

NON-TECHNICAL SUMMARY
of
Environmental Impact Assessment Report
for
Kilshane Power Generation Station Project
at
Kilshane, Co. Dublin

prepared for: Kilshane Energy Ltd

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1 INTRODUCTION

Planning regulations require that certain types of projects be subject to Environmental Impact Assessment as part of the planning consent process. The report on this assessment is called an Environmental Impact Assessment Report (EiAR). The purpose of an EiAR is to publicly provide information about the effects of the project on the environment *before* any decision is made.

An EiAR is usually prepared during the design stage of a project. This allows environmental experts to advise the designers about how to improve the project by avoiding potential environmental problems. Experience has shown that it is much better to try to avoid environmental problems at the design stage than to try to reduce or fix them after the project has been built.

An EiAR is prepared on behalf of the developer and must follow the legislation that sets out all of the information that needs to be presented so that all aspects of the environment are covered and so that the full effects of the project can be clearly understood.

It has been recognised that an EiAR can become quite large and complex in order to satisfy these legal requirements. This can make people feel unable to easily understand what the effects of the project will be. To try to address this problem, the regulations also require the preparation of a summary, in non-technical language, of the main content and findings of the EiAR.

The original version of this Non-Technical Summary was submitted to the Planning Authority, Fingal County Council, in September 2022. A revised version (Rev. 1) was submitted in January 2023 in response to a Council request for further information which included a request for a revised Non-Technical Summary. This further revised version (Rev. 2) takes account of the items raised in a Council request for clarification of the submitted additional information issued in March 2023 which includes a request for further revisions to the Non-Technical Summary.

The Council request of March 2023 requests that the revisions to the Non-Technical Summary address the requirements of the *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment*, Department of Housing, Planning and Local Government, 2018. These Guidelines state that the Non-Technical Summary 'should broadly include a description of the project, the baseline conditions, reasonable alternatives, and the likely significant effects, mitigation measures, monitoring measures, as well as the methods used for the assessment including explanations of any hurdles encountered during the analysis. The summary should be concise and comprehensive and should be written in language easily understood by a lay member of the public not having a background in environmental matters or an in-depth knowledge of the proposed project.'

For clarity in relation to how these requirements have generally been addressed in this revised Non-Technical Summary: -

- The project is described in section 4 Project Description.
- Baseline conditions and methods used are broadly described in the under the heading of Introduction in each of the relevant sections, 5 to 15.
- The reasonable alternatives are broadly described in section 3.
- Likely significant effects are broadly described under the headings of Effects or Residual Effects in the relevant sections, 5 to 16.
- Mitigation measures and monitoring measures are broadly covered in the relevant sections, 5 to 16.
- No description of significant hurdles is required because none were encountered.

The summary is considered to be concise yet sufficiently comprehensive and accessible.

Layout of Non-Technical Summary

The following pages provide a summary of the information contained in the EIAR. The summary is laid out in the same order and mostly uses the same headings as the EIAR. Where a summary says 'this chapter' it is referring to the section of the EIAR with the same name. If you feel that you need to know more about any topic that is summarised here you can look it up under the same heading in the main EIAR.

Non-Technical Summary structure:

1. Introduction
2. Screening & Scoping
3. Alternatives
4. Project Description
5. Population & Human Health
6. Biodiversity
7. Land, Soils, Geology & Hydrogeology
8. Water & Hydrology
9. Air Quality & Climate
10. Noise & Vibration
11. Landscape & Visual Impact
12. Material Assets
13. Traffic & Transportation
14. Waste Management
15. Archaeology & Cultural Heritage
16. Accident & Disaster Risks
17. Interactions & Cumulative Effects

Here are explanations of key terms that are used and may need some clarification:

AGI	Above Ground Installation
EIA	Environmental Impact Assessment - The <i>process</i> of preparing and assessing an EIAR
EIAR	Environmental Impact Assessment Report - The <i>document</i> on the assessment of environmental impacts
GIS	Gas-Insulated Switchgear (a type of electrical substation)
GNI	Gas Networks Ireland
GSI	Geological Survey of Ireland
Hydrogeology	The study of groundwater
Likely effects	Effects that are expected to occur
Mitigation measures	Steps taken to avoid, reduce or repair unwanted effects
Scope	The coverage of the EIAR
Screening berm	Compacted soil or vegetated structures designed to screen the development for external view or reduce noise emissions
WFD	Water Framework Directive

Standard Impact Prediction Terminology

Rating of potential environmental impacts in the EIAR (including this Non-Technical Summary) generally follows the Glossary of Impacts contained in the EPA Guidelines¹ as summarised in the table below. This takes account of the quality, significance, duration and type of impact characteristic identified.

¹ Guidelines on the information to be contained in Environmental Impact Statements, EPA, 2022 (Section 3.7.3 *Descriptions of Effects*). The 1992 Environmental Protection Agency Act (Section 72) provides for the preparation by the Environmental Protection Agency of guidelines on the information to be contained in an Environmental

Impact Characteristic	Term	Description
Quality	Positive	A change which improves the quality of the environment
	Neutral	A change which does not affect the quality of the environment
	Negative	A change which reduces the quality of the environment
Significance	Imperceptible	An impact capable of measurement but without noticeable consequences
	Slight	An impact which causes noticeable changes in the character of the environment without affecting its sensitivities
	Moderate	An impact that alters the character of the environment in a manner consistent with existing and emerging trends
	Significant	An impact, which by its character, magnitude, duration or intensity alters a sensitive aspect of the environment
	Profound	An impact which obliterates sensitive characteristics
Duration	Short-term	Impact lasting one to seven years
	Medium-term	Impact lasting seven to fifteen years
	Long-term	Impact lasting fifteen to sixty years
	Permanent	Impact lasting over sixty years
	Temporary	Impact lasting for one year or less
Type	Cumulative	The addition of many small impacts to create one larger, more significant impact
	'Do Nothing'	The environment as it would be in the future should no development of any kind be carried out
	Indeterminable	When the full consequences of a change in the environment cannot be described
	Irreversible	When the character, distinctiveness, diversity, or reproductive capacity of an environment is permanently lost
	Residual	Degree of environmental change that will occur after the proposed mitigation measures have taken effect
	Synergistic	Where the resultant impact is of greater significance than the sum of its constituents
	'Worst Case'	The impacts arising from a development in the case where the mitigation measures may substantially fail

Technical Difficulties

No technical difficulties (for example technical deficiencies or lack of knowledge) were encountered during the preparation of the EIAR.

Impact Assessment Report. The Act further provides that those preparing and evaluating Environmental Impact Statements shall have regard to such guidelines.

2 SCREENING & SCOPING

Screening refers to the process of determining whether or not the proposed development needs to be subject to EIA and have an EIAR prepared for it. In the case of the proposed power station at Kilshane, given the nature and scale of the development, the fact that it falls into a project type prescribed in the regulations for EIA purposes, the applicant, Kilshane Energy, has decided to prepare an EIAR to support the planning application. This decision also takes account of the planning history, particularly the grounds of refusal issued by Fingal County Council in relation to a previous application by Kilshane Energy for a Power Station on the same site (FCC planning ref FW21A/0250) which included lack of information on environmental effects.

Scoping is the process of identifying potential concerns that need to be examined in an EIAR. In this case the scope was drawn up to address the requirements of the relevant legislation and of key guidance, particularly the *Guidelines on the information to be contained in Environmental Impact Statements* (EPA, 2022). This section notes that because the realignment of the Kilshane Road forms part of the same planning application, it is also addressed in the EIAR. It also explains that the connections of the power station to the electrical grid and to the gas supply network are both subject to separate consent and environmental assessment processes but that both have also been considered in the EIAR, where relevant.

3 ALTERNATIVES

This chapter describes the main considerations that were taken into account regarding alternatives at three levels; alternative locations, alternative site layouts and alternative processes & technologies. It explains the main reasons for the selection of the preferred option at each level including environmental reasons.

3.1 ALTERNATIVE LOCATIONS

A desktop assessment of the preferred site location for the power station took place. The first criterion was identifying where in Ireland was the need greatest for new electricity generation. The Dublin area was chosen due to a combination of available capacity in the area's electricity transmission network and demand growth in the area, as identified by EirGrid, the System Operator in their annual reporting.

The next significant consideration was proximity to gas and electrical transmission connection points. This is important commercially and environmentally as it both reduces capital expenditure for the project and reduces the amount of disturbance to the local environment.

The next level of considerations revolved around land use zoning of potential sites and the environmental sensitivities. Land use zoning by the Planning Authority is important as it establishes areas where utility projects with potential to cause detrimental environmental effects may be permissible. Areas not appropriately zoned were ruled out. Locations close to large residential areas were ruled out due to likelihood of environmental effects.

Review of the Fingal County Development Plan showed a single area zoned for *Heavy Industry*, located North of the M50 and between the N2 to the east and Kilshane and Cappagh Roads to the west. Taking account of land availability, potential environmental effects, especially noise and visual effects, and road access, particularly for construction traffic, the site at Kilshane was identified as meeting the required criteria.

Furthermore, the site was prequalified by EirGrid, the Transmission System Operator and capacity market administrator tasked with assessing the feasibility of candidate projects. EirGrid's qualification process involved due diligence on both location and proximity to the transmission network, which took account of the ease of access of the Kilshane site to both the gas and electrical transmission connection points.

3.2 ALTERNATIVE SITE LAYOUTS

When examining alternative layouts within the Kilshane site, it was determined that the facility would need to be located on lower ground close to the eastern site boundary in order to accommodate the height of the exhaust stack required for a facility of the proposed type while staying within height restrictions which apply for safeguarding of operations of the nearby Dublin Airport. The southern parts of the landholding were ruled out due to the need to maintain access wayleaves for two major overhead power lines which traverse the centre and south of the site in an east to west orientation and for a major trunk water main which runs inside the site's southern boundary.

Key environmental considerations were:

- Distance of noise-producing plant from nearby sensitive residential receptors and potential for mitigation.
- Visual effects – particularly effects on visibility from public roads and residences and effects of removal of hedgerows or trees which provide visual screening.
- Biodiversity effects – particularly effects due to hedgerow or tree removal.
- Compactness of layout – with a more compact layout maximising the potential future utilisation of zoned and serviced lands while also allowing increased scope for landscaping and ecological enhancements including maintenance of dark areas for nocturnal mammals.

These considerations informed the selection of the proposed layout as shown in Figure 1 below.

3.3 ALTERNATIVE PROCESSES & TECHNOLOGIES

The proposed Gas Turbine was chosen as it is compliant with all necessary regulations, minimises the environmental impact and offered the best chance of success in electrical power generation capacity market auctions.

4 PROJECT DESCRIPTION



Figure 1 Proposed site layout (whole site)²

² See drawing set for full resolution version.

Site plans covering the three areas outlined in dashed magenta lines above are included as Figures 2, 3 and 4 of this Non-Technical Summary.

Planning permission is being sought by Kilshane Energy Ltd. for the construction of a Gas Turbine Power Generation Station consisting of the construction of a Gas Turbine Power Generation Station with an output of up to 293 Megawatts at Kilshane Road, Kilshane, Finglas, Dublin 11.

As set out in the planning notice, the proposed development includes;

- The construction of a new Gas Turbine Power Generation Station with an output of up to 293 Megawatts. The proposed station will consist of 1 no. Gas Turbine and 1 no. 28 m high Exhaust Stack partially enclosed by a 12 m high acoustic wall. 1 no. single storey Admin Building and Warehouse (c. 926 m²), 1 no. single storey Packaged Electronic/Electrical Control Compartment (PEECC) (c. 72 m²), 1 no. single storey Continuous Emission Monitoring System (CEMS) Shelter (c. 14.8 m²), 1 no. 16.20m high x ø24.4m Fuel Oil Tank, 1 no. 15.30m high x ø9.2m Raw/Fire Water Tank, 1 no. 16.20m high x ø18.3m Demin Water Tank, and miscellaneous plant equipment.
- The demolition of a detached residential dwelling (c. 142 m² GFA) and associated farm buildings (c. 427 m² GFA) located in the north west corner of the subject site to facilitate the proposed development.
- Road improvement works to 493.34 m Kilshane Road (L3120), including the realignment of a portion of the road (293.86 m) within the subject site boundary and the provision of new footpaths, off-road cycle ways, together with the construction of a new roundabout linking the proposed realignment of Kilshane Road back to the existing road network to the northeast of the subject site and to the proposed internal road network to serve the proposed development.
- The construction of entrance gates, low wall and railings fronting the realigned Kilshane Road and a private internal road network providing for vehicular, cyclist and pedestrian access to serve the development. Construction of 3 m high security fencing within development.
- Total provision of 26 no. car parking spaces including 1 no. disabled persons parking space and 2 no. EV electrical charging points.
- Provision of security lighting columns to serve the development and the installation of Closed-Circuit Television System (CCTV) for surveillance and security purposes.
- Provision of 20 no. sheltered bicycle parking spaces.
- Provision of hard and soft landscaping works, tree planting and boundary treatments including 3 m high security fence along Kilshane Road and the perimeter of the subject site boundary.
- Provision of new on-site foul sewer pumping station to serve the development.
- Provision of underground surface water attenuation areas to serve the development.
- All associated site development and excavation works, above and below ground, necessary to facilitate the development.

It is anticipated that the construction of the development will take place in six phases over a 20 month timeline. The contents of each phase are set out in a separate Preliminary Construction Environmental Management Plan.

A separate planning application has been made for a Gas-Insulated Switchgear (GIS) electrical substation and associated grid connection to serve the development. A separate consent application will be submitted by Gas Networks Ireland for an Above Ground Installation (AGI) (gas) compound and associated gas pipeline. The GIS and AGI compounds are both enclosed by the power station site, as shown above.

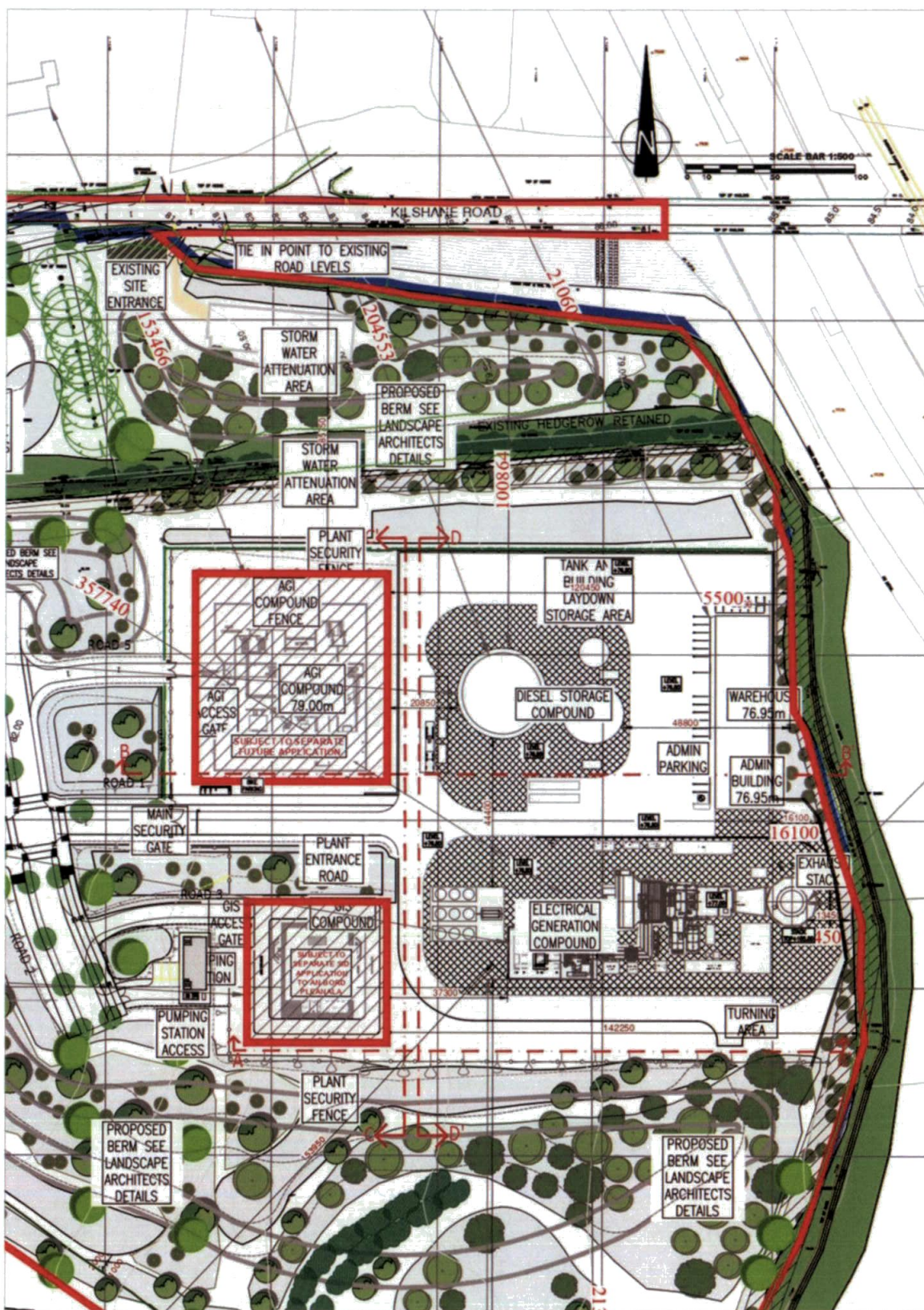


Figure 3 Proposed Site Plan Part 2 (Northeast)⁴

⁴ See drawing set for full resolution version.

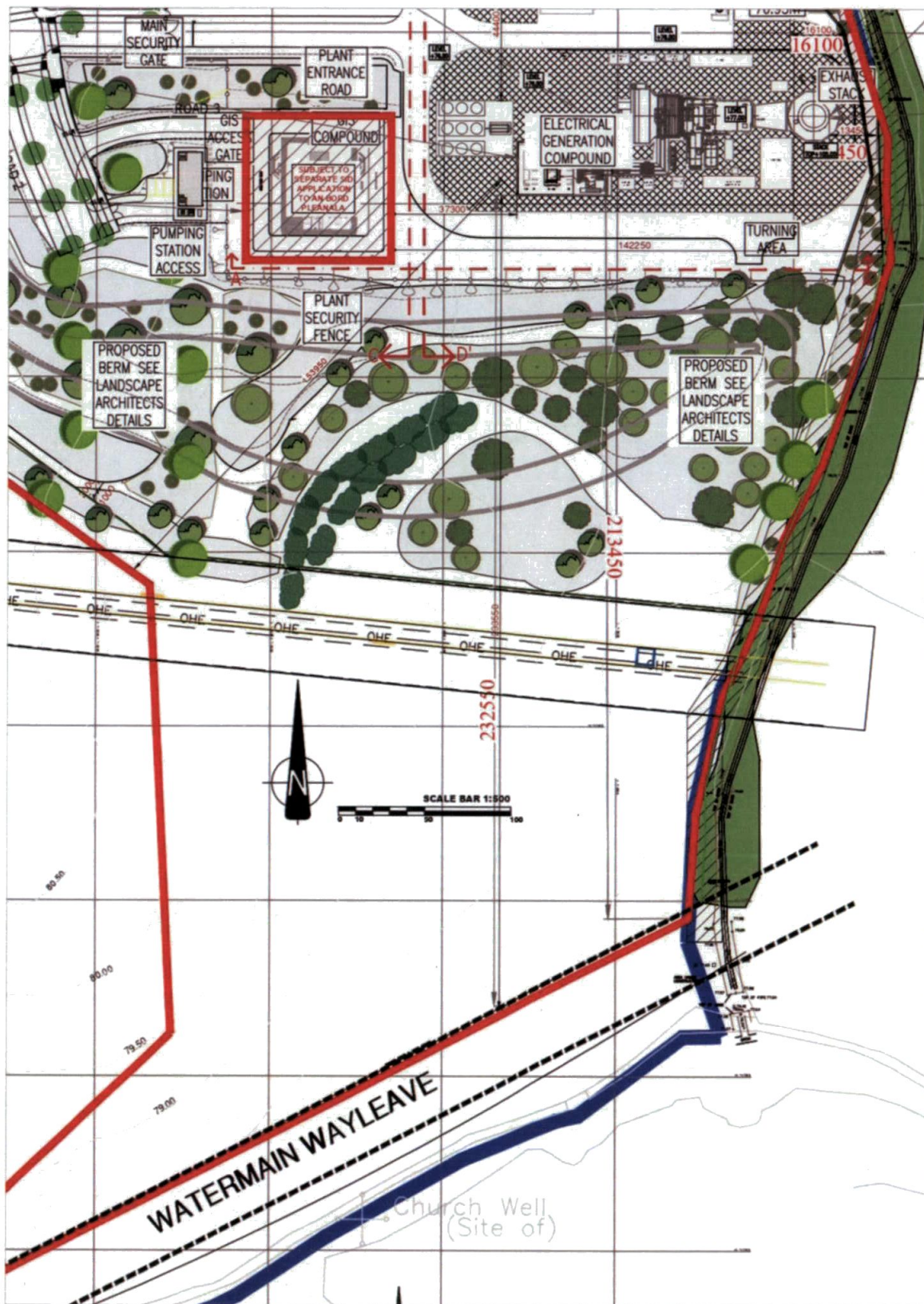


Figure 4 Proposed Site Plan Part 3 (South)⁵

⁵ See drawing set for full resolution version

5 POPULATION & HUMAN HEALTH

5.1 INTRODUCTION

This chapter considers the impact of the project on the population, settlement, land use, employment, and other effects of a social and economic nature of the vicinity. This also includes effects on housing, amenities and services in the area, additional economic opportunities and effects on existing land uses.

Potential for effects on human health are dealt with under the other specific topic headings under which effects on human health might arise. These topics include: -

- Chapter 7: Land, Soils, Geology & Hydrogeology
- Chapter 8 Water & Hydrology
- Chapter 9: Air Quality & Climate
- Chapter 10: Noise & Vibration

The surrounding area is characterised by agricultural fields and industrial areas. Roadstone Huntstown Quarry and Huntstown Power Station are located on lands to the immediate south with Ballycoolin and Rosemount Industrial Estates located to the east and north. There are less than ten residential properties within 500m of the proposed development.

The subject site consists mostly of green fields which are bounded by established hedgerows and trees. There is a dwelling house with associated farming outbuildings in the north-west corner of the site which are to be demolished to facilitate the development.

5.2 MITIGATION MEASURES

Mitigation measures that are relevant to human health are set out in chapters 7 to 10, as listed above. No other mitigation measures are proposed, or found to be required, in relation to the topic of Population & Human Health.

5.3 EFFECTS

The potential impact on the population during the construction phase are predicted to be negligible. It is not expected this would have any adverse impact, rather it may have a beneficial impact for goods and services providers. Moreover, the proposed development will not have a significant impact upon the local or regional population during the operational phase. Due to the projected increase in population as set out within the Regional Spatial Economic Strategy for the Eastern and Midlands Region and the relevant Development Plans, it is predicted that the impact of proposed development is likely to be beneficial, slight and long term.

The potential impact on employment and economic activity during the construction phase is predicted as likely to be slight, positive and short term in duration. The proposed development is predicted as likely to have long term, slight effect on the area during the operational phase.

In respect of health and safety, it is concluded that the level of individual risk on and off-site will be acceptable as a result of the proposed development.

The potential impact on human health as a result of air quality and climate effects is predicted to be neutral, short-term and imperceptible during the construction stage. Furthermore, it is predicted that

the impact on human health as a result of air and climate during the operational phase is likely to be insignificant.

It is predicted that the construction of the proposed development is likely to have a short-term-imperceptible-neutral impact on human health due to the land, soils, geology and hydrogeology effects. Moreover, the potential impacts of the operational phase are predicted to be long-term-imperceptible-neutral.

The predicted impact on human health as a result of the noise and vibrations from the proposed development during the construction phase is negative, not significant and short-term. Furthermore, it is predicted that traffic noise levels on the local road network due to the construction phase will not result in a significant impact. Moreover, it is predicted that the impact on human health due to noise as a result of the operational phase of the proposed development will be negative, not significant to slight and long-term.

The proposed development is predicted to have a short-term-imperceptible-neutral impact on human health from water and hydrology during the construction stage. Moreover, it is predicted that the proposed development will have a negligible impact on water and hydrology during the operational phase.

6 BIODIVERSITY (FLORA & FAUNA)

6.1 INTRODUCTION

This chapter assesses potential impacts of the proposed development on biodiversity. A desktop review was carried out to identify features of ecological importance within the proposed development area and the wider environment. Ecological impact assessment is conducted following a standard source-pathway-receptor model, where, in order for an impact to be established all three elements of this mechanism must be in place. The absence or removal of one of these elements of the mechanism is sufficient to conclude that a potential effect is not of any relevance or significance.

- Source(s) – e.g., pollutant run-off from proposed works.
- Pathway(s) – e.g., groundwater connecting to nearby qualifying wetland habitats.
- Receptor(s) – qualifying aquatic habitats and species of European sites.

Data was collected during multidisciplinary ecological walkover site surveys conducted on the 3rd February and 5th May 2022.

The existing site has relatively low levels of biodiversity overall; consisting of a majority of arable crop systems with smaller patches of remnant/overgrown monoculture grassland and patches of scrub. These areas are bordered by hedgerows and treelines of varying health and ecological value. These characteristics increase the local value and sensitivity of the site, but it remains at a low level overall.

The crop systems are of value to local breeding bird populations, and this habitat type will be permanently lost as a result of the proposed development.

The proposed site contains hedgerows, some of which are of high local value. A small segment of these will be lost to accommodate road access, along with localised tree removals which are part of the arborist recommendations based on condition assessment, to maintain the overall health of trees within the site. However, the majority of hedgerows within the site will be retained in the operational phase of the proposed development, with tree protection fencing and root protection zones in place for the duration of the construction phase.

There is a drainage ditch running down the eastern boundary of the site, that is dry for most of the year. This drain connects to the Huntstown Stream to the south of the site, which eventually joins the Ward River and then reaches Dublin Bay (9.48 km from the proposed development site). During heavy rainfall, it is possible for surface water to drain into this ditch and outflow into the Huntstown Stream.

6.2 MITIGATION MEASURES

Vegetation removal during the breeding bird season (1st March to the 31st of August) will be avoided. Where this is unavoidable it will be subject to advice and supervision by a suitably qualified ecologist consulted prior to and during the work. Vegetation removal will also be limited to the minimum required to complete task.

The operational phase of the proposed development will comply with the Landscaping Plans and a Green Infrastructure Plan which provide for a permanent diverse planting scheme and habitat mix composed of native species for the proposed site.

The proposed development is implementing surface water attenuation controls around the introduced hard standing areas resulting from the industrial/access aspects of the proposed development. This, in addition to best practice SuDS (Sustainable Drainage Systems) measures for the site, the infrequency of high rainfall events and the distance to the Ward River and Malahide Estuary if the drainage ditch were to carry water in times of high rainfall, will ensure there is no significant impact in terms of hydrology resulting from the proposed development.

Lighting controls and specific design requirements will be put in place during both the construction and operational phases to ensure that there are no short to long-term effects on local bat populations as a result of the proposed development

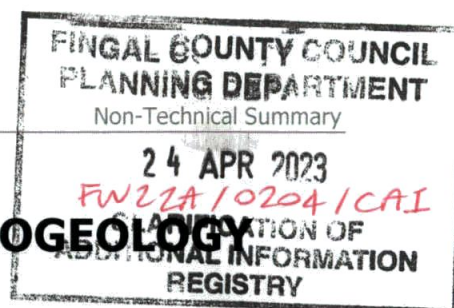
Best practice measures for minimising and reducing noise and vibration from construction will be followed, as set out in the accompanying Preliminary Construction Environmental Management Plan and listed in Section 10.2 below.

6.3 RESIDUAL EFFECTS

A full air quality and emissions modelling assessment was carried out and found that the impact associated the operational phase of the proposed development to ecologically sensitive areas and European sites is considered long-term, localised, negative and imperceptible.

On completion of the development there will be no net decrease in terms of the biodiversity and ecological value of the site and the integrity of the site will be maintained - in terms of retaining that majority of hedgerow already on site, and introducing a native, species rich, planting matrix into the landscaping plan for the operational phase. On implementation of a range of mitigation measures, including the Landscaping Plan and Green Infrastructure plan for the operational phase, the potential impacts to the flora and fauna of the existing local environment are foreseen to be negligible and of a short-term duration. This is due to the maintenance of the overall resource availability by the retention of hedgerows on site and management of appropriate ecologically sensitive lighting on site, and the introduction of increased micro habitat diversity across the site in the landscaping plan which includes replanting to increase the ecological value and biodiversity of the site relative to the loss of crop systems habitat, segments of hedgerow, overgrown grassland and scrub habitat.

It is therefore predicted that residual effects on the ecology of the site and its environs due to the construction phase will be slight and short-term and temporary, and due to the operational phase will be negligible and long-term.



7 LAND, SOILS GEOLOGY & HYDROGEOLOGY

7.1 INTRODUCTION

This chapter assesses potential impacts that may arise from the proposed development on land, soils, geology, and hydrogeology within the local environment. According to the rotary cores drilled in the subject site, the encountered bedrock can be classified as weak to moderately strong Calcareous Mudstone (a type of fine-grained sedimentary rock) interbedded with moderately strong argillaceous limestone (limestone with high clay content) characterised by slight weathering.

Site investigations carried out in 2021 confirmed that overburden clays overlying the bedrock were at variable depths from 1.5 to 3.7 metres below ground level. The (Geological Survey of Ireland) GSI categorise the bedrock aquifer underlying the site as having an 'Moderate' vulnerability to the north while moving south east the vulnerability progresses to 'High' and 'Extreme' in the southeast portion of the site. However, according to the site investigations, site-specific vulnerability can be more accurately described as 'Extreme' (0-3 m of thickness).

The GSI/Teagasc subsoil mapping database of the quaternary sediments in the area of the subject site indicates one principal soil type: Limestone Till Carboniferous. This till is made up of glacial Clays which are less permeable than alluvium subsoils. The southern portion of the site is dominated by a combination of bedrock outcrop and shallow buried subcrop according to the GSI mapping.

The Groundwater Body (GWB) underlying the site is the Dublin GWB. Currently, the most recent Water Framework Directive (WFD) groundwater status for this water body (2013-2018) is 'Good' with a current WFD risk score 'Under Review'

Based on TII criteria for rating the importance of geological features, the importance of the bedrock and soil features at this site is rated as high importance with high significance or value on a local scale. This is due to the existence of an existing quarry in the vicinity of the subject site (Huntstown quarry) which is located c. 300 m to the southwest of the site.

The importance of the hydrogeological features at this site is rated as Low. This is based on the assessment that the attribute has a medium quality significance or value on a local scale. The aquifer is not widely used for public water supply or generally for potable use. In addition, there is no direct or indirect hydrogeological connection between the site and any protected sites.

It has been estimated that 64,500m³ of excavated subsoil and topsoil will be generated and it is currently anticipated that the totality of this will be reused for landscaping of the berms. There will not be a requirement for disposal off site. Importation of fill will also not be required.

7.2 MITIGATION MEASURES

Mitigation measures proposed for the construction stage are set out in the Preliminary Construction Environmental Management Plan as described below.

The excavation will require soil and rock excavation and infill. Temporary storage of soil will be carefully managed in such a way as to prevent any potential negative impact on the receiving environment and the material will be stored away from any open surface water drains. Although there is no evidence of contamination of soil at the site, where any excavated material is found to be contaminated, an appropriate disposal method shall be selected depending on the type of contaminant found. Testing will be carried out in pre-construction works by the contractor to determine the soil classification.

All fill and aggregate for the proposed development will be sourced from reputable suppliers. All suppliers will be vetted for the appropriate certificates, management status and regulatory compliance standards.

During construction all fuel tanks shall be stored in designated areas, and banded to a volume of 110% of the capacity of the tank within the bund (plus an allowance of 30 mm for rainwater ingress). Refuelling of construction vehicles and the addition of hydraulic oils or lubricants to vehicles, will take place in a designated area (or where possible off the site) which will be away from surface water gulleys or drains.

It is unlikely that contaminated material will be encountered during construction of the proposed development. Nonetheless, excavation works will be carefully monitored by a suitably qualified person to ensure that potentially contaminated soil is identified and segregated from clean/inert soil. In the unlikely event that potentially contaminated soils are encountered, they will be segregated, tested and classified as hazardous or non-hazardous in accordance with the EPA Guidance Document: Waste Classification – List of Waste and Determining if Waste is Hazardous or Non-Hazardous (2015) and Council Decision 2003/33/EC. It will then be removed from site by a suitably permitted waste contractor to an authorised waste facility.

7.3 RESIDUAL EFFECTS

On implementation of the mitigation measures, the predicted impact during construction of the proposed development will be short-term, imperceptible and neutral.

During the Operational phase, there are limited activities that could potentially impact on the land soils, geological and hydrogeological environment. However, it is noted that any accidental discharge will not be likely impact stormwater drainage due to the hardstand and drainage infrastructure proposed and any releases to drainage will be mitigated through a Class 1 Petrol interceptor which is proposed to be installed before surface water outfalls to the existing ditch system.

The predicted impact during operation of the proposed development, following implementation of mitigation measures is likely to be long-term, imperceptible and neutral.

8 WATER & HYDROGEOLOGY

8.1 INTRODUCTION

The site is comprised of multiple fields separated by hedgerows, and generally slopes from west to east. Surface water, rainfall, is generally percolated through the site via grass and soil. The topographic survey has confirmed that the internal and boundary hedgerows contain ditches which convey flow to the Huntstown Stream to the east of the site, during heavier rainfall events.

The Huntstown Stream generally flows in a north-easterly direction to join the River Ward to join the Ward River c. 4.4 km to the northeast of the site (at Saint Margaret Golf and Country Club). The Ward River flows towards Malahide Estuary, a Natura 2000 Site (SPA/SAC/pNHA) located approximately 9.8 km to the northeast of the site after joining the Broadmeadow River.

The Huntstown Stream belongs to the Ward_030 WFD surface water body, which currently, the EPA classifies as having 'Moderate' and is 'At risk of not achieving good status'. This moderate status is related to the nitrogen (nitrate, specifically) and orthophosphate conditions measured in the Ward River.

There is extremely low risk of flooding affecting the site from fluvial or coastal sources, since the site lies within Flood Zone C (i.e., where the probability of flooding from rivers is less than 0.1% or 1 in 1000).

Hydrological features at this site are rated as low in importance, based on the assessment that the attribute has a low quality significance or value on a local scale.

8.2 MITIGATION MEASURES

Mitigation measures proposed for the construction stage are set out in the Preliminary Construction Environmental Management Plan and are summarised below.

Temporary storage of soil will be carefully managed with excavations remaining open for as little time as possible and weather conditions will be taken into account when planning construction activities.

Any discharge of construction water during the construction phase will be discharged to the local ditch system. Pre-treatment and silt reduction measures on site will include a combination of silt fencing, settlement measures and hydrocarbon interceptors. Any minor ingress of groundwater and collected rainfall in the excavation will be pumped out during construction. Extensive monitoring will be adopted to ensure that the water is of sufficient quality to discharge to the local ditch system.

To minimise any impact from material spillages, all oils, paints etc. used during construction will be stored within temporary bunded areas. All tanks will be bunded to 110% of the capacity of the largest tank/container within the bunded area(s) (plus an allowance for 30 mm of rainwater ingress). Refuelling of construction vehicles and the use of any hydraulic oils or lubricants will take place in a designated area (or where possible off site) which will be away from surface water gullies or drains. All contractors will be required to implement the Construction Environmental Management Plan.

8.3 RESIDUAL EFFECTS

The implementation of the proposed mitigation measures will ensure that the significant impacts on the surface water environment during the construction phase are avoided and that the residual impact will be short-term-imperceptible-neutral.

During operation there are limited risks to surface water receptors. The development includes the storage and use of fuel oil. The fuel will be stored in a dual containment tank situated at ground floor level within compound yards. Any accidental emissions of oil, petrol or diesel could cause contamination if the emissions enter the water environment unmitigated. However, any accidental discharge will be mitigated through petrol interceptors.

The implementation of the proposed mitigation measures will ensure avoidance of potential impacts on the surface water during the operational phase. It is predicted that the predicted long-term impact will be imperceptible-neutral.

9 AIR QUALITY & CLIMATE

9.1 INTRODUCTION

The chapter examines potential impacts during construction and operation – when air-borne factors such as dust can have an impact if not properly planned for.

Air Quality

In terms of the existing air quality environment, baseline data and data available from similar environments indicates that levels of nitrogen dioxide and particulate matter less than 10 microns and less than 2.5 microns are generally well below the National and European Union (EU) ambient air quality standards.

During the construction phase there is the potential for dust emissions to impact nearby sensitive receptors resulting in potential dust soiling and human health impacts.

Implementation of the proposed mitigation measures (as set out in section 9.2 below) will cause construction dust impacts to be short-term, negative, localised and imperceptible at nearby sensitive receptors.

Air dispersion modelling of operational phase emissions from the installation of a gas turbine associated with the development was carried out to assess the contribution of operational emissions of nitrogen dioxide (NO₂), carbon monoxide (CO), sulphur dioxide (SO₂) and particulate matter (PM₁₀) from the proposed development operating to off-site levels of this pollutant. The results of the modelling assessment determined that emissions from the proposed emission points on site will be in compliance with the ambient air quality standards for NO₂, CO, SO₂ and PM₁₀.

The residual effects on air quality are predicted to be long-term, negative and range from imperceptible to slight.

Climate

The existing climate baseline can be determined by reference to data from the EPA on Ireland's total greenhouse gas (GHG) emissions and compliance with European Union's Effort Sharing Decision "EU 2020 Strategy" (Decision 406/2009/EC).

Based on the scale and short-term nature of the construction works, the potential impact on climate change from the construction of the proposed development is deemed to be short-term and imperceptible in relation to Ireland's obligations under the EU 2030 target.

No significant on-site CO₂ emissions will occur as a result of the proposed development. The generation of electricity by the proposed development using natural gas could result in maximum emissions of approximately 508kt CO₂eq per annum. This is based on the maximum electricity generation capacity for the facility (operational 98% of the year). EirGrid, as Transmission System Operator will be responsible for the actual operational hours of the facility. A detailed market analysis of the impact of the facility on the Single Electricity Market's (SEM) carbon emissions predicts a reduction in 10 kt of CO₂ by 2040 due to displacement of higher emitting plants, with an annual average of 46 operational hours. The report also outlined the risk of the facility running at maximum capacity to be insignificantly low and also in that event, would result in lower carbon emissions for SEM.

The residual effects on climate are predicted to be long-term, positive and slight.

Human Health

The impact of construction of the proposed development is predicted to be neutral, short-term and imperceptible with respect to human health.

Air pollution concentrations due to operations has been assessed and are predicted to be compliant with all National and EU ambient air quality limit values and, therefore, will not result in a significant impact on human health.

Sensitive Ecosystems

The impact to air quality from operation of the proposed development on sites that have been formally designated on ecological grounds has been assessed and is predicted to be long-term, localised, negative and imperceptible.

9.2 MITIGATION MEASURES

A dust management plan will be implemented during the construction phase of the proposed development to ensure that no significant dust nuisance occurs outside the site boundary. These key measures are set out in the accompanying Preliminary Construction Environmental Management Plan and are summarised below

- Hard surface roads will be swept to remove mud and aggregate materials from their surface while any un-surfaced roads will be restricted to essential site traffic;
- Any road that has the potential to give rise to fugitive dust shall be regularly watered, as appropriate, during dry and/or windy conditions;
- Vehicles using site roads will have their speed restricted, and this speed restriction must be enforced rigidly. On any un-surfaced site road, this will be 20kph, and on hard surfaced roads as site management dictates;
- Public roads outside the site will be regularly inspected for cleanliness and cleaned as necessary;
- Material handling systems and site stockpiling of materials will be designed and laid out to minimise exposure to wind. Water misting or sprays will be used as required if particularly dusty activities are necessary during dry or windy periods; and
- During movement of materials both on and off-site, trucks will be stringently covered with tarpaulin at all times. Before entrance onto public roads, trucks will be adequately inspected to ensure no potential for dust emissions.

With regards to the operational phase, provided the stack is built to the height determined by the air dispersion modelling, no further mitigation measures are required.

9.3 RESIDUAL EFFECTS

On implementation of the mitigation measures outlined in this assessment, there will be no residual impacts of significance on air quality or climate from the construction or operational phases of the proposed development.

10 NOISE & VIBRATION

10.1 INTRODUCTION

The baseline noise environment has been established through an environmental noise survey conducted at the site in order to quantify the existing noise environment. The survey was conducted in accordance

with the relevant standard (ISO 1996: 2017: *Acoustics – Description, measurement and assessment of environmental noise*).

Construction Phase

There is no published statutory Irish guidance relating to the maximum permissible noise level that may be generated during the construction phase of a project. Local Authorities typically control construction activities by imposing limits on the hours of operation and consider noise limits at their discretion.

Reference has been made to Part 1 of BS 5228 2009+A1 2014 (*Code of practice for noise and vibration control on construction and open sites*) to set appropriate construction noise limits for the development site.

Based on the above the following construction noise criteria are proposed for the site:

- 70dB $L_{Aeq,1hr}$ at noise sensitive locations
- 75dB $L_{Aeq,1hr}$ at commercial locations

It will be required that noise-generating external construction activities associated with development shall take place between the hours of:

- Mondays to Fridays – 7am to 7pm
- Saturday – 7am to 2pm
- Sundays and Public Holidays - no activity on the site.

If it is deemed necessary to conduct works outside these times, prior written approval will be sought from the relevant local authority.

Operational Phase

We have used *Environmental Protection Agencies Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities NG4* (EPA, January 2016) to generate the following criteria for operation noise.

- Daytime Periods (Residential) – 55 dB $L_{Aeq,15min}$
- Daytime Periods (Commercial) – 55 dB $L_{Aeq,15min}$
- Evening Periods (Residential) – 50 dB $L_{Aeq,15min}$
- Night-time Periods (Residential) – 45 dB $L_{Aeq,15min}$

The primary sources of outward noise in the operational context are long term and will comprise plant noise from the proposed gas turbine.

10.2 MITIGATION MEASURES

Construction Phase

The following mitigation measures will be applied during the construction of the proposed development:

- Limiting the hours during which site activities likely to create high levels of noise or vibration are permitted;
- Establishing channels of communication between the contractor/developer, Local Authority and residents;
- Appointing a site representative responsible for matters relating to noise and vibration;
- Monitoring levels of noise and/or vibration during critical periods and at sensitive locations; and
- All site access roads will be kept even so as to mitigate the potential for vibration from lorries.

Furthermore, a variety of practicable noise control measures will be employed including:

- Selection of plant with low inherent potential for generation of noise and/ or vibration;
- Erection of barriers as necessary around items such as generators or high duty compressors; and
- Situation of any noise generating plant items as far away from sensitive properties as permitted by site constraints and the use of vibration isolated support structures where necessary.

Operational Phase

Noise from external plant will be minimised by purchasing low noise generating equipment and incorporating appropriately specified in line attenuators for stacks and exhausts where necessary. The 12m high barrier included in the proposed development was designed in conjunction with the project engineering team to reduce noise levels at nearby locations.

10.3 RESIDUAL EFFECTS

Construction noise levels predicted at nearest sensitive properties are predicted to be below the threshold for significant impact during the general construction phase (as given in section 10.1 above). The application of binding noise limits, hours of operation, along with implementation of appropriate noise and vibration control measures, will ensure that noise and vibration impact are minimised.

At noise sensitive locations in the surrounding area construction phase noise effects are predicted as likely to be negative, not significant and short-term.

Detailed computer-based noise modelling of the site shows that the noise levels of the subject site are within the noise criteria (as given in section 10.1 above). The resultant noise effects are therefore predicted as likely to be neutral, not significant to slight and long-term.

11 LANDSCAPE & VISUAL

11.1 INTRODUCTION

The landscape and visual impact assessment identifies and assesses the effects on the appearance and character on the local environs arising from the proposed development.

It analyses the existing landscape character and significance, and provides an evaluation of the potential for landscape and visual impacts of the development by assessing the sensitivity of the landscape to change relative to the proposed development.

Visual impacts are a combination of effects on visibility and on the overall character of the area. The main landscape features and landscape character areas were identified through a combination of site visit and documentation surveys.

Photomontages are used to simulate the likely visual changes that would result from the proposed development and are produced by combining computer generated renders of the proposal with photographs of the existing site.

In the immediate environs, medium-to-large-scale commercial, retail and light industrial developments occur adjacent to rural areas that consist of medium-large agricultural fields. These rural areas are relatively level in the immediate vicinity resulting in a pattern of relatively regularly shaped fields – that are usually enclosed by mature field boundaries that contain many mature trees. These developments together with a general restructuring of agriculture means that this is a dynamic landscape that is continuing to experience development.

11.2 MITIGATION MEASURES

The layout avoids locations near the more sensitive northern and western parts of the site. It also retains much of the existing perimeter vegetation that provides good visual screening. The proposed development includes extensive re-use of excavated material to form screening berms while a

comprehensive site planting plan will augment the screening that is already provided by the existing perimeter vegetation that has been retained.

11.3 RESIDUAL EFFECTS

The analysis shows that the majority of the landscape and visual impacts arising will consist of imperceptible to slight residual impacts (see Table 11.1, and Figure 5) with the exception of one localised moderate to significant impact on the local appearance and character of the landscape in the immediate vicinity of View location 3 where there will be localised visibility of the proposed development from a bridge across the N2. (See Figure 5 .)

Table 11.1 Summary of Landscape Effects

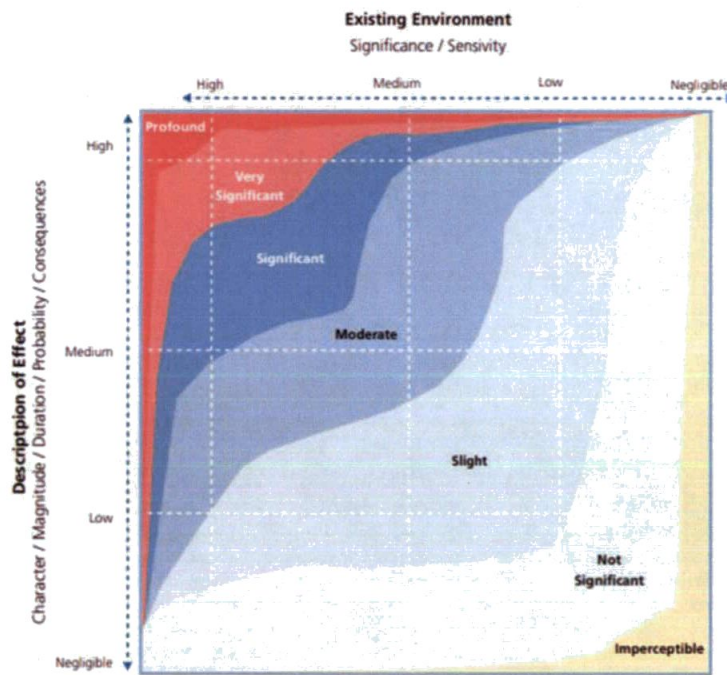
View	Impact	Residual Impact
1	Limited and localised partial visibility of upper portions of some buildings and roof-mounted plant and exhaust structure. Potential aircraft warning lights and general building environs partially and locally visible at night - increased visibility through winter foliage.	Not Significant because of very low impact on the appearance and character of the landscape.
2	Limited and localised partial visibility of upper portions of some buildings and roof-mounted plant and exhaust structure. Aircraft warning lights and general building environs partially and locally visible at night - increased visibility through winter foliage.	Not Significant because of very low impact on the appearance and character of the landscape.
3	Visibility of upper portions of some buildings and roof-mounted plant and exhaust structure. Aircraft warning lights and general building environs partially and locally visible at night - increased visibility through winter foliage.	Moderate - Significant Impact on the local appearance and character of the landscape in the immediate vicinity of this elevated viewing point.
4	No visibility because of intervening vegetation and distance.	Imperceptible No Impact because of no visibility.
5	Distant partial visibility of upper portions of structures including AGI, GIS and air intake and stack. All partially and locally visible at night - increased visibility through winter foliage.	Slight impact on the local appearance and character of the landscape in the vicinity of this viewing point.
6	No visibility because of intervening vegetation and distance.	Imperceptible No Impact because of no visibility.
7	No visibility because of intervening vegetation and distance.	Imperceptible No Impact because of no visibility.
8	Visibility of upper portions of some buildings and roof-mounted plant and exhaust structure. Aircraft warning lights and general building environs distantly visible.	Imperceptible Impact on the local appearance and character of the landscape in the immediate vicinity of this elevated viewing point.



Location	Date	Field of view	35mm equivalent	Distance to site	Camera model
View 3 Proposed 1v1 3	05/11/21	74°	24mm	75m	Canon EOS 5DS

Showing planning @ year 10 

Figure 5 Landscape Impact from View 3 – the most exposed view of the development



There are seven generalised degrees of effect significance that are commonly used in EIA. Imperceptible, Not Significant, Slight, Moderate, Significant, Very Significant and Profound. Generalised definitions of each of these are provided in Table 3.4. When more specific definitions exist within a specialised factor or topic, e.g. biodiversity, these should be used in preference to these generalised definitions. (ref. Advice Notes¹⁸.)

Figure 6 Summary of significance of landscape impacts

12 MATERIAL ASSETS

12.1 OVERVIEW

This section examines potential effects of operations on built services and infrastructure comprising energy demand and supply (electrical and gas) and water services. Impacts on traffic are considered separately.

12.2 ELECTRICITY SUPPLY

The proposed development will connect to a 220kV transmission system. The high voltage transmission line will supply back feed (import) power for facility loads when the gas turbine is offline, and will serve as the transmission line for the gas turbine when it is generating and exporting power to the grid.

When operational the plant will supply 293 MW of electricity to the National Grid via a GIS (Gas Insulated Switchgear substation) and grid connection which is subject to a separate SID consent approval by An Bord Pleanála. An Environmental Report for this project is provided as Appendix 17.2 of the EIAR.

12.3 GAS CONNECTION

Gas Networks Ireland (GNI) and Kilshane Energy Ltd have entered into a formal agreement for the design and construction of the pipeline route to deliver the gas supply needed to operate the power station. The gas main lies approximately 300 m to the west of the site. A gas yard (Above Ground Installation / AGI) within the power station site area will be owned and operated by GNI. The consent for this infrastructure will be subject to a separate process which is governed by the Commissioner for Regulation of Utilities.

12.4 FOUL WATER

There is no existing foul water connection on the site for the proposed development. It is proposed that an 80mm diameter rising main will be constructed from the on-site pumping station for a distance of 1,823m to the existing gravity foul network on Mitchelstown Road. A pre-connection enquiry for this has been submitted to Irish Water.

12.5 WATER SUPPLY

Water supply for the development is proposed to be obtained from a new connection to a watermain located to the southwest of the site on Kilshane Road. This is the subject of a pre-connection enquiry which has been submitted to Irish Water.

13 TRAFFIC & TRANSPORTATION

13.1 INTRODUCTION

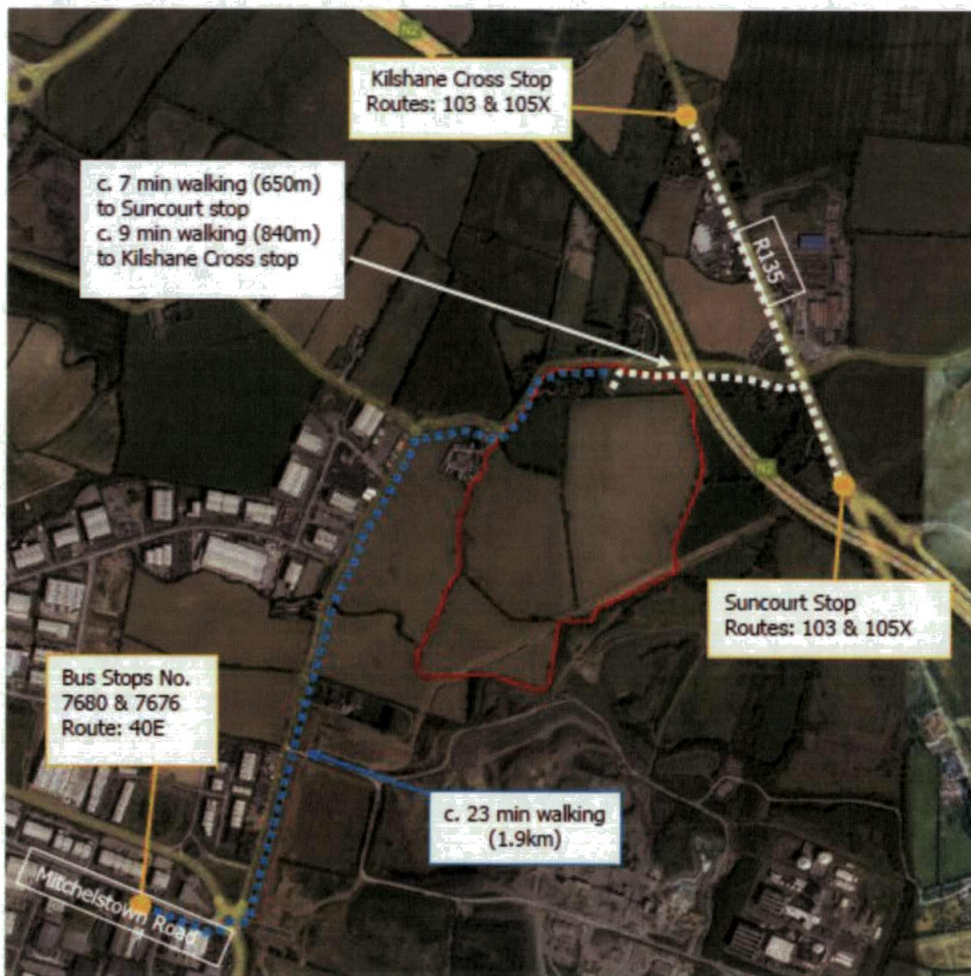
This chapter assesses the likely traffic and transportation impacts on the receiving environment during the construction and operational phases of the proposed development.

Existing Local road network

There are two existing access points to the site, the primary one being from Kilshane Road. The Kilshane Road at this location is a 2-lane carriageway with a posted speed limit of 80 km/hr and no dedicated cycle facilities. There is a pedestrian footpath on the northern side of the road to the north of the site only.

Existing Public transport facilities

There are currently no public transport facilities on the Kilshane Road. The nearest public bus stops are located on the R135 and on the Mitchelstown Road at Northwest Business Park, to the east and southwest of the site, respectively. In this arrangement, use of public transport would not be attractive due to distance and safety concerns for pedestrians.



**Figure 7 Existing local road network and public transport facilities
Proposed Physical Infrastructure**

Site Access Arrangement and Realignment of Kilshane Road

Access is proposed via a new roundabout on Kilshane Road.

A portion of the Kilshane Road bounding the north-western boundary of the site is proposed to be realigned and upgraded. The upgraded layout consists of the construction of dedicated footpaths and cycle lanes along both sides of the road. Cycle lanes and footpaths will both be 2m wide and separated from the road by a 2m wide grass verge and swale. Access to existing residential units to the west of Kilshane Road where the realignment is proposed will be provided via a new access from the realigned road. The realignment and upgrade of the Kilshane Road are proposed to occur simultaneously with the construction of the proposed power station.

Parking

The proposed development will include 26 staff car parking spaces (including 1 no. disabled parking space and 2 no. electrical charging points) and 20 sheltered bicycle parking spaces.

Indicative Masterplan

The subject application for the power station is part of a larger (28.65 ha) Kilshane Energy landholding. An indicative masterplanning exercise has indicated that the remainder of the landholding could accommodate industrial commercial units, with 450 associated car parking spaces. This number takes account of Fingal County Council standards.

Kilshane Road/Bay Lane Junction

There is a potential future development near the proposed development at the junction of Kilshane Road and Bay Lane, west of the Kilshane Energy development and it is anticipated that the upgrading of this junction will involve new priority roundabout. If both projects get approval, there is potential that both the Kilshane proposal and junction upgrade at Kilshane Road/Bay Lane will begin concurrently. Coordination between the engineering teams for both developers has been agreed. Both projects are however independent of each other and if the neighbouring project does not go ahead this will not impact the ability of the subject application to be delivered.

Details of the proposed physical infrastructure can be seen in Figures 1 to 4 above.

Construction Traffic

Construction Traffic Impact

During the construction period for the proposed development, there will be a number of high activity periods where construction related traffic will be highest. The most active of these periods are likely to be:

- a) Demolition of the existing building and removal of demolition waste off site.
- b) Excavation to reduced levels including the road realignment (approximately 64,500m³).
- c) Construction of the actual buildings.
- d) Excavation and installation of the electrical grid connection (under separate consent).
- e) Excavation and installation of the gas connection (under separate consent).

The nature of the construction process is such that the traffic generated will comprise short periods of high activity interspersed with longer periods with relatively low level of truck movements into and out of the site over the construction period.

Car Parking During Construction

Due to the location of the proposed site and lack of access from public transport and pedestrian cycling car parking will be provided on site during the construction stage. A total of 216 construction parking spaces will be provided.

Operational Traffic

Operational Traffic Impact

The proposed development will generate a low number of trips by vehicles with only 1-2 staff normally on site and an average of 1 HGV delivery per week.

13.2 MITIGATION AND MONITORING MEASURES

Construction Phase

It is proposed that a Construction Environmental Management Plan, as discussed earlier, will be prepared by the appointed contractor in order to reduce or prevent any potential impacts of the construction phase of the proposed developments on the safety and amenity of other users of the public road. A Preliminary Construction Environmental Management Plan for the Kilshane Development has been prepared as a guide to the appointed contractor and is included under a separate cover for the planning application. The contractor will prepare the final Construction Environmental Management Plan and will consider the following aspects:

- Dust and dirt control measures.
- Noise assessment and control measures
- Routes to be used by vehicles
- Working hours of the site
- Details of construction traffic forecasts
- Time when vehicle movements and deliveries will be made to the site
- Facilities for loading and unloading
- Facilities for parking cars and other vehicles

In addition to the above, a detailed Construction Traffic Management Plan will be prepared by the main contractor. This document will outline proposals in relation to construction traffic and associated construction activities that impact the surrounding roads network. The document will be prepared in coordination and agreed with the local authority. A Preliminary Construction Traffic Management Plan for the Kilshane Development has been prepared which will guide the Contractor.

Monitoring

During the construction phase the following monitoring is advised. The specific compliance exercises to be undertaken in relation to the range of measures detailed in the final Construction Environmental Management Plan will be agreed with the planning authority.

- Construction vehicles routes and parking
- Internal and external road conditions
- Construction activities hours of work

13.2.1 OPERATIONAL STAGE

Operational Phase

The proposed development is situated adjacent to suitable infrastructure and following construction or road improvements, will be transport services for travel by sustainable modes will be accessible. A key barrier to modal shift towards sustainable modes of travel is often a lack of information about potential alternatives to the car. As such, it is proposed that employees will be made aware of potential alternatives including information on walking, cycle routes and public transport

Monitoring

The Travel Plan for the proposed development will be monitored and updated at regular intervals. A Travel Plan is intended to deal with the typical day-to-day operational conditions at the site. The implementation of the strategies such as the provision of footpaths; parking spaces; up-to-date information of public transport routes and bus stop locations; will encourage employees to reduce

dependency of private car and increase the travel by green modes of transport. These measures will not only benefit the employees but will also prevent any transport impacts that can be provoked by the operational phase of the proposed development.

The targets set out in the plan will be achieved against the background of expanding public transport capacity. These targets are summarised below

- Promotion of the Travel Plan to site workers;
- Implementation and maintenance of the Plan.
- Monitoring progress of the Plan.
- Production of information reports for the Developer and the Planning and Highway Authorities; and ongoing assessment of the objectives of the Plan.

The Plan assesses, examines, and manages the typical traffic that will be generated by the gas turbine power station.

The Plan will enable tracking in terms of a reduction in the dependence on private car journeys and a shift towards sustainable transport options such as walking, cycling and the use of public transport such as buses and trains.

13.3 RESIDUAL EFFECTS

Construction Phase

On implementation of the proposed mitigation measures including the management procedures during the construction phase, the residual impact upon the local receiving environment is predicted to be short-term and slight.

Operational Phase

On implementation of the proposed mitigation measures and procedures outlined in the Travel Plan (provided under a separate cover), the residual effect upon the local receiving environment is predicted to be permanent and not significant.

14 WASTE MANAGEMENT

14.1 INTRODUCTION

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

14.2 MITIGATION MEASURES

Construction Phase

During the construction phase, typical construction & demolition (C&D) waste materials will be generated which will be source segregated on-site into appropriate skips/containers, where practical and removed from site by suitably permitted waste contractors to authorised waste facilities. Where possible, materials will be reused on-site to minimise raw material consumption. Source segregation of waste materials will improve the re-use opportunities of recyclable materials off-site. Construction of new foundations and the installation of underground services will require the excavation of c.64,500 m³ of material, it is envisaged that all of the excavated material will be able to be reused on site as fill or in landscaping. If any excavated material is either unsuitable for use as fill, or not required for use as fill, will be exported off site. Excavated material which is to be taken offsite will be taken for offsite reuse, recovery, recycling and/or disposal.

Operational Phase

During the operation phase, waste will be generated by the day to day running of the facility and from the staff. Dedicated waste storage areas have been allocated throughout the development for the various uses and waste types. The waste storage areas have been allocated to ensure a convenient and efficient management strategy with source segregation a priority. Waste will be collected from the designated waste collection areas by permitted waste contractors and removed off-site for re-use, recycling, recovery and/or disposal.

14.3 RESIDUAL EFFECTS

A carefully planned approach to waste management and adherence to a site-specific Resource & Waste Management Plan (RWMP) (submitted as Appendix 15.1 of the EIAR) during the construction phase will ensure that the effect on the environment will be short-term, neutral and imperceptible.

This RWMP includes information on the legal and policy framework for Construction & Demolition waste management in Ireland, estimates of the type and quantity of waste to be generated by the proposed development and makes recommendations for management of different waste streams. The measures included in the RWMP have been summarised in 14.2 above.

The RWMP should be viewed as a live document and will be regularly revisited throughout a project's lifecycle so that opportunities to maximise waste reduction / efficiencies are exploited throughout, and that data is collected on an ongoing basis so that it is as accurate as possible.

A carefully planned approach to waste management and adherence to the mitigation measures as summarised above will ensure that 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.

15 ARCHAEOLOGY & CULTURAL HERITAGE

15.1 INTRODUCTION

The site has been extensively examined and assessed – by means including electronic and excavation investigations. The site lies within a sensitive landscape with a number of monuments present. These are mostly represented by remains that were previously unknown, with no surface expression, that were identified as a result of archaeological investigations. Figure 8 below shows the location of the monuments in relation to the site.

Archaeological excavation of features and deposits identified during geophysical survey and test trenching within the proposed development at the pre-construction phase has been carried out and is currently ongoing under licence (at time of application).

An Archaeological Impact Assessment was carried out for the electrical connection which will run largely within the footprint of the existing roads. This is unlikely to impact any archaeological remains; however, archaeological monitoring of groundworks will be carried out particularly at an area of increased potential as identified along Bay Lane. There will be no residual impact as a result and therefore no additional cumulative impact when taken into account with the present development.

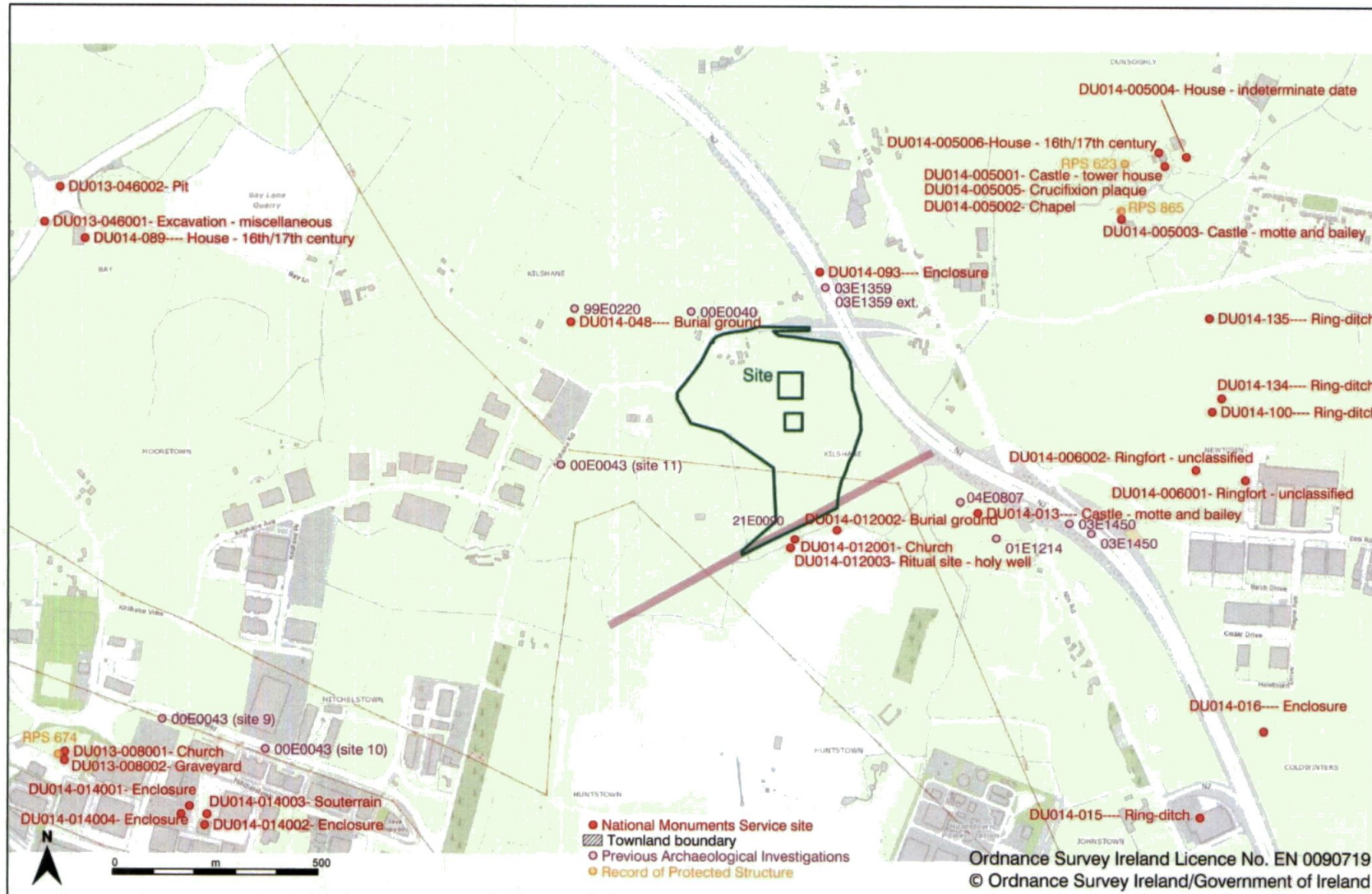


Figure 8 Location of site and nearby Recorded Monuments, Protected Structures and excavations

At time of assessment, there are three potential proposed gas pipeline routes to the proposed power station gas yard (AGI). The project is still at a pre-planning stage, and this connection will require a full archaeological assessment in due course. The proposed routes A and B will impact archaeological remains. This impact, however, can be mitigated through preservation by record (excavation). Route C crosses fields that have not been assessed to date. The three proposed routes are shown below (Figure 9).

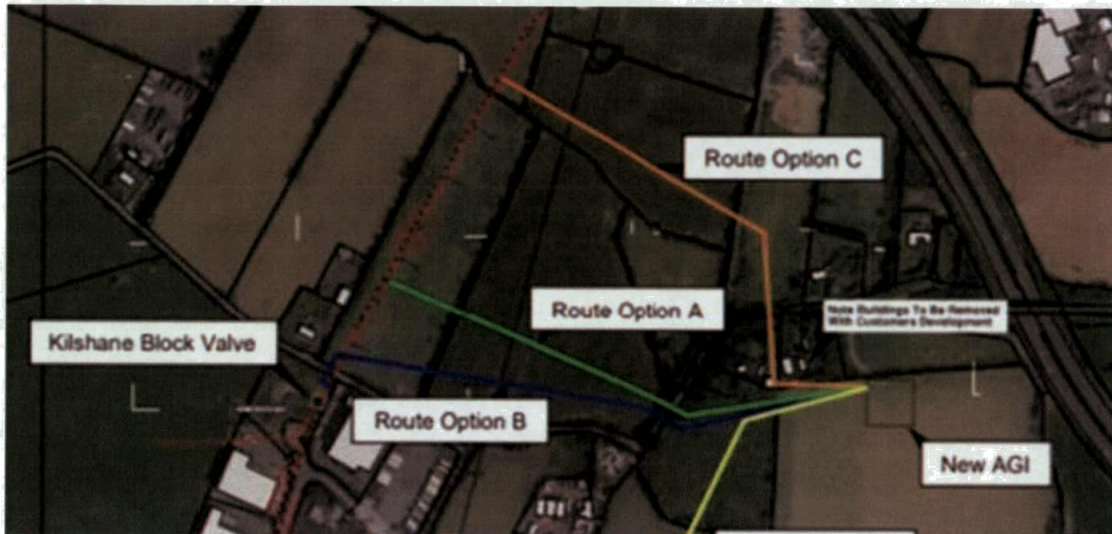


Figure 9 Potential gas pipeline routes A-C

15.2 MITIGATION MEASURES

Further monitoring will be carried out of all groundworks associated with the proposed development. There will be consultation with Licensing Section of the National Monuments Service should additional archaeological sites or features be uncovered. Excavation and recording of any archaeological features identified thus preserving them by record.

15.3 RESIDUAL EFFECTS

It is predicted that there will be no significant residual effects on Archaeology or Cultural Heritage as a direct result of the proposed development.

The effects arising from other nearby projects have been or will be dealt with through mitigation measures that include archaeological assessment at a pre-planning stage and archaeological excavation where remains have been identified. As a result there will be no cumulative impact as suitable mitigation measures have already or will be employed. The AGI and gas pipeline route selected will be dealt with prior to its construction, while the GIS and cable route will be subject to archaeological monitoring during the construction phase.

Consequently, there will be no increase in direct or indirect cumulative effects on the Archaeological and Cultural Heritage resource from these projects when considered together with the proposed development.

16 ACCIDENT & DISASTER RISKS

16.1 INTRODUCTION

Potential effects associated with accident & disaster risks during the construction and operation of the proposed development have been assessed.

The nearest dwellings are located close to the northern boundary of the site. The subject site is currently a greenfield site, used for agricultural purposes. There is no existing surface water drainage network adjacent to or on-site. There is no risk of flooding affecting the site from fluvial or coastal sources

The principal attributes (and impacts) that have been assessed include the following:

- Potential hazard arising from risk of major accident.
- Localised flooding (potential increase or reduction) and floodplains including benefitting lands and drainage districts (if any)
- Loss of containment of fuel/chemical materials

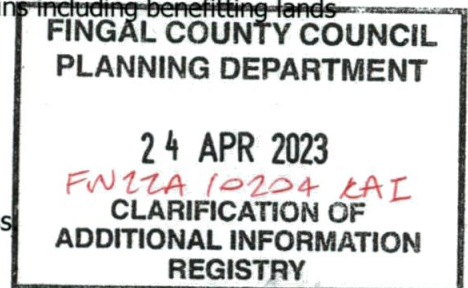
16.2 MITIGATION MEASURES

No specific measures are required or proposed as part of the EIA process

16.3 RESIDUAL EFFECTS

Due to the comprehensive controls and design standards that have been followed during initial design and that will be followed during detailed design, combined with the measures contained in the Preliminary Construction Environmental Management Plan, there is no significant potential for the proposed development to give rise to significant adverse effects on the environment due to accidents or disasters. This applies to accidents/ disasters arising from external factors as well as accidents arising from activities at the site.

A COMAH (Control of Major Accident Hazards) Land Use Planning Assessment report has been prepared and is separately submitted for the proposed development. This concludes that the level of individual risk on and off-site is acceptable. As such the impact is considered to be long term, imperceptible and neutral.



17 INTERACTIONS & CUMULATIVE EFFECTS

Potential interactions between effects on different environmental factors are dealt with within the specialist chapters of the EIAR as relevant (as summarised in this Non-Technical Summary). For example, the effects of drainage changes which are described in section 8 are taken account of in the assessment of effects on biodiversity in section 6.

Cumulative effects are addressed as relevant through the EIAR (as summarised in this Non-Technical Summary). Other projects that have been considered include the AGI and Gas pipeline connection and the GIS and Grid connection projects as referred to in section 4 of this Non-Technical Summary.