect which causes noticeable changes in the character of the environment without affecting its sensitivities. These beneficial or adverse effects may be raised as local factors. They are unlikely to be critical in the decision-making process but are important in enhancing the subsequent design of the project. |
| Imperceptible | An effect capable of measurement but without significant consequences. No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error. |

12.3.4 Information Sources

Information for the assessment of potential impacts on the identified material assets was obtained by means of a desk-based review, and included the following sources:

- ESB network utility plans;
- Gas Networks Ireland utility plans;
- Eir CYBD mapping;
- Irish water utility mapping;
- Field surveys of the Application Site;
- Department of Communication, Climate Action and Environment (DCCA) Eircode maps; and
- Aerial and ordnance survey maps of the area.

12.3.5 Temporal Scope

Under the programme of the Proposed Development, the extraction phase will last for between 10 and 15 years which will provide for fluctuations in market demands for the aggregate extracted from the Site. The duration of

the extraction phase is therefore classified as ‘medium-term’ by the EPA’s 2017 draft guidelines (seven to fifteen years).

The restoration phase of the Proposed Development will follow the extraction phase and will be 2 to 5 years in duration, which is ‘short-term’ (those lasting from one to seven years).

12.3.6 Geographical Scope

The EIA directly covers the physical extent of the Site as shown in Figure 12.1 As predicted impacts on the human environment can extend beyond the immediate Site boundary, a wider ‘zone of influence’ has been considered.

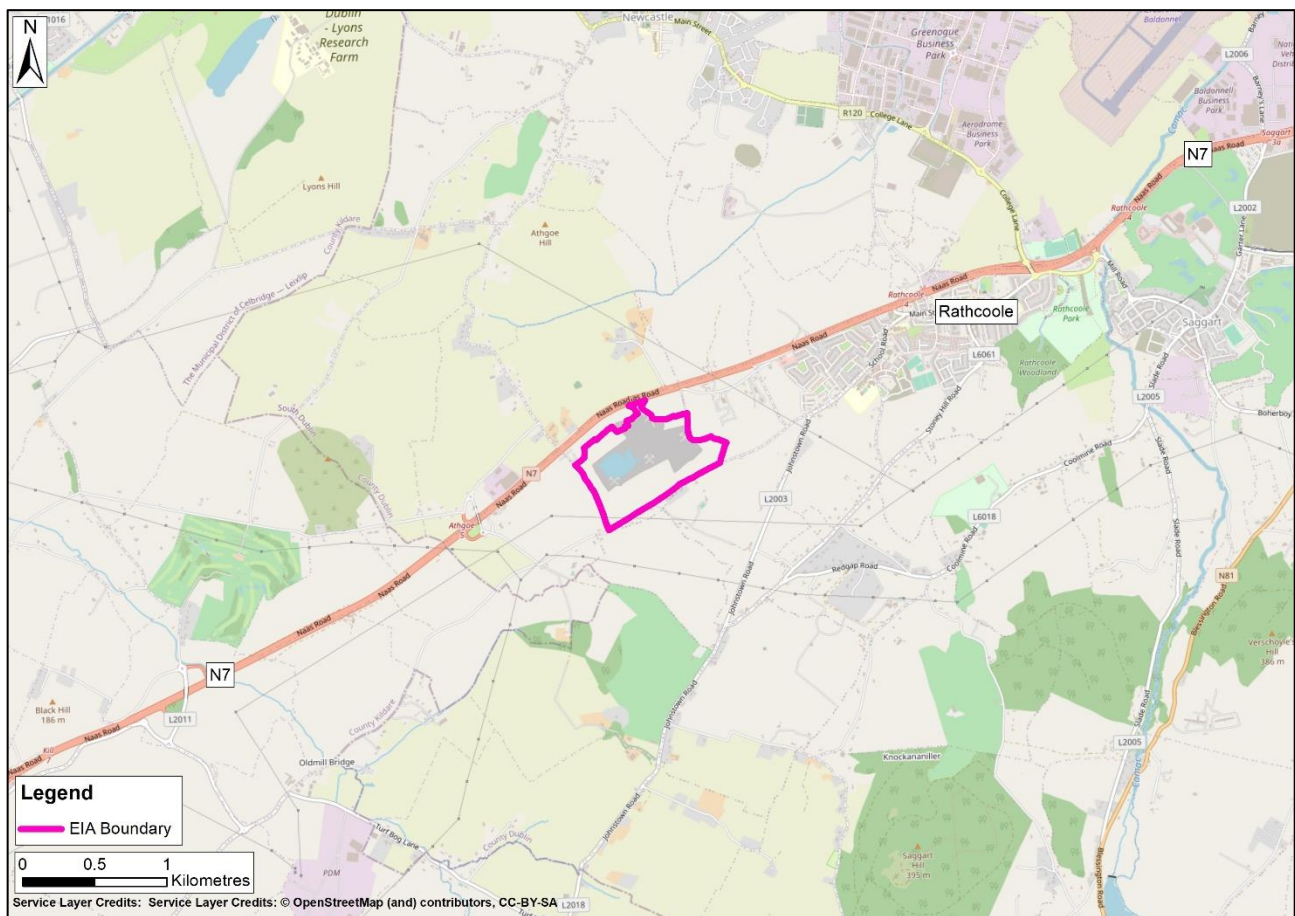


Figure 12.1: EIA Boundary of the Proposed Development.

The geographical study area for the assessment covers the development area and the assessment area has been extended as appropriate to identify the relevant material assets surrounding the Proposed Development.

In the assessment of cumulative impacts the geographical extent of the EIAR has been extended as appropriate to include the relevant related or unrelated development activities.

12.4 Baseline

12.4.1 Surrounding Environment

The Site is an active quarry located in south county Dublin, east of the border with Co. Kildare. The Site is located within the townland of Windmill Hill and located directly south of the N7 Dublin to Limerick road, ca. 2 km to the southwest of Rathcoole. The L6065 local road runs along the southern boundary of the Site.

The lands surrounding the Site to the north, west and south can be characterised as rural in nature, with land uses in the area being agricultural and single-house residential. Dry cattle, sheep rearing and grazing of horses are the main activities in the area, with further arable activities to the south-west. Suburban development has extended from more built-up areas of Rathcoole along the N7 towards the east of the Site.

12.4.2 ESB Network Utilities

A service map was received from ESB Networks on 04 February 2021 detailing both the layout of underground and overhead ESB lines on-site and in the locality. The received service map has been provided in Appendix 12.1 of this chapter.

The service maps provided by ESB indicate that the Site (office and plant area) is connected to the grid by an underground medium/low voltage cable (10KV/20KV/400V/230V) which is connected to a transformer linked to medium voltage overhead power lines (10KV/20KV) which enters the Site from the north.

Premises around the Site are serviced by medium and low voltage overhead lines which traverse the area to the west, east, south and north.

An overhead 110KV line traverses the south western corner of the quarry area of the landholding.

12.4.3 Gas Supply

A service map was received from Gas Networks Ireland (GNI) on 10 November 2020 detailing the gas network in the area. There is a medium-pressure distribution pipe (180 PE-80 4 bar) located just outside the northern section of the Site, between the boundary of the EIA study area and the N7 Dual Carriageway.

GNI were consulted regarding the application for the Proposed Development and identified the nearest extremity of the quarry is some 1,800 m away from a transmission pipeline.

The service map indicates that no other gas pipelines are found within the area and no premises in the surrounding area are serviced by GNI infrastructure.

These GNI service routes have been included in Appendix 12.2.

12.4.4 Telecommunications Network

Service maps have been sourced (10 November 2020) from the Eir online mapping request portal and have been redrawn to an appropriate scale for reporting purposes (Figure 12.2).

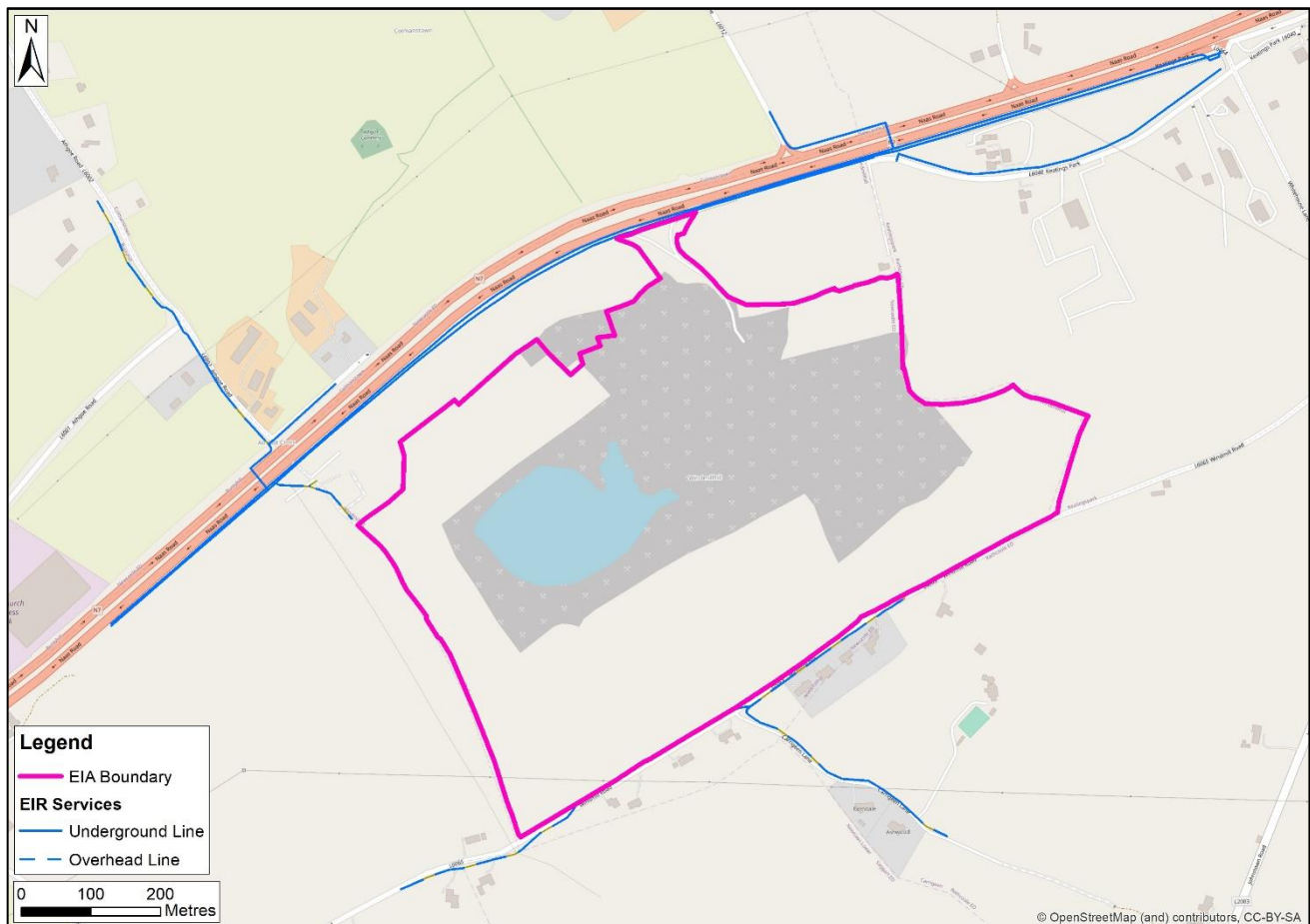


Figure 12.2: Under and Overground EIR services surrounding the Proposed Development.

Trenched underground services are routed along the N7 to the north, while underground and overground services run along the local road to the south of the Site (L6065). These lines service the ribbon residential developments situated adjacent to them.

A mast has been in place to the south of the Site along the southern boundary of the pit and was noted by the applicant to have been installed in ca. 1991. The Applicant notes that this mast serves internet to the Site and some users in the Rathcoole and Saggart area. The mast is serviced by Ripplecom and powered by electrical infrastructure along the L6065 local road.

12.4.5 Local Water Supplies and Sewerage Infrastructure

Public mains connection services are not connected to the office plant area onsite. Water is abstracted from groundwater wells on the Site. The use of groundwater at the Site has been in existence for decades. The wells services the welfare facilities at the Site office, and bottled water is used for drinking.

The Liffey aqueduct water main tracks along the northern section of the Site, the map in Appendix 12.3 displays this route. The Irish Water maps indicate this main has been in place since 1940.

Foul water from staff facilities does not discharge to the South Dublin County Council sewerage infrastructure services. It is instead collected onsite in a holding tank and in portable lavatories. These wastes are subsequently collected and removed from Site by contractors.

A potable water network, operated by Irish Water, serves the residential premises to the east of the Site in Rathcoole. A service layout has been provided in Appendix 12.3. The Irish Water service mapping indicates

that ribbon residential developments on the L6065 to the south of the Site are not connected to mains water services, instead abstracting potable water from wells.

Sewerage services at the same dwellings are covered by independent septic tank systems.

12.4.6 Surface Water Drainage Infrastructure

Lands within the Site are dominated by rock extraction areas, recolonising bare ground and improved grassland fields. Currently the surface water infiltrates through the underlying soils and sub-soils.

There are no existing public surface water drainage networks within the Site.

During periods of higher rainfall any pumped water that is not used as part of the washing plant activities, or temporarily stored in the water tank, is allowed to discharge to a culvert located adjacent to the Site entrance. Overflow from the water tank is returned to the flooded pit area if necessary. A drainage survey of the culvert used for discharge was carried out in 2021 and identified a piped flow path north towards the N/M7 dual carriageway, where it joins the motorway drainage system. The discharge culvert is not in connectivity with the Irish Water public supply mains which runs through the Site boundary near the entrance.

12.4.7 Waste Management and Local Waste Infrastructure

Small amounts of general refuse waste are generated by the site office and staff portacabin facilities. These are collected on Site and transported to local permitted and licenced waste facilities. These waste streams are recycled or disposed, as appropriate, by a licensed waste contractor.

Waste is also generated from the maintenance and servicing of equipment, these include waste oils and lubricants and tyres which are disposed by the service contractor through appropriate waste channels respective to the waste stream. The Site generates limited quantities of light bulbs, batteries and scrap metals. These are disposed of as required by appropriately licenced operators.

12.4.8 Geological Resource and Local Economy

The geology of the Site is described in detail in Chapter 6.0 (Land, Soils and Geology). As outlined previously, rock extraction has been an established activity in the area with the quarry dating back to before the 1960s. The extracted aggregate is used in the construction industry.

12.5 Characteristics of the Proposed Development

The application for further development of the quarry is to be made concurrent with an application for substitute consent for the quarry that is accompanied by an rEiAR.

The lands the subject of this EiAR extend to 46.14 ha. that reflect historic operational site information including the extractable area declared under S.261 quarry registration in 2005. The EIA project boundary is generally bounded by the N/M7 to the north and the local Windmillhill Road to the south. The eastern and western EIA project boundaries are demarcated by the Windmillhill townland boundary that consist of field boundaries and the entrance to a dwelling called 'Four Winds' that is within the ownership of the planning applicant to the east; and the former local Steelstown Road to the west.

At the center of the EiAR project boundary is an existing quarry that covers an area of approximately 28.8 ha. with an average working depth of 173 mAOD. The existing quarry is roughly rectangular in shape with an east-west axis parallel to the N/M7 and local Windmillhill Road. The existing quarry has a centrally located administration and processing plant area over approximately 5 ha.

The further quarrying development proposed involves a lateral northward extension of the current quarry void over approximately 4.1 ha (and 5.16 ha to accommodate screening berms) west and east of an existing dwelling also in the applicant's ownership and a deepening of the western and eastern side of the laterally extended void

to a final working depth of 150 mAOD. The further development proposed is for quarrying only and is over an area of approximately 29.98 ha. The material extracted will be processed at the existing central processing area and the existing quarry access will be utilised.

It is anticipated that extraction of the remaining reserve will occur over 10 to 15 years, depending on market conditions with a further 2 to 5 years for restoration that will remediate the quarry void to agricultural /amenity use and remove the quarry processing plant.

12.6 Potential Effects

The main potential impacts and associated effects that will be considered in the assessment relate to the following:

- Activities or events that might impact electrical services and utilities for surrounding users;
- Activities or events that might impact gas services and utilities for surrounding users; including the impacts of blasting on site on gas pipelines;
- Activities or events that might impact telecommunications networks for surrounding users;
- Activities or events that might impact surface water drainage networks surrounding the Site;
- Activities or events that might impact water supplies and services for surrounding users; including the impacts of blasting on site on water supply pipelines;
- Activities or events that might impact wastewater networks for surrounding users;
- Activities or events that might impact waste management infrastructure; and
- Activities that might impact geological resources surrounding the Site.

12.6.1 ESB Network Utilities

The Proposed Development will utilise electricity supplies to the Site via the existing onsite connection to the grid. The Proposed Development seeks to maintain existing connections and no new connections or demands on the electrical infrastructure are proposed.

Further expansion of the existing pit is not proposed to the south-west in the area where the overhead 110KV line traverses the Site.

Potential impacts from the Proposed Development's continuation of quarrying on the local electrical supply network are therefore considered to be **negligible** resulting in long term effects that are **imperceptible**.

12.6.2 Gas Supply

There are no requirements for a GNI connection to service the Proposed Development. Therefore, there will be no additional supply demands on the GNI network from the Site. Potential impacts from the Proposed Development on the local gas consumption in the network are considered to be **negligible** resulting in effects that are long term and **imperceptible**.

Part of the Proposed Development's layout includes extensions of the existing pit to the north of the Site in two separate areas. The winning of rock in these areas will be carried out using existing blasting methods employed at the Site. It is not proposed to conduct any of these works in the vicinity of the distribution line (adjacent to the N7). GNI were consulted regarding the Proposed Development design and noted their potential concerns if works were occurring in the vicinity of a GNI transmission line (as opposed to the distribution line along the N7). GNI advised that upon their review of the plans for the Proposed Development that the nearest extremity of the quarry to a GNI transmission pipeline is ca. 1,800 m away. GNI also identified that the Proposed

Development 'should not, without prejudice, have an undue impact on the GNI Gas Transmission Pipeline or Wayleave'. Should GNI have any concern at a later stage the Applicant will facilitate the monitoring of blasting at the transmission line and will undertake appropriate mitigation measures in line with GNI recommendations.

Blasting is carried out on Site by a suitably qualified contractor and the methods are strictly controlled. These measures have been discussed in Chapter 8 (Noise and Vibration) of this EIAR. Potential impacts from the Proposed Development on the gas supply network are considered to be **negligible** resulting in effects that are **imperceptible**.

12.6.3 Telecommunications Network

The Site's office currently utilises a privately owned mast located to the south of the pit for telecommunications.

The Proposed Development does not seek to access additional telecommunication infrastructure nor does it seek to carry out extraction activities which may result in telecommunication infrastructure being affected.

Potential impacts from the Proposed Development on the local telecommunication networks are therefore considered to be **negligible** resulting in effects that are **imperceptible**.

12.6.4 Local Water Supplies and Sewerage Infrastructure

Water used on Site is abstracted from groundwater wells, and bottled water is used for drinking water. Additional abstraction points or access to the public water supply network are not required as part of the Proposed Development. As it is not proposed to consume water from the local supply network then potential impacts from the Proposed Development on the water supply network are considered to be **negligible** resulting in effects that are **imperceptible**.

As noted, part of the Proposed Development's layout includes extensions of the existing pit to the north of the Site in two separate areas. During the latter stages of the Proposed Development the quarried faces are proposed to be within 40 m of the Liffey aqueduct water main.

Controlled blasting is conducted at the quarry as a method of rock extraction. The process of drilling and blasting involves drilling a number of holes into a specific rock face, which are then filled with explosives. The explosives are detonated in a controlled explosion causing the rock face to shatter and collapse. The resultant rock is then removed and crushed for transport from site.

If this process is not managed properly there is potential for accidents to occur. As well as impacting local residents and their properties an improperly managed blast could damage the IW pipeline located to the north of the quarry.

The previously blasted rock face of the quarry is ca. 160 m from the IW pipeline to the north of the quarry. As the proposed quarry extension progresses northwards the blasting activities will occur nearer to the pipeline, however the closest blasted face will be located ca. 40 m away from the line at its closest point. The IW 2020 'Code of Practice for Water Infrastructure' dictates that: *'detailed proposals, including work method statements, insurance confirmations and details of work completed of a similar nature must be submitted to IW for its consideration before approval will be issued prior to undertaking work in close proximity to IQ assets. All such works in the vicinity of Water Mains or sewers of 400mm diameter and greater shall be subject to written agreement with Irish Water before construction commences on site.'*

Extraction in this area of the pit is proposed to be carried out in a phased manner in a northerly direction. To reduce the potential for damage to the Irish Water pipeline numerous mitigation measures are currently employed during blasts and these have been described in detail in Chapter 8 Noise and Vibration. These measures include a number of operational controls and also the requirement for blasting contractors to be trained and competent. The blasting activity itself will be conducted using these existing blasting methods that

are currently employed on Site. Further extraction methods and mitigation measures will be agreed in consultation with Irish Water prior to the commencement of extraction activities in the northern sections of the Site. Should further surveys be required then these will also be commissioned in conjunction with the requirements of Irish Water.

The quarry will deploy a vibration monitor at the Irish Water pipeline during all blasting events on the northern face of the quarry. From these monitoring records the blasting contractor can determine the margin of compliance with the vibration limit and if blast parameters require refinement for future blasting events. The results of such events will be reported to Irish Water as appropriate. With these embedded design and management measures it is considered that impacts of Site activities on this Liffey aqueduct water main will be **negligible** resulting in effects that are **imperceptible**.

The Site utilises contained systems for collecting wastewater, and there are no additional toilets proposed as part of the Proposed Development. The current Site practices will be maintained and the wastewater will be collected and removed from the Site by contractors. Potential impacts from the Site's wastewater/sewage on the underlying groundwater and local environment are therefore considered to be **negligible** resulting in effects that are **imperceptible**.

12.6.5 Surface Water Drainage Infrastructure

As noted, surface water on the Site infiltrates through the underlying soils and sub-soils and percolates to the groundwater. In addition, as part of the water management system on the Site, water abstracted from the western quarry pit is periodically discharged during periods of prolonged rainfall to a culvert located on the northern portion of the Site adjacent to the N7 roadway. Water from this culvert is discharged into the roadway drainage system. It is unknown where the water in the motorway drainage system flows to from this point and it may discharge untreated to a tributary of the River Griffeen near Rathcoole. Pumped water is only discharged at the discharge culvert when not used by on-Site activities. Discharged water does not come into contact with 'dirty' water from the washing plant.

Assessments made in Chapter 6 (Water) have identified a **negligible** magnitude of impact from increased flooding risk due to off-Site discharge of pumped water via the Site discharge culvert, which has been determined to have **imperceptible** effects.

12.6.6 Waste Management and Local Waste Infrastructure

The proposed continuation in quarrying activities will not generate any new waste streams or additional quantities of wastes. Current waste management practices will be maintained and waste will be managed by suitable qualified, permitted and licenced operators. It is considered that the impact on the local waste infrastructure will be **negligible** during the assessment period resulting in effects that are **imperceptible**.

12.6.7 Geological Resource and Local Economy

The geology of the Site is described in detail in Chapter 6 (Land, Soils and Geology). The Proposed Development will result in a permanent loss of the geological resource within the confines of the Site. This extraction of aggregate is considered an acceptable use of the resources at the Site and material extracted from the Proposed Development will be used as raw material in the construction industry.

Therefore, potential impacts from the Proposed Development's extraction of the geological resources and economic use is considered to be **low** (beneficial) resulting in effects that are **slight**.

12.6.8 'Do-Nothing' Scenario

A 'do-nothing scenario' where the Proposed Development is not granted planning permission would not result in any significant adverse effects to the material assets surrounding the Site.

Table 6.2: Evaluation of Initial Impacts and their Effect Significance

| Receptor | Sensitivity | Source of Impact/Description of Change* | Impact Magnitude* | Level of Effect * |
|--|-------------|---|-----------------------------|-------------------------|
| Electrical Infrastructure / Utilities | Medium | Disruption to electrical supplies as a result of Site activities. | Negligible (adverse) | Imperceptible |
| Gas Infrastructure / Utilities | Medium | Impacts to gas supplies by consumption from Site activities. | Negligible (neutral) | Imperceptible |
| Gas Infrastructure / Utilities | Medium | Disruption to gas supplies and damage to the supply network as a result of Site activities, (e.g. excavation and blasting). | Negligible (adverse) | Imperceptible |
| Telecommunication Infrastructure / Utilities | Medium | Disruption to telecommunications networks as a result of Site activities. | Negligible (adverse) | Imperceptible |
| Water Supplies | Medium | Impacts to water supplies by consumption from Site activities. | Negligible (adverse) | Imperceptible |
| Water Supplies | Medium | Impacts to the Liffey Aqueduct to the north of the Site from Site activities (e.g. excavation and blasting). | Negligible (adverse) | Imperceptible |
| Water Supplies | Medium | Impacts to quality of surrounding water supplies (groundwater well users) from quarrying activities on Site. | Negligible to low (adverse) | Imperceptible to Slight |
| Water Supplies | Medium | Impacts to quantity of surrounding water supplies (groundwater well users) from quarrying activities on Site. | Negligible (adverse) | Imperceptible |
| Wastewater Networks | Medium | Impacts or impairment of local wastewater networks as a result of Site activities or contributions. | Negligible (adverse) | Imperceptible |
| Surface Water Infrastructure | Medium | Impacts or impairment of local surface water networks as a result of periodic discharge during higher rainfall events. | Negligible (adverse) | Imperceptible |

| Receptor | Sensitivity | Source of Impact/Description of Change* | Impact Magnitude* | Level of Effect * |
|---------------------------------|-------------|--|----------------------|-------------------|
| Waste Management Infrastructure | Medium | Impacts or impairment of local waste management infrastructure as a result of Site activities generating wastes. | Negligible (adverse) | Imperceptible |
| Geological Resource | Medium | Use of the underlying geological used as an economic resource for aggregate and supply to the construction industry. | Low (beneficial) | Slight |

* Taking account of embedded mitigation

12.7 Mitigation

No additional mitigation measures other than those detailed separately in the following chapters of this EIAR are required:

- Chapter 6 – Water;
- Chapter 7 – Air Quality and Climate;
- Chapter 8 – Noise and Vibration;
- Chapter 10 – Landscape and Visual Impact; and
- Chapter 11 – Traffic.

12.8 Monitoring

The chapters identified in the above Section 12.7 contain monitoring measures as appropriate for the protection of the surrounding environment (including water, air, noise, and vibration).

Chapter 8 Noise and Vibration identifies that the operations in the northern section of the Proposed Development will deploy a vibration monitor at the Irish Water pipeline during all blasting events on the northern face of the quarry. Vibration limits from blasting are recommended in Department of Environment Heritage and Local Government (now Department of Environment Climate and Communications), EPA and Irish Concrete Federation Environmental Guidelines. The vibration limit from blasting should not exceed a peak particle velocity of 12 mm/s when measured in any three mutually orthogonal planes at a receiver location when blasting occurs at a frequency of once per week or less. Any amendments in monitoring locations or thresholds will be agreed with Irish Water prior to excavations in these northern areas.

12.9 Residual Effects

The assessment concludes that the Proposed Development will not give rise to significant adverse effects on material assets surrounding the Site. In all cases the residual effect will be **Not Significant and not greater than Slight**.

12.10 Cumulative Impacts

There are no extractive industries, other developments or committed planned development within the vicinity of the Site which will have a significant cumulative effect with the Proposed Development on the Material Assets identified above.

12.11 Difficulties Encountered

No particular difficulties were encountered in the preparation of this chapter of the EIAR.

APPENDIX 12.1

ESB Utility Maps



ESB Networks

TITLE:

20210204-065_A0

COLOUR CODE:

- BLACK - 38KV & HIGHER VOLTAGE OVERHEAD LINES
- GREEN - MV(10KV/20KV) OVERHEAD LINES
- BLUE - LV (400V/230V) OVERHEAD LINES
- CYAN - 38KV & HIGHER VOLTAGE UNDERGROUND CABLE ROUTES
- RED - MV/LV (10KV/20KV/400V/230V) UNDERGROUND CABLE ROUTES

DATE: 04-Feb-2021

** SCALE: 1:2500

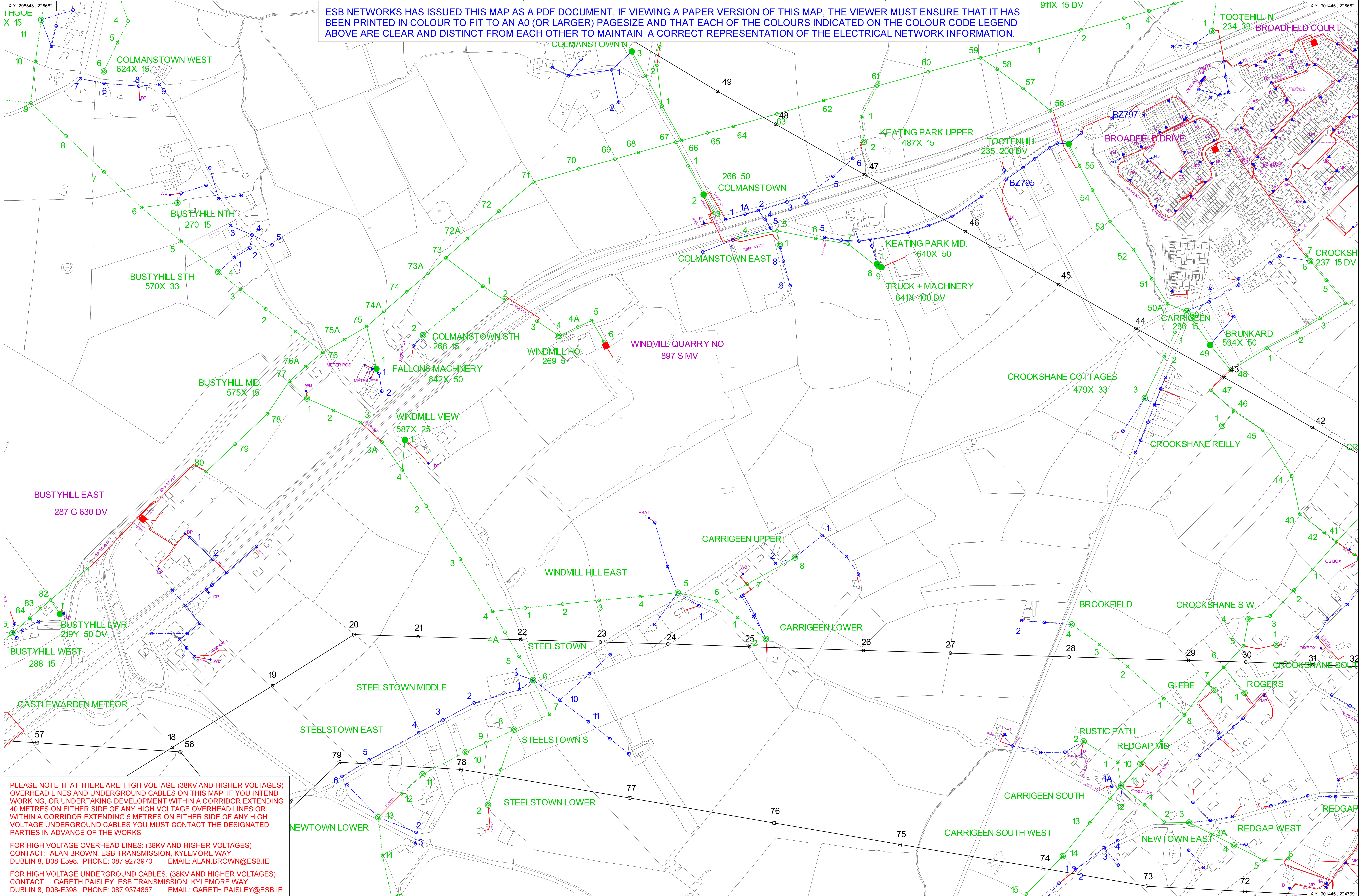
** SCALE WHEN PRINTED ON AN A0 PAGE
XY COORDINATES DISPLAYED IN IRISH GRID COORDINATE SYSTEM

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WARNING

THIS MAP INDICATES THE APPROXIMATE LOCATION OF ESB TRANSMISSION (400KV, 220KV, 110KV, 38KV) AND DISTRIBUTION (20KV, 10KV, 230V/400V) UNDERGROUND CABLES AND OVERHEAD LINES IN THE GENERAL AREA OF THE PROPOSED WORKS. ESB NETWORKS TAKES NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF THE MAP. IT IS THE USER'S RESPONSIBILITY TO INDEPENDENTLY VERIFY THE INFORMATION AND THE LOCATION OF UNDERGROUND CABLES AND OVERHEAD LINES. LOW VOLTAGE (230V/400V) SERVICE CABLES (E.G. HOUSE SERVICES, FACTORY/SHOP SERVICES, PUBLIC LIGHTING LAMP SERVICES, ETC) ARE NOT INCLUDED BUT THEIR PRESENCE SHOULD BE ANTICIPATED. THE DEPTHS OF UNDERGROUND CABLES MUST NEVER BE ASSUMED. ADDITIONAL MORE DETAILED INFORMATION IS AVAILABLE FOR HIGH VOLTAGE TRANSMISSION UNDERGROUND CABLES (38KV, 110KV, 220KV, 400KV) FROM THE LOCAL ESB NETWORKS TRANSMISSION REPRESENTATIVE. SEE ATTACHED LIST FOR CONTACT DETAILS OR CALL 1850 372 757. NO WORK SHOULD BE CARRIED OUT IN THE VICINITY OF 38KV OR HIGHER VOLTAGE UNDERGROUND CABLES WITHOUT PRIOR CONSULTATION WITH ESB NETWORKS. BEFORE ANY MECHANICAL EXCAVATION IS UNDERTAKEN, THE ACTUAL LOCATION OF ALL UNDERGROUND ELECTRICITY CABLES MUST BE ESTABLISHED AND VERIFIED ON THE SITE USING (A) UP-TO-DATE MAP RECORDS; (B) CABLE LOCATOR EQUIPMENT OPERATED IN BOTH POWER AND RADIO MODES; (C) CAREFUL HAND DIGGING OF TRIAL HOLES USING SAFE DIGGING PRACTICE. REFER ALSO TO HSA CODE OF PRACTICE FOR AVOIDING DANGER FROM UNDERGROUND SERVICES. ESB TAKES NO RESPONSIBILITY FOR AND SHALL BEAR NO LIABILITY, HOWSOEVER ARISING, IN RELATION TO ANY DAMAGE, INJURY/DEATH OR LOSS OF SUPPLY AS A RESULT OF DAMAGE OR INTERFERENCE WITH ITS NETWORKS.

ESB NETWORKS HAS ISSUED THIS MAP AS A PDF DOCUMENT. IF VIEWING A PAPER VERSION OF THIS MAP, THE VIEWER MUST ENSURE THAT IT HAS BEEN PRINTED IN COLOUR TO FIT TO AN A0 (OR LARGER) PAGESIZE AND THAT EACH OF THE COLOURS INDICATED ON THE COLOUR CODE LEGEND ABOVE ARE CLEAR AND DISTINCT FROM EACH OTHER TO MAINTAIN A CORRECT REPRESENTATION OF THE ELECTRICAL NETWORK INFORMATION.



PLEASE NOTE THAT THERE ARE: HIGH VOLTAGE (38KV AND HIGHER VOLTAGES) OVERHEAD LINES AND UNDERGROUND CABLES ON THIS MAP. IF YOU INTEND WORKING, OR UNDERTAKING DEVELOPMENT WITHIN A CORRIDOR EXTENDING 40 METRES ON EITHER SIDE OF ANY HIGH VOLTAGE OVERHEAD LINES OR WITHIN A CORRIDOR EXTENDING 5 METRES ON EITHER SIDE OF ANY HIGH VOLTAGE UNDERGROUND CABLES YOU MUST CONTACT THE DESIGNATED PARTIES IN ADVANCE OF THE WORKS:

FOR HIGH VOLTAGE OVERHEAD LINES: (38KV AND HIGHER VOLTAGES)
CONTACT: ALAN BROWN, ESB TRANSMISSION, KYLEMORE WAY,
DUBLIN 8, D08-E398. PHONE: 087 9273970 EMAIL: ALAN.BROWN@ESB.IE

FOR HIGH VOLTAGE UNDERGROUND CABLES: (38KV AND HIGHER VOLTAGES)
CONTACT: GARETH PAISLEY, ESB TRANSMISSION, KYLEMORE WAY,
DUBLIN 8, D08-E398. PHONE: 087 9374867 EMAIL: GARETH.PAISLEY@ESB.IE

X.Y: 301445, 224739

APPENDIX 12.2

GNI Utility Maps



Important Safety Notice: Damage to gas pipelines can result in serious injury or death. Gas network information is provided as a general guide. The exact location and depth of medium or low pressure distribution gas pipes must be verified on site by carrying out necessary investigations, including, for example, hand digging trial holes along the route of the pipe. Service pipes are not generally shown but their presence should always be anticipated.


High pressure transmission pipelines are shown in red. If a transmission pipeline is identified within 10m of any intended excavations then work must not proceed before GNI has been consulted. The true location and depth of a transmission pipeline must be verified on site by a representative of GNI. Contact can be made through 1850 427 747.

All work in the vicinity of the gas network must be completed in accordance with the current edition of the Health and Safety Authority publication, 'Code of Practice For Avoiding Danger From Underground Services' which is available from the Health and Safety Authority (1890 289 389) or can be downloaded at www.hsa.ie.

Legal Notice: Gas Networks Ireland (GNI) and its affiliates, accept no responsibility for the accuracy of any information contained in this document including data concerning location and technical designation of the gas distribution and transmission network (the "Information"). The Information should not be relied on for accurate distance or depth of cover measurements.

Any representations and warranties, express or implied, are excluded to the fullest extent permitted by law. No liability shall be accepted for any loss or damage including, without limitation, direct, indirect or consequential loss, arising out of or in connection with the use or re-use of the Information.

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 — Aurora Telecom Duct


 — Aurora Telecom Sub Duct


 — Aurora Telecom Inserted Gas Pipe


Aurora Telecom Queries - 01-8926166 (Office Hours)
 Aurora_Network_Queries@gasnetworks.ie
 Aurora Telecom Emergency Only 1850 427399 / 01 2030120


 Transmission Pipe (High Pressure)


 Transmission Pipe (Construction Issue)


 Distribution Pipe (Medium Pressure)


 Distribution Pipe (Low Pressure)

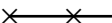
 Service Pipe (Medium Pressure)



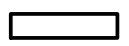

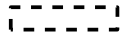








 Service Pipe (Low Pressure)

 Strategic Pipe (Medium Pressure)

 Strategic Pipe (Low Pressure)

 Inserted

 Abandoned Pipe

| | | | |
|---|-------------------------|---|-----------------------|
| C=? | Cover (depth in metres) |  | Pressure Monitor |
|  | CP Test Point |  | Protection (Slabbing) |
|  | End Cap |  | Protection (Sleeve) |
|  | Hot Tap |  | Reducer |
|  | Installation |  | Service Terminator |
|  | Valve |  | Tee |
|  | Mains Verification** |  | Transition |

** Please contact GNI on 1850-427747 for specific information



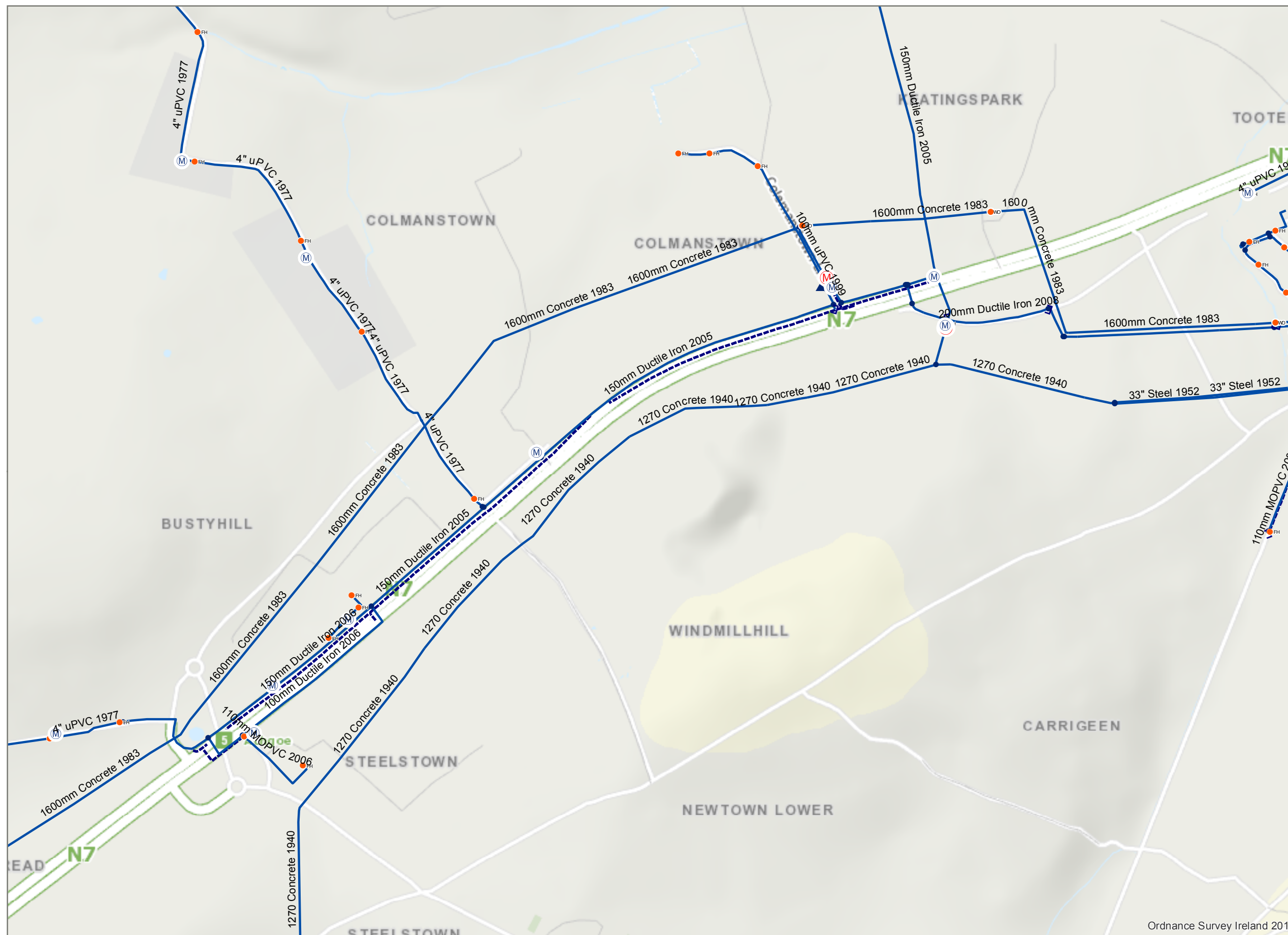

GAS NETWORK INFORMATION

| | |
|--------------|---------------------|
| Description: | |
| Location: | 699936,725753 |
| Plot Date: | 10/11/2020 13:31 |
| Scale: | 5000 @ A3 |
| Plotted By: | 1017 |
| Ref ID: | 1017_10112020133154 |



APPENDIX 12.3

Irish Water Utility Maps



Legend

Non Boundary Meter

(M) Meter

Boundary Meter

(M) District (Boundary Meter)

Water Hydrants

● FH Fire Hydrant

● WO Washout

Pump Stations

▲ Pump Stations

Water Fittings

□ Cap

● Other Fitting

Water Mains (Irish Water Owned)

— Potable Water

Water Abandoned Lines

- - - Water Abandoned Lines



Coordinate System: TM65 Irish Grid
Projection: Transverse Mercator

Scale @ A3: 1:8,000

Drawing No.: IW-AGG-2018-000

Drawn By: LFN

Checked By: <Add Name>

Approved By: <Add Name>

Drawn Date: 10/11/2020

Checked Date: <dd/mm/yyyy>

Approved Date: <dd/mm/yyyy>



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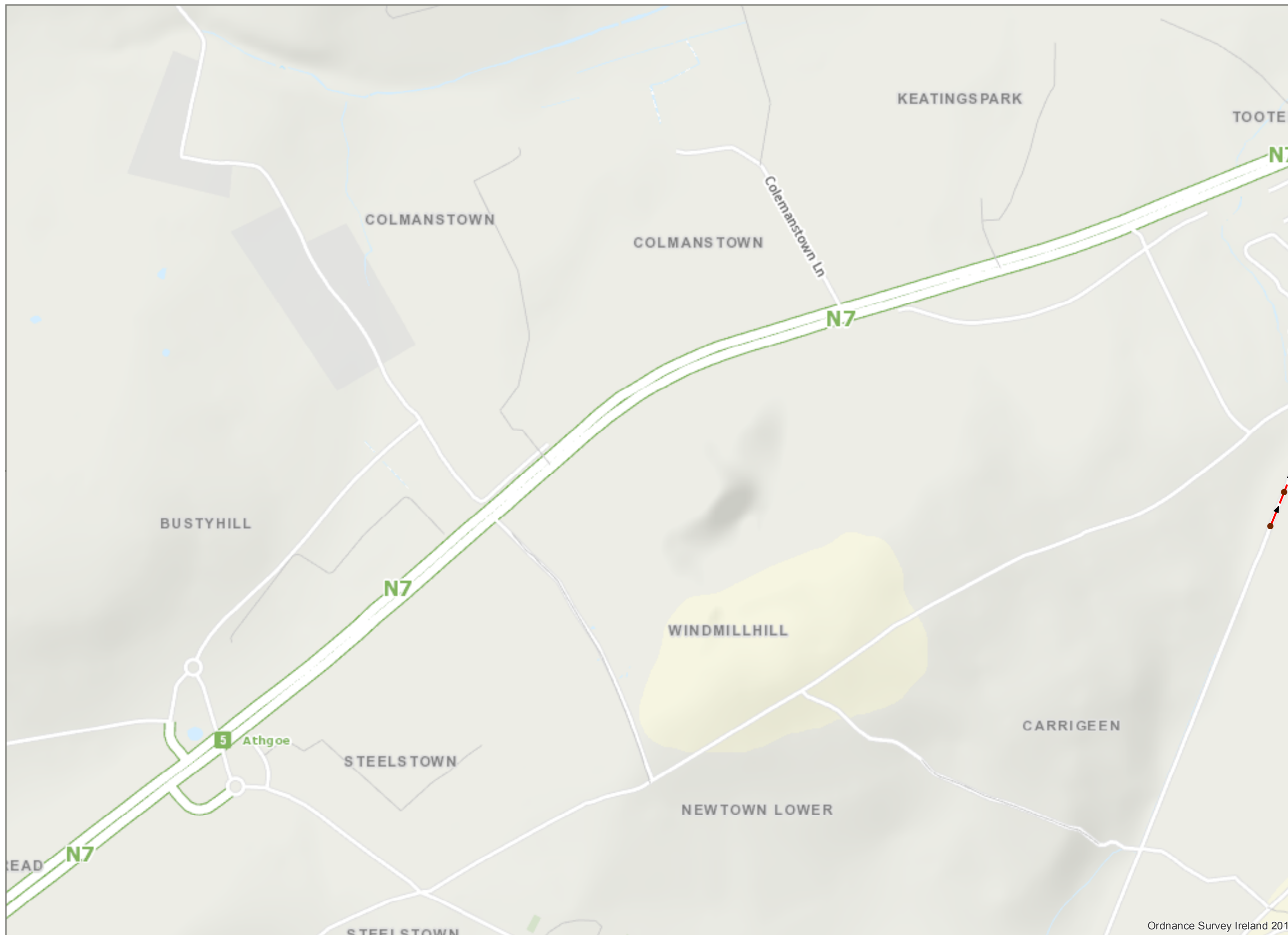
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Water Distribution Quarry Rathcoole, Co. Dublin

Ordnance Survey Ireland 2018



Legend

Sewer Manholes

- Standard

Sewer Mains (Irish Water)

- ➔ Gravity - Foul



Coordinate System: TM65 Irish Grid
Projection: Transverse Mercator

Scale @ A3: 1:8,000
Drawing No.: IW-AGG-2018-000

Drawn By: LFN

Checked By: <Add Name>

Approved By: <Add Name>

Drawn Date: 10/11/2020

Checked Date: <dd/mm/yyyy>

Approved Date: <dd/mm/yyyy>



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Sewer Distribution Quarry Rathcoole, Co. Dublin