12.0 MATERIAL ASSETS

12.1 Introduction

This Remedial Environmental Impact Assessment Report [rEIAR] has been prepared to accompany a substitute consent application for an existing quarry at, Ballinabarny, Rathdrum, Co. Wicklow.

This chapter of the rEIAR has been prepared by WSP Ireland Consulting Ltd (T/A Golder) and addresses the direct and indirect significant effects, if any, on material assets located in the vicinity of the Site, which have occurred, or which are occurring, or which can reasonably be expected to occur, because the Development the subject of the application for substitute consent was carried out.

Material assets comprises the built services and infrastructure relating to the Application Site and Proposed Development. The assessment contained within this chapter establishes the capacity of these to cater for the Proposed Development and assesses the potential for any disturbance to other users as a consequence of activities at the Application Site.

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

Issues such as impact on agricultural lands and roads and traffic, have been assessed in Chapter 5 and Chapter 11 of this rEIAR. Please refer to Chapter 8 for the assessment of potential effects of blasting and vibration on neighbouring dwellings.

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 rEIAR 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 by the EPA in May 2022. The guidelines were drafted by the EPA with a view to facilitating compliance with EIA Directive (2014/52/EU).

The 2022 EPA 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 2022 EPA guidelines, and the characteristics and context of the lands that are the subject of this application, this rEIAR chapter aims to identify the likely significant effects that the Development may have on 'built services' and these are discussed under the following headings:

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

12.3.2 Prediction of Impacts and Effects Prior to Mitigation

This chapter of the rEIAR describes the likely significant direct effects of the 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 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 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 Guidelines on the Information to be Contained in EIARs (EPA, 2022)¹, 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 rEIAR.

12.3.3 EIA Significance Terminology

As identified in Chapter 1 (Introduction) of this rEIAR, a common framework of assessment criteria and terminology has been used based on the EPA's Guidelines on the Information to be Contained in EIARs (EPA, 2022). 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 rEIAR. 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 Development, and their sensitivity to potential disruption from the impaired use.

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.

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¹ Environmental Protection Agency (2022) Guidelines on the information to be contained in Environmental Impact Assessment Reports, May 2022

Table 12.1: Significance Categories and Typical Descriptions.

Significance Category	Typical Description			
Profound	An effect which obliterates sensitive characteristics. 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 (DCCAE) Eircode maps; and
- Aerial and ordnance survey maps of the area.

12.3.5 Temporal Scope

As identified in Chapter 1, the original EIA Directive (85/337/EEC) was transposed into Irish Law through the Planning and Development Act, 2000 as amended (P&D Act), and the appointed day at which the requirement for the same arose was 01 February 1990. Therefore, the baseline for this rEIAR has been set to 01 February 1990, and the rEIA process has assessed environmental impacts from that date to the present.

This assessment period equates to 32 years (to 2022) and is identified in the EPA's 2022 guidelines as 'long-term' duration (those lasting fifteen to sixty years).

12.3.6 Geographical Scope

The assessment directly covers the physical extent of the rEIAR study boundary for the Site as shown in Figure 12.1, and the assessment area has been extended as appropriate to identify the relevant material assets surrounding the Development.

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



Figure 12.1: rEIAR Study Boundary

12.4 Baseline

12.4.1 Surrounding Environment

The Site is located in County Wicklow, within the Ballinabarny North and Bolagh Lower townlands. Specifically, the Development Site is located on an existing quarry site c.23.7 ha in area. The Site encompasses a quarry site for the retrieval of sand, and natural aggregrates with an office, welfare facility, and canteen building. Access to the Site is via the L5155 linking to the L1152. Surrounding environs are predominantly agricultural fields and forestry with Kilmacrea Wood to its' south-east. The nearest villages are Redcross and Barnadarrig south-east and west of the Site respectively. The nearest town Rathdrum is c.3.2 km north-west of the Site

The rural nature of the surrounding area with suburban influences to the east was relatively consistent from the period of 1990 to the present.

Figure 12.2 and Figure 12.3 provide aerials of the subject Site close to the beginning of the assessment period 1993) and the approximate current layout of the Site (February 2022), respectively. The area imaged in the 1993 aerial was constrained to the immediate area surrounding the agriculture.



Figure 12.2: rEIAR Study Boundary in 1993

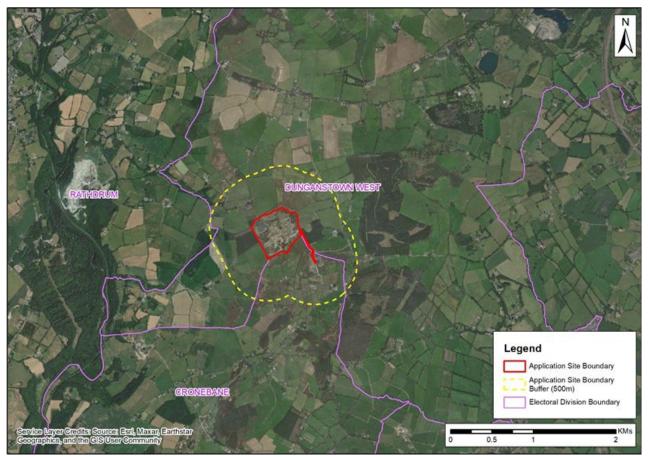


Figure 12.3: rEIAR Study Boundary in 2022

12.4.2 Electricity Network

A service map was received from ESB Networks on the 17th of November 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 which is connected to a transformer linked to medium voltage overhead power lines (10KV/20KV) which enters the Site from the north. The 10KV/20KV/400V/230V overhead line was introduced to the Site in 2000 to ensure a dedicated power source to run the processing plant. As indicated on the map within Appendix 12.1, it travels south, straddling the western boundary of the quarry area before turning east where it meets the transformer for the underground cable.

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

12.4.3 Gas Infrastructure

Information was received from Gas Networks Ireland (GNI) on 17th of November 2021 detailing that there are no gas pipe lines in the area. The service maps received from Gas Networks Ireland have been included in Appendix 12.2A and Appendix 12.2B (Extended Locale service map).

12.4.4 Telecommunications

Mapping sourced from the Eir CBYD online mapping request portal (17th of November 2021) indicates there are no existing underground or overhead telecommunications cables in the quarry area, verification has been provided in Appendix 12.3.

12.4.5 Local Water Supplies and Foul Water Network

Information was received from Irish Water on the 1st of December 2021 detailing that there are no public mains connection services onsite. There is an abstraction well within a pumphouse located adjacent to the administration area. Water from the well has been used to service potable water and on-site welfare facilities since at least 2008.

Further information from Irish Water on the 1st of December 2021 detailed that there is no sewer data in the area. Foul water from staff facilities does not discharge to the Wicklow County Council sewerage infrastructure services. It is contained and managed by a private septic tank system. The septic tank has sufficient capacity to cater for the PE equivalent of average 30 persons arising from full time site employees, contractors and additional visitors and contents have been periodically tankered of-Site as needed. There have been no known issues with the septic tank and the system was serviced annually.

12.4.6 Surface Water Drainage Infrastructure

Lands within the Site are dominated by rock extraction areas, recolonising bare ground, improved grassland fields and a number of water bodies. There are a series of retention cells within the site which connects to a larger lagoon to the north-west. Currently the surface water infiltrates through the underlying soils and sub-soils.

Water requirements for site activities is sourced/recycled through a closed-loop system via the site ponds and pit lake guarry as described in Chapter 6.

There are no existing public surface water drainage networks within the Site. The surrounding local landscape, both currently (2022) and at baseline (1990) is drained to the northwest by a series of interconnected streams and field drains. Surface water on the site predominantly infiltrates to ground or drains towards the northwest waterbody. There are noted to be small, localised areas of surface water pooling that form in localised depressions around the site.

The Site is bounded on all sides by either the Newbawn stream or field drains (Figure 6-10), both of which drain to the northwest and are predominantly fed by rainfall runoff from higher topographical areas. The field drains are reported by the applicant to be predominantly dry.

12.4.7 Waste Management Infrastructure

Small amounts of general refuse waste are generated by the site office and staff portacabin facilities. These wastes are classified as municipal waste and disposed of via domestic waste collection.

Waste is also generated from the maintenance and servicing of equipment, this includes waste oils and lubricants and tyres which are collected and managed appropriately by an authorised waste contractor. The Site generates limited quantities of light bulbs, batteries and scrap metals. These are disposed of as required by appropriately authorised contractors.

12.5 Characteristics of the Development

The lands the subject of this rEIAR extend to 23.7 ha. that reflect historic operational site information including the extractable area declared under S.261 quarry registration in 2005. The extracted quarry area that makes up the application for substitute consent planning currently extends to approximately 20.16 ha central to the EIA project area that is generally bounded by agricultural lands to the north and south. The eastern and western EIA project boundaries are delineated by a mixture of grazing agriculture and forestry.

The current quarry Site is accessed from the L5155 that joins the L1152 to the north, which is a local road linking Rathdrum and the R772 and M11 to the east of the site.

The subject of this rEIAR, is a quarry that has resulted in movement of soils / subsoils and extraction of aggregate from the void area.

At baseline in 1990 the quarried area has been determined in the Land, Soils and Geology Section of this rEIAR to extend to 0.75 ha. and in 2022 to have expanded laterally to 20.16 ha.

12.6 Potential Effects

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

- Activities or events that might have impacted electrical services and utilities for surrounding users;
- Activities or events that might have impacted gas services and utilities for surrounding users;
- Activities or events that might have impacted telecommunications networks for surrounding users;
- Activities or events that might have impacted surface water drainage networks surrounding the Site;
- Activities or events that might have impacted water supplies and services for surrounding users; including, impacts on quality and quantity of supply for groundwater users,
- Activities or events that might have impacted waste water networks for surrounding users;
- Activities or events that might have impacted waste management infrastructure; and
- Activities that might have impacted geological resources surrounding the Site.

These potential impacts during the assessment period of 1990 to 2022 are considered and assessed in the following sections.

Given the nature of the rEIAR and the Substitute Consent process the potential impacts of a 'Do Nothing' scenario if the Development were not operating during this period have not been considered.

12.6.1 Electricity Network

The Development has utilised electricity supplies to the Site via an onsite connection to the grid installed specifically to provide a power supply to the Site. All works to the electrical power lines during the assessment period have been carried out in accordance with appropriate requirements and ESB Network guidelines. Previous extraction activities did not result in any significant impacts to the quality or availability of electrical utilities to the surrounding users.

Potential impacts from the Site's activities on the local electrical supply network are therefore considered to be negligible resulting in effects during the 1990 to today assessment period (long term) that are imperceptible.

12.6.2 Gas Infrastructure

There have been no requirements for a GNI connection to service Development. According to GNI, there are no gas pipelines in the area. Therefore, there have been no additional supply demands on the GNI network from the Site. Potential impacts from the Site's activities on the local gas consumption in the network are considered to have been negligible resulting in effects that are long term and imperceptible.

As the Site requires no gas and no explosive blasting has taken place at the Site, potential impacts from the Site's activities on the gas supply network are considered to be negligible during the 1990 to 2022 assessment period (long term) resulting in effects that are imperceptible.

12.6.3 Telecommunications

The Site's office currently does not use any telecommunications system. All records are held manually on site.

Potential impacts from the Site's activities on the local telecommunication networks are considered to be negligible resulting in effects during for the 1990 to 2022 assessment period (long term) that are imperceptible.

12.6.4 Local Water Supplies and Foul Water Infrastructure

Water used on Site during the assessment period has been abstracted from existing groundwater wells on the Site. As the Site does not consume water from the local supply network, the impacts from the Site's activities on the water supply network are considered to be negligible resulting in effects during the 1990 to 2022 assessment period (long term) that are imperceptible.

The Site utilised septic tank and percolation system for collection and treatment of wastewater/sewage. The septic tank is serviced annually where solids are removed for treatment or disposal offsite. Therefore, potential impacts from the Site's wastewater/sewage on the underlying groundwater and local environment are considered to be negligible resulting in effects during the 1990 to 2022 assessment period (long-term) that are imperceptible.

As identified in the Water chapter (Chapter 6), the Site has employed a number of measures to protect the underlying groundwater from activities which have been undertaken. This included the safe storage of chemicals, the bunding of fuel storage tanks and the use of an interceptor associated with the hardstanding under the refuelling area. Therefore, potential impacts from the Site's activities on the groundwater quality of local well users are considered to be low or negligible resulting in effects during the 1990 to 2022 assessment period (long term) that are imperceptible or slight, (see Chapter 6 Water).

12.6.5 Surface Water Drainage Infrastructure

Across the Site, surface water infiltrates through the underlying soils and sub-soils and percolates to the groundwater, and this has been consistent throughout the assessment period. Currently the surface water infiltrates through the underlying soils and sub-soils. There are no existing public surface water drainage networks within the Site.

As outlined in Chapter 6, as part of the water management on the Site, water abstracted from the northwest waterbody is periodically discharged to the Newbawn stream following periods of prolonged rainfall, via settlement ponds. It is considered that this waterbody has sufficient capacity to accommodate periodic discharges. As set out in Chapter 6, the local area is predominantly at low risk of flooding, with floodplains of limited extent (ca. 50-100 m) and limited residential or commercial development. Discharge volumes from the Site are unlikely to change flood risk.

Overflow from the retention pond is returned to the pit area if necessary. Water treatment through a series of reed water cells polishes used water before discharging to the pond. It is considered that these discharges have resulted in a negligible impact on the network resulting in effects during the 1990 to 2022 assessment period (long term) that are capable of measurement but without significant consequences (imperceptible).

12.6.6 Waste Management Infrastructure

Waste arising from activities at the Site has been managed by appropriately authorised waste contractors.

Limited waste streams have been generated by the Site activities during the assessment period, and it is considered that the impact on the local waste infrastructure has been negligible during that time. This negligible impact has resulted in effects on the local waste management infrastructure that have been imperceptible.

Table 12.2: 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 quality of surrounding water supplies (groundwater well users) from quarrying activities on Site.	Negligible (adverse)	Imperceptible or slight
Water Supplies	Medium	Impacts to quantity of surrounding water supplies (groundwater well users) from quarrying activities on Site.	Negligible to Low (adverse)	Imperceptible or slight
Wastewater Networks	Medium	Impacts or impairment of local wastewater networks as a result Site activities or contributions.	Negligible (adverse)	Imperceptible
Waste Management Infrastructure	Medium	Impacts or impairment of local waste management infrastructure as a result Site activities generating wastes.	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

^{*} Taking account of embedded mitigation

12.7 Cumulative Impacts

The impacts identified during the assessment period were mitigated by design or good practice. Effects from the Site in isolation have been deemed in all instances to be not greater than Slight (adverse).

The closest quarry is Baleece Quarry, located 2.5 km northwest of the Site. Therefore, it is not considered that there is potential for a significant cumulative effect on the Material Assets identified above.

12.8 Remedial Mitigation

No remedial measures have been identified in this chapter of the rEIAR. Other monitoring measures which may be required are detailed separately in the below chapters of this EIAR:

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

12.9 Monitoring

The chapters identified in the above Section 12.8 have monitoring measures as appropriate (including water, air, noise, and vibration). On this basis, no specific monitoring is required in relation to material assets.

12.10 Residual Effects

The assessment concludes that the Development did not give rise to significant adverse effects on material assets surrounding the Site during the assessment period of 1990 to 2022. In all cases the residual effect is no greater than slight and therefore overall, not significant.

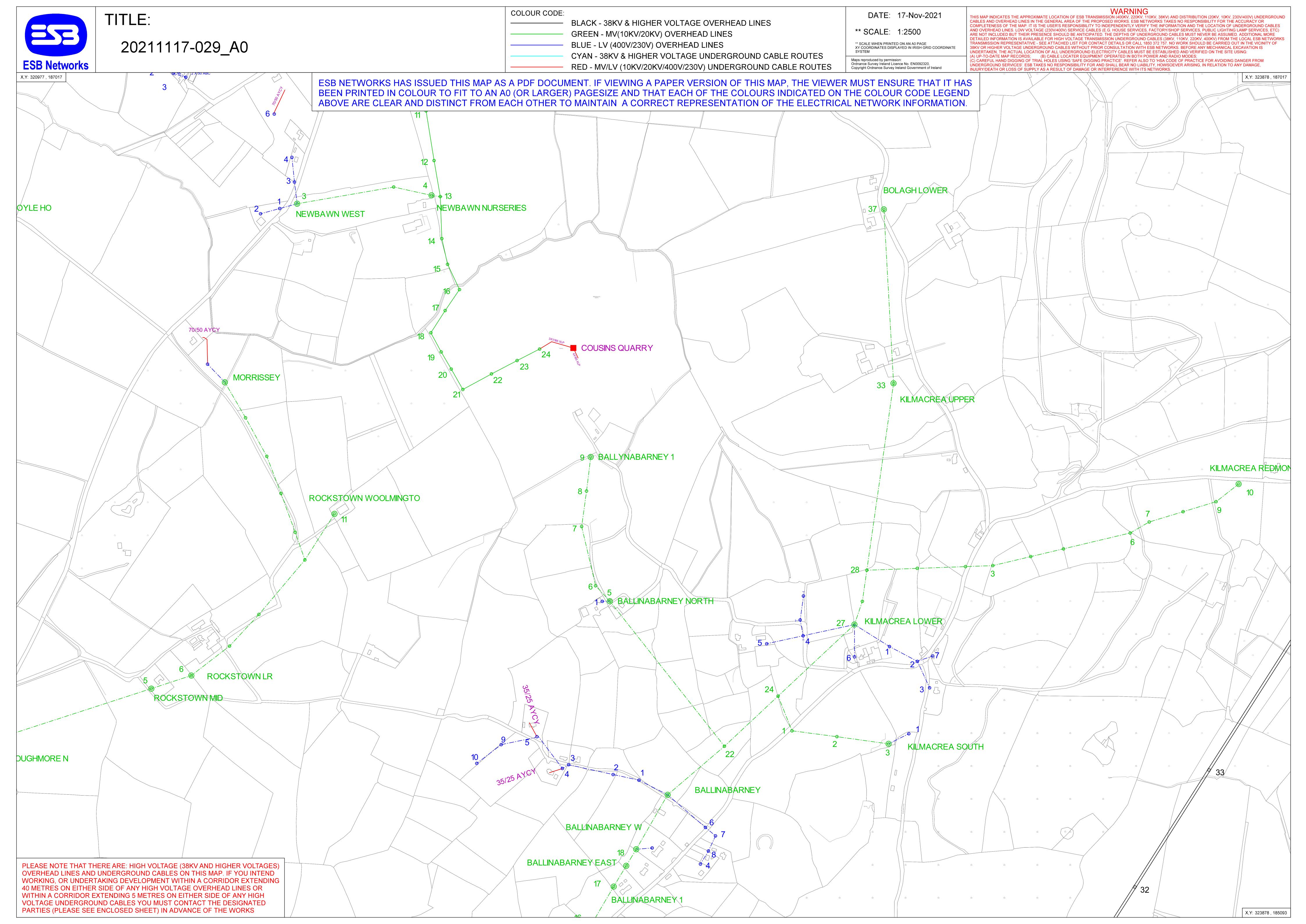
12.11 Difficulties Encountered

The identification of surrounding utilities and infrastructure receptors was based on currently available mapping, as historical mapping was not readily available for the various utilities.

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

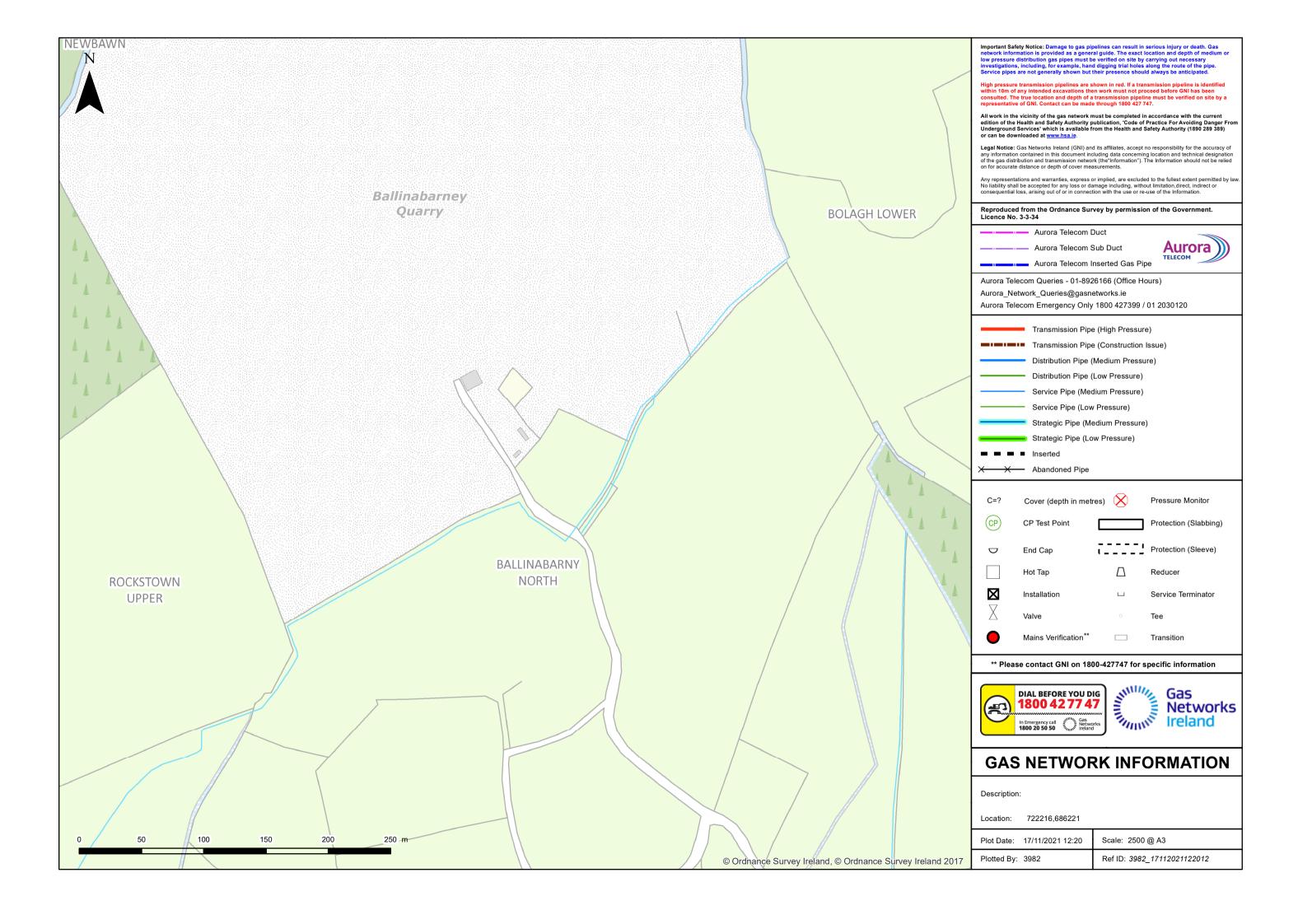
APPENDIX 12.1

ESB Networks Service Map



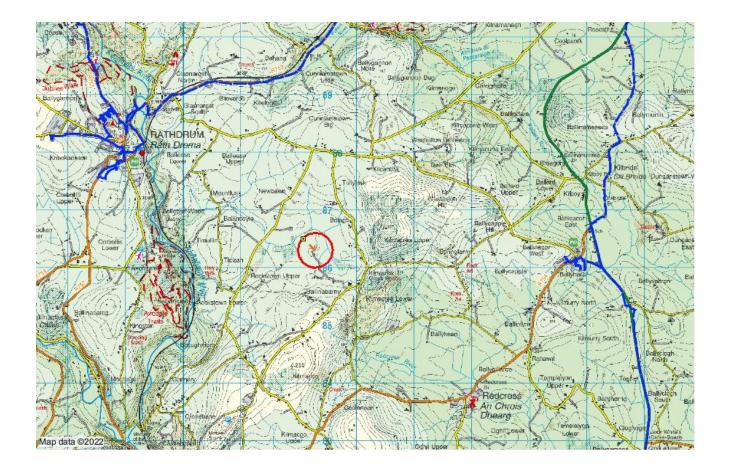
APPENDIX 12.2A

Gas Networks Ireland Service Map



APPENDIX 12.2B

Gas Networks Ireland Service Map (Extended Locale)



APPENDIX 12.3

Eir Telecommunications Service Map

