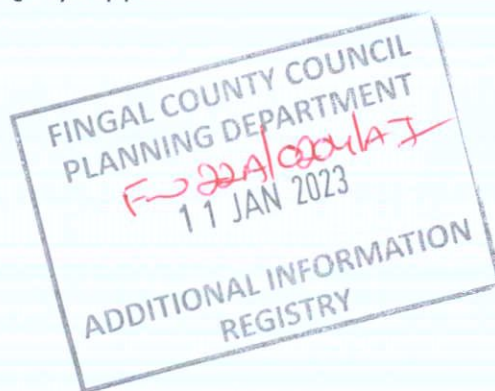


NON-TECHNICAL SUMMARY
of
Environmental Impact Assessment Report
for
Kilshane Power Generation Station Project
at
Kilshane, Co. Dublin

prepared for: Kilshane Energy Ltd

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Table of Contents

1	Introduction	1
2	Layout of Summary	1
3	Alternatives	2
4	Project Description (Overview)	3
5	Population & Human Health	8
6	Biodiversity (Flora & Fauna)	8
7	Land, Soils Geology & Hydrogeology	9
8	Water & Hydrogeology	11
9	Air Quality & Climate.....	12
10	Noise & Vibration.....	13
11	Landscape & Visual.....	14
12	Material Assets	16
13	Traffic & Transportation	16
13.1	Local road network.....	16
13.2	Predicted effects	18
13.3	Mitigation and monitoring measures	19
13.4	Residual effects.....	19
13.5	Monitoring and reinstatement	20
14	Waste Management	20
15	Archaeology & Cultural Heritage	21
16	Accident & Disaster Risks	22
17	Interactions & Cumulative Effects	22

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. In November the Council issued a request for further information on the application which included a request to make various revisions to the EIAR and its Non-Technical Summary. This revised version takes account of the items raised in the Council's request.

2 LAYOUT OF SUMMARY

The following pages provide a summary of the main information that is contained in this 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 (Overview)
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:

EIA	E nvironmental I mpact A ssessment - The <i>process</i> of preparing and assessing the EIA
EIAR	E nvironmental I mpact A ssessment R eport - The <i>document</i> that describes the impacts
Scope	The coverage of the EIA
Likely Impacts	Effects that are expected to occur
Mitigation Measures	Steps taken to avoid, reduce or repair unwanted effects

3 ALTERNATIVES

The main alternatives considered by the developer have been described and assessed in the EIAR. This shows how the selection of the proposed development considered alternative locations, alternative site layouts and design and alternative processes & technologies. It shows the main factors that led to the selection of the preferred option at each level. It also describes outlines that the main environmental considerations included location of noise generating plant relative to residences, site footprint, retention of screening vegetation and scope to provide new screening mounds and vegetation.

4 PROJECT DESCRIPTION (OVERVIEW)



Proposed site layout (whole site)

(see drawing set for full resolution version)

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.

In brief, the proposal includes a turbine, associated exhaust stack, two air cooled condenser units, administration and control building, workshop, stores, fuel gas area, electrical module for fuel gas area, step-up transformer, transfer compound, one fuel oil tank, one demin water tank and one raw water tank and recessed bund area, miscellaneous

plant, and equipment, staff car parking spaces (10% of which will be EV charging spaces), site and landscaping works, and all associated ancillary site development infrastructure including foul and surface water drainage, internal roads, and footpaths, and all associated engineering and site works 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.

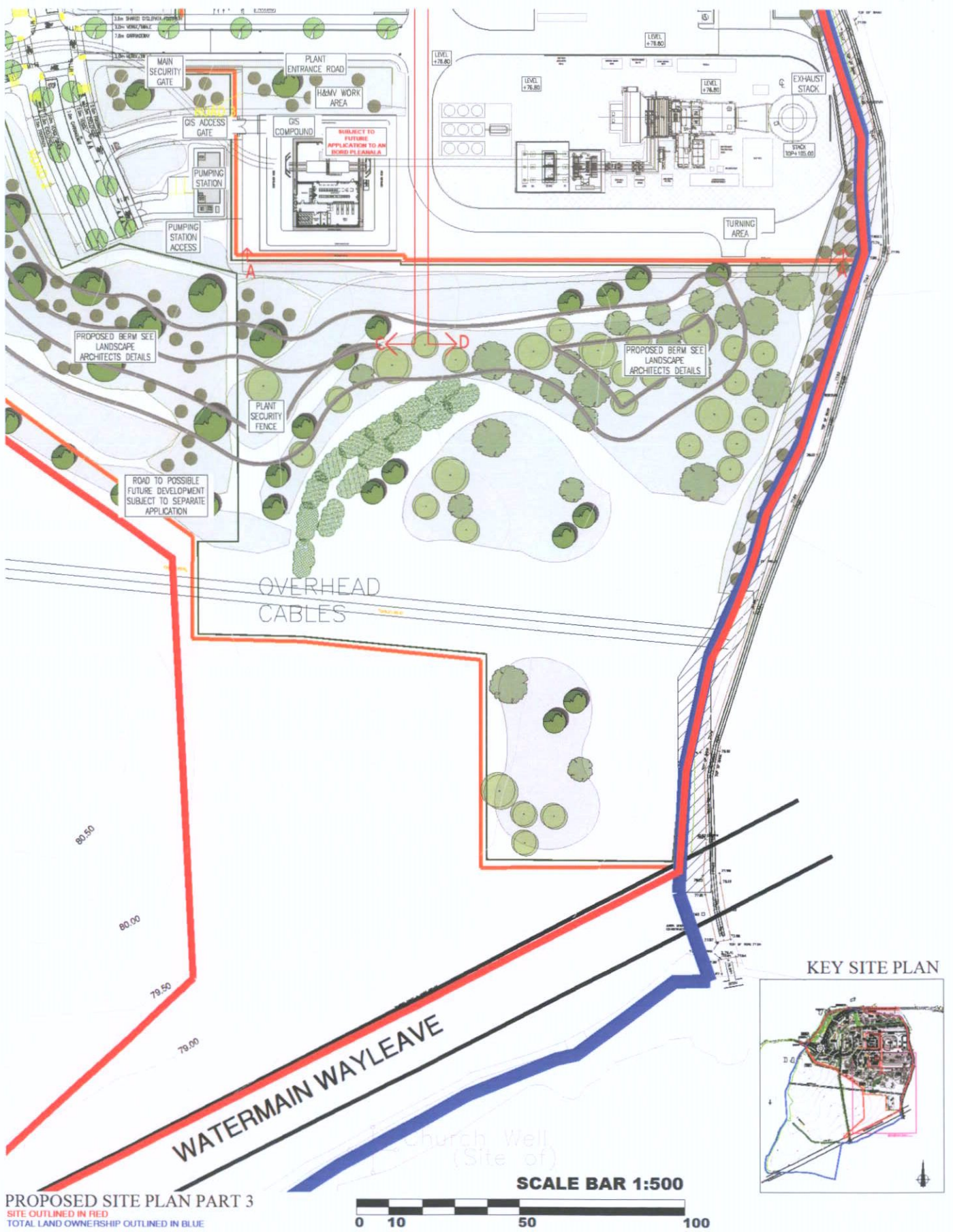
Full details of the development and further details of the associated gas and electrical developments are contained in the other documents (including the drawings, EIAR and Planning Statement) that accompany the application.





PROPOSED SITE PLAN PART 1
SITE OUTLINED IN RED
TOTAL LAND OWNERSHIP OUTLINED IN BLUE

(see drawing set for full resolution version)



PROPOSED SITE PLAN PART 3
SITE OUTLINED IN RED
TOTAL LAND OWNERSHIP OUTLINED IN BLUE

(see drawing set for full resolution version)

5 POPULATION & HUMAN HEALTH

The potential impact on the population during the construction phase is considered 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 an impact upon the local or regional population during the operational phase of the Proposed Development. 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 considered that the Proposed Development would be beneficial, slight and long term.

The potential impact on employment and economic activity during the construction phase is likely to be slight, positive and short term in duration. The Proposed Development will 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 effects on human health as a result of the air quality and climate will be slight and short term on human health during the construction stage. Furthermore, the impact on human health as a result of air and climate during the operational phase will be long term, slight and negative. The effect is considered to be slight because there will not be intervention on the geological and hydrological regime on a local or regional scale.

The Proposed Development is predicted to have a short-term, slight and negative impact on human health from the land, soils, geology and hydrogeology. Moreover, the potential impacts of the operational phase are long-term, slight and negative.

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, traffic noise levels on the local road network due to the construction phase will not result in a significant noise impact. Moreover, the impact on human health as a result of the operational phase of the Proposed Development will be neutral, imperceptible and long-term.

The Proposed Development is predicted to have a short-term, moderate – significant and negative impact on human health from water and hydrology during the construction stage. Moreover, the Proposed Development will have a long-term, imperceptible and neutral impact on water and hydrology during the operational phase.

The potential impacts of construction and operational phases and mitigation measures proposed have been identified and will be included within the Construction Environmental Management Plan for the proposed development. For more information on mitigation measures, please refer to the technical chapters contained herein for more details.

6 BIODIVERSITY (FLORA & FAUNA)

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 characters 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 landscaping plan accompanying the application will implement planting areas of native grass and floral species with high species diversity.

This planting will be of higher ecological value for foraging birds than the current intensively managed monoculture crop system of the proposed site.

The proposed site does contain hedgerows, some of which are of high local value. A small segment which will be lost to accommodate road access, and other small segments which are part of the arborist recommendations to maintain the 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. However, the proposed development is implementing surface water attenuation zones around the introduced hard standing areas resulting from the industrial/access aspects of the proposed development. This in addition to best practice SUDS 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.

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, and the Landscaping Plan and Green Infrastructure plan for the operational phase of 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 negligible and temporary, and due to the operational phase will be localised, negligible and long-term.

7 LAND, SOILS GEOLOGY & HYDROGEOLOGY

Inspection of the available GSI maps show that the bedrock geology underlying the site belongs to Tober Colleen formation consisting of rocks from the Late Chadian to Asbian age. According to the rotary cores drilled in the subject site, the encountered bedrock can be classified as weak to moderately strong Calcareous Mudstone interbedded with moderately strong argillaceous limestone 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 (mbgl). This 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 types: Limestone Till Carboniferous (TLs). 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 WFD groundwater status for this water body (2013-2018) is 'Good' with a current WFD risk score 'Under Review'

Based on the TII criteria (refer to Appendix 7.1) 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 west of the site.

The importance of the hydrogeological features at this site is rated as Low Importance. 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 would not be 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.

The potential impacts of construction and operation and mitigation measures proposed have been identified and will be included in the Construction Environmental Management Plan (CEMP) for the Proposed Development.

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.

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 gully's 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 should 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 should then be removed from site by a suitably permitted waste contractor to an authorised waste facility.

Following implementation of mitigation measures detailed in Chapter 7 of the EIA Report, 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 more 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 detailed in Chapter 7 of the EIA Report will be long-term, imperceptible and neutral.

8 WATER & HYDROGEOLOGY

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).

Based on the TII methodology (refer to Appendix 8.1), for rating the importance of hydrological features, the importance of the hydrological features at this site is rated as low importance, based on the assessment that the attribute has a low quality significance or value on a local scale.

The potential impacts of construction and operation and mitigation measures proposed have been identified and will be included in the Construction Environmental Management Plan (CEMP) for the Proposed Development.

Temporary storage of soil will be carefully managed with excavations remaining open for as little time as possible and weather conditions will be considered 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 minimize 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 CEMP.

The implementation of mitigation measures detailed in Chapter 8 of the EIA Report will ensure that the potential impacts on the surface water environment do not occur during the construction phase 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 mitigation measures highlighted in Chapter 8 will ensure that the potential impacts on the surface water environment do not occur during the operational phase and that the predicted impact will be long-term-imperceptible-neutral.

9 AIR QUALITY & CLIMATE

Air Quality

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. Provided the mitigation measures are implemented, then construction dust impacts will 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.

Climate

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 would result in emissions of approximately 508,603 tonnes CO₂eq per annum. This is based on the maximum theoretical electricity generation for the facility (operational 98% of the year). As per Annex A of the AFRY assessment of the impact of the facility on the overall level of carbon emissions from the Irish power generation sector (Appendix 9.3 – *"A comparison of future carbon emissions within the SEM with and without the Kilshane GT"*), this scenario would require 75% of the available generation to be unavailable throughout the year. In reality the facility will not operate at this level year round. The AFRY assessment finds the impact of the facility on the single electricity market's 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. Reduction of carbon emissions would also be expected in the maximum operations scenario, as the same displacement of higher emitting plants would occur. The overall impact to climate in both the maximum operation and predicted operational scenario is deemed direct, positive, long-term and slight.

Human Health

The impact of construction of the proposed development is likely to be short-term, localised, negative, imperceptible with respect to human health.

Air pollution concentrations due to operations has been assessed and is 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 designated habitat sites has been assessed and is predicted to be long-term, imperceptible, localised and negative.

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.

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.

Residual Impacts

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

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

Construction noise levels predicted at nearest sensitive properties are predicted to be below the threshold for significant impact during the general construction phase. 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 potential negative, not significant and short-term effects are likely.

Operational Phase

For criteria for operational noise, reference is made to *Environmental Protection Agencies Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities NG4* (EPA, January 2016).

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

Detailed computer-based noise modelling of the site shows that the noise levels of the subject site are within the noise criteria. The effect is therefore neutral, not significant and long-term.

11 LANDSCAPE & VISUAL

Overview

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.

Impacts

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.

The analysis shows that the majority of the landscape and visual impacts arising will consist of imperceptible or not significant residual impacts see Table 11.1, and Figure 11.2 with the exception of one localised moderate - significant impact on the local appearance and character of the landscape in the immediate vicinity of this View location 3 where there will be localised visibility of the proposed development from a bridge across the N2. (See Figure 11.1 and Figure 11.1 .)

Table 11.1 Summary of Landscape Impacts

View	Impact	Residual Impact
1	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
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	No visibility because of intervening vegetation and distance	Imperceptible No Impact because of no visibility
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.
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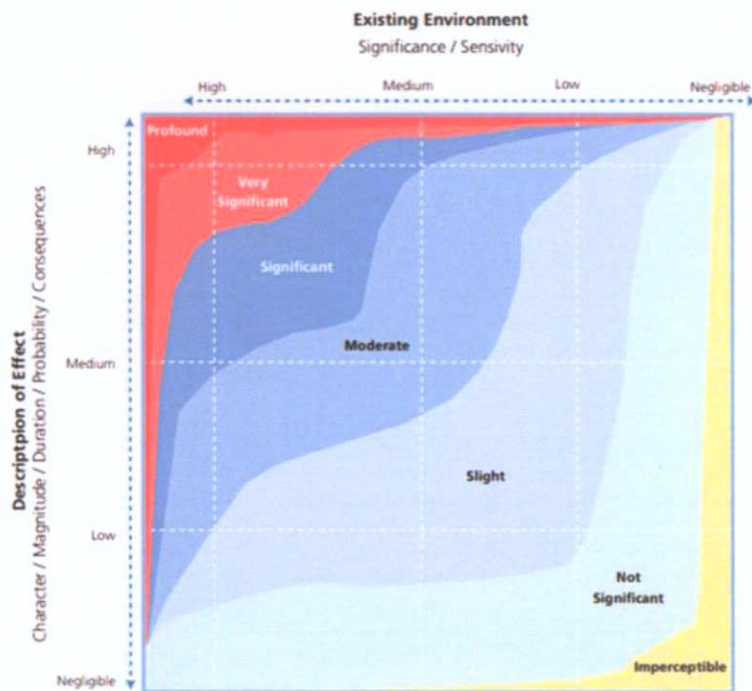


Location	Date	Field of view	35mm equivalent	Distance to site	Camera model
View 3 Proposed 1v112	03/11/21	14°	24mm	78m	Canon EOS 30D

Showing planning 08 year 10



Figure 11.1 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 11.2 Summary of significance of landscape impacts

12 MATERIAL ASSETS

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.

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 combustion turbine is offline, and will serve as the transmission line for the combustion turbine when it is generating and exporting power to the grid.

Maximum import and export capacity are defined in the EirGrid Transmission Connection Agreement. Export power will meet EirGrid Grid Code requirements for voltage, frequency, and power factor.

When operational the plant will supply 293 MW of electricity to the National Grid via a GIS 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 this EIAR.

Gas Connection

Gas will be provided from the proposed gas yard (AGI) to be owned and operated by Gas Networks Ireland (GNI). This has been sized to accommodate the demand from this proposal which is predicted to be a maximum hourly quantity of c.850 MWt.

GNI and Kilshane Energy Ltd have executed a Large Network Connection Agreement for the design and construction of the pipeline route from the gas transmission network to the site and the AGI to deliver the gas supply needed to operate the gas fired power station

Foul Water [Sewage]

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 has submitted to Irish Water who are currently assessing this submission.

Water Supply

The water demand of the proposed development will be 2,200l/day. It is proposed to connect to the watermain located to the southwest of the site on Kilshane Road to the 50.8 uPVC watermain adjacent to the site via a new 150mm Ø watermain. A pre-connection enquiry has been submitted to Irish Water.

13 TRAFFIC & TRANSPORTATION

13.1 LOCAL ROAD NETWORK

There are two site access points to the subject site lands. The primary access point is current from Kilshane Road. The Kilshane Road at this location is a 2-lane carriageway with a posted speed limit of 80 km/hr. There are no dedicated cycle facilities at this location. The pedestrian footpath, on the northern side of the road, ends slightly out of image on the foreground, but extends east over the N2 flyover for approx. 385m.

13.1.1 PUBLIC TRANSPORT FACILITIES

There are currently no public transport facilities to avail of 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. Details on current bus services and walking routes to/from the site are provided below.

- **Suncourt (Stop 101121)** on the R135. This is 650m (approx. 7 min walk) away from the existing site entrance. This stop is served by bus routes 103 & 105X in a southbound direction only.
- **Kilshane Cross (Stop 134321)** on the R135. This is 840m (approx. 9 min walk) away from the existing site entrance. This stop is served by bus routes 103 & 105X in a northbound direction only.
- **Northwest bus (Stops 7680 & 7676)** on the Mitchelstown Road at Northwest Business Park, serve route 40E in both directions and are 1.9km (approx. 23 min walk) away from the existing site entrance.

It should be noted that a continuous pedestrian footpath to all the closest bus stops from the subject site is currently not available and therefore would not be a very attractive mode of transportation for those traveling to/from the proposed development due to distance and safety concerns for pedestrians on sections of these roads.

13.1.2 PHYSICAL INFRASTRUCTURE

Proposed Site Access Arrangement and Realignment of Kilshane Road

Access to the subject development is proposed via a new roundabout on Kilshane Road. The Kilshane Road forms the northern and western approaches of the roundabout whilst the Site Access Road forms the eastern approach.

It is expected that due to the nature of the Kilshane Road – a “country” 2-lane carriageway with an 80 kph speed limit in a generally industrial area and subject to heavy HGV usages, upgrade works to the Kilshane Road may be required as part of any development of the subject site.

As part of the subject development works a portion of the Kilshane Road bounding the site on the north-western boundary 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 are both 2m wide and are 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. Details of the proposal are shown on Waterman Moylan Drawing No. 21-099-P121 and 21-099-P122 accompanying the documentation package. The realignment and upgrade of the Kilshane Road are proposed to occur simultaneously with the construction of the proposed gas turbine power generation station.

The existing site access to the site (off Kilshane Road on the northern boundary) is proposed to be retained to serve the lands to the east of the subject development site.

Car Parking

The proposed development will comprise of 26 no. staff car parking spaces on site (including 1 no. disabled parking space and 2 no. electrical charging points) and given the number of employees working on a typical and on the busiest days of the development, it is considered appropriate.

Cycle Parking

The proposed development will comprise of 40 no. sheltered bicycle parking spaces on site and given the number of employees working on a typical and on the busiest days of the development, it is considered appropriate.

Indicative Masterplan

The subject application for the power station is part of the 28.65ha Kilshane Energy landholding. An indicative masterplanning exercise has indicated that the remainder of the landholding could accommodate 11 industrial commercial units, with 450 associated car parking spaces. The number of spaces takes account of FCC standards.

Kilshane Road/Bay Lane Junction

There is a potential future development near the proposed development at the junction of Kilshane Road/Bay Lane west of the subject development. The nature of the development is confidential however through coordination with the neighbouring developers' engineers (Clifton Scannell Emerson) there will be upgrade to the junction at Kilshane Road and Bay Lane junction. A new priority roundabout is proposed.

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 both engineering teams has been agreed prior to the submission of either planning application. Both projects are independent of each other and refusal of permission for the neighbouring project will not impact the ability on the subject application to be delivered.

A coordinated design has been prepared by Waterman Moylan and Clifton Scannell Emerson as shown on accompanying Waterman Moylan Drawings P140 and P141.

13.2 PREDICTED EFFECTS

13.2.1 CONSTRUCTION TRAFFIC

13.2.1.1 Construction Traffic Impact

The construction traffic for all three development proposals from section 13.3 have been considered as part of the construction traffic impact. All three development proposals will occur at the same time.

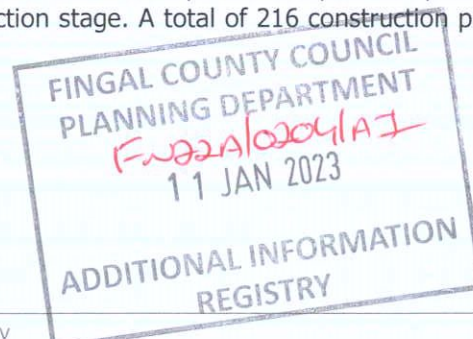
During the construction period for the proposed development, there will be a number of high activity periods where construction related traffic will be highest. The most active of these periods are likely to be:

- 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 GIS Grid Connection pipes.
- e) Excavation and installation of the AGI Gas Connection pipes.

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 3-year construction period.

13.2.1.2 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 during the construction stage. A total of 216 construction parking spaces will be provided.



13.2.2 OPERATIONAL TRAFFIC

13.2.2.1 Operational Traffic Impact

The Proposed Development will generate a number of trips by vehicles. These trips may have an impact on the surrounding road network and could contribute to increased congestion.

13.2.2.2 Do-Nothing Scenario

Should the Proposed Developments not take place, the access roads and infrastructure will remain in their current state and there will be no change. Background traffic would be expected to grow over time.

13.3 MITIGATION AND MONITORING MEASURES

13.3.1 CONSTRUCTION PHASE

It is proposed that a Construction Environmental Management Plan (CEMP) 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 CEMP 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 CEMP 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 (CTMP) will be prepared by the main contractor. A Preliminary CTMP for the Kilshane Development has been prepared which will guide the 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.

13.3.2 OPERATIONAL PHASE

The Proposed Development is situated adjacent to suitable infrastructure and transport services for travel by sustainable modes. 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.

13.4 RESIDUAL EFFECTS

13.4.1 CONSTRUCTION PHASE

Provided the above mitigation measures and management procedures outlined in the Construction Management Plan and the Construction Traffic Management Plan are incorporated during the Construction Phase, the residual impact upon the local receiving environment is predicted to be short-term in the nature and slight in terms of effect.

13.4.2 OPERATIONAL PHASE

Provided the above mitigation measures and procedures outlined in the Travel Plan provided under a separate cover are incorporated into the operational phase of the proposed development, the residual impact upon the local receiving environment is predicted have permanent effects and not significant in terms of effect.

13.5 MONITORING AND REINSTATEMENT

13.5.1 CONSTRUCTION STAGE

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 management plan will be agreed with the planning authority.

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

13.5.2 OPERATIONAL STAGE

The Mobility Management Plan for the proposed development will be monitored and updated at regular intervals. This 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.

14 WASTE MANAGEMENT

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.

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.

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

During the operation phase, waste will be generated from the Operator of the Development through the day to 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.

A carefully planned approach to waste management and adherence to the mitigation measures outlined in Chapter 14 are implemented then 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

Overview

This section examines potential effects of the proposed development on archaeology & cultural heritage.

The site has been extensively examined and assessed – both by electronic and excavation investigations. It has been determined that 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.

As a result, there will be archaeological excavation and monitoring of all groundworks associated with the development.

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.

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.

As a result of this monitoring, excavation and recording, the residual effects are likely to be neutral and none.

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

At present, there are three proposed pipeline routes to the AGI (Above Ground Installation). The project is still at a pre-planning stage, and each route 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 direct 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 route selected will be dealt with prior to its construction, while the GIS and Grid connection 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

An assessment was carried out of the potential impacts associated with accident & disaster risks during the construction and operation of the proposed development.

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 CEMP, 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. All risks can be considered to be negligible.

An assessment has been carried out that 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 preceding specialist chapters of the EIAR. Chapter 17 outlines the interactions that have been identified and shows where they have been addressed.

Cumulative effects are addressed within Chapters 5 to 16 of this EIAR. Other projects considered in undertaking this assessment are as referred to in individual chapters and as listed Appendix 17.1 to the EIAR. They also include the AGI and Gas pipeline connection and the GIS and Grid connection projects as outlined in Chapters 2 and 4 and referred to in section 4 of this non-technical summary.

