Planning Application to An Bord Pleanála in Respect of a Strategic Infrastructure Development
(A proposed Electricity Transmission Development)

Non-Technical Summary

OLDBRIDGE SUBSTATION

Drogheda IDA Business and Technology Park, Donore Road, Drogheda, Co. Meath

Prepared by

AWN Consulting
October 2020

NON-TECHNICAL SUMMARY

1.0 INTRODUCTION

This Environmental Impact Assessment (EIA) Report has been prepared on behalf of CAP Developments LLC (herein referred as 'the Applicant') to accompany a planning application to An Bord Pleanála (ABP) for the provision of a 110kV GIS Substation, 4 number transformers and Client Control Building within a fenced compound; a 49kVa electrical supply to the 110kV GIS Substation; 2 number dropdown 110kV transmission lines comprising two new masts and underground 110kV transmission lines; and all associated and ancillary development (herein referred as the "Proposed Development") at Drogheda IDA Business and Technology Park, Donore Road, Drogheda, Co. Meath. Figure 1.1 presents the site location.

The wider landholding is subject to an existing permission (MCC ref: LB/191735) for a data storage facility and ancillary development (herein referred as the "Permitted Development") and potential future data centre development (herein referred as the "indicative Masterplan Development")

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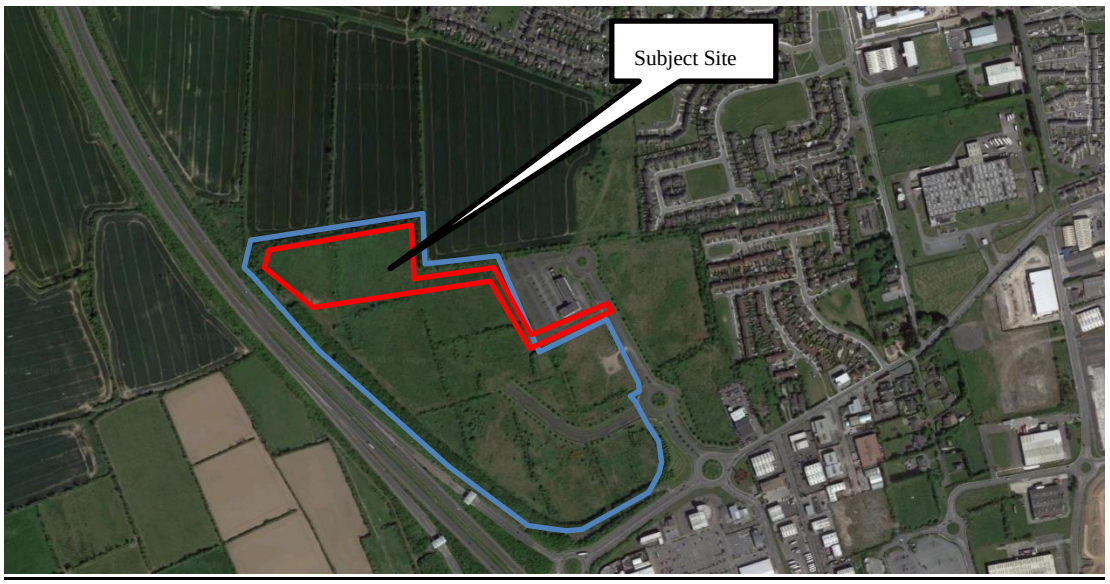

***Figure 1.1a*:** Subject site outlined in red with wider land holding outlined in blue

Requirement for an EIA

The requirement for EIA for certain types and scales of development is set out in the EIA Directives (2011/92/EU and 2014/52/EU), European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (the bulk of which came into operation in September 2018), the European Communities (Environmental Impact Assessment) Regulations 1989-2006, Planning and Development Act 2000 (as amended) and the Planning and Development Regulations 2001-2017.

It should be noted that this EIA Report is prepared in accordance with the 2011 EIA Directive (2011/92/EU), as amended by the 2014 EIA Directive, the Environmental Protection Agency (EPA) Draft "*Guidelines on the Information to be Contained in Environmental Impact Assessment Reports"* (2017) (herein referred to the as the EPA Draft EIA Report Guidelines 2017) and the EPA Draft *"Advice Notes for Preparing Environmental Impact Statements"* (2015) (herein referred to as the EPA Draft Advice Notes for EIS 2015).

The EIA Directives list those projects for which an EIA is mandatory (Annex I) and those projects for which an EIA may be required (Annex II). With regard to Annex II projects, Member States can choose to apply thresholds or use case by case examination or a combination of both to assess where EIA is required. In Ireland, a combination of both has been applied.

The Proposed Project is not listed under Annex I EIA Directives. However, it exceeds the relevant threshold as set out in the Planning and Development Regulations 2001-2019 for Annex II projects. The threshold for "industrial estate development projects, where the area would exceed 15 hectares" as set out in Part 2 of Schedule 5 of the Regulations was considered to be most relevant threshold in the context of the Proposed Development in the subject location. Although less than the threshold, an EIA Report has been provided as the Proposed Development is required to provide the permanent power supply for the Permitted Development.

The main objective of an EIA, as set out in Article 3(1) of the 2014 EIA Directive, is to identify, describe and assess the direct and indirect significant impacts of a project on population and human health, biodiversity, land, soils, water, air & climate (including noise), material assets, cultural heritage and the landscape and the interaction between the aforementioned factors. The EIA Report reports on the findings of the EIA process to date and informs the Planning Authority, statutory consultees, other interested parties and the public in general about the likely effects of the project on the environment.

A Schedule of Mitigation measures to be implemented as part of the Proposed Development is included in Appendix 1.1 of this EIA Report. An outline Construction Environmental Management Plan (CEMP) is provided with the planning submission. The contractor will be required to refine the CEMP and to operate in compliance with measures outlined in the CEMP.

The Operator

EirGrid will be the transmission system operator (TSO). ESB Networks will be the transmission asset owner (TAO).

Consultation

AWN, the Applicant and the project team have liaised with An Bord Pleanala (ABP) in advance of lodgement of the Proposed Development on August 11th. Previously consultation meetings were held with Meath County Council as part of the application for the Permitted Development in which the Proposed development was presented as part of future infrastructure. on the 23rd October 2019 and 27th November 2019.

AWN and the other respective EIA contributors/authors have incorporated advice and comments received during the above consultations into the relevant chapters of this EIA Report.

Contributors to the EIA Report

The preparation and co-ordination of the EIA Report has been completed by AWN in conjunction with specialist subcontractors. The role and responsibility of each contributor, their qualifications and relevant experience are detailed in Chapter 1 (Introduction) of the EIA Report.

2.0 DESCRIPTION OF THE PROPOSED DEVELOPMENT

Description of the Site

The subject site is a 3.077 hectares and is located within the IDA Business and Technology Park, Donore Road, Drogheda, Co. Meath. To the south is the Permitted Development which is currently under construction. The 49kVa ducting will run along the road located to the south of the International Fund Services (Ireland) Limited property. Beyond this, lands are largely defined by medium- to high-density residential uses, with residential developments such as Beechwood and Cedarfield within 200m of the eastern boundaries of the Proposed Development site. North of the Proposed Development is largely defined by agricultural lands, as well as some once-off developments associated with these agricultural holdings. Larger residential developments also exist north of the Proposed Development site, such as residential developments in Tredagh and Riverbank. The Proposed Development area is within the Permitted Development site which is under construction and comprises spoil and bare ground. There is no direct drainage pathways to the River Boyne which flows west-to-east c. 1km north of the site.

Proposed Development Description

The proposed development primarily comprises the provision of a substation compound and associated dropdown 110kV transmission lines, along with associated and ancillary works and is described as follows:

The proposed substation compound is subdivided into two parts. The western part of the compound will accommodate a two storey 110kV GIS substation building (with a gross floor area of c. 1,447 sq.m). The eastern part of the compound will accommodate four transformers and a single storey client control building (with a gross floor area of c. 423 sq.m) and associated underground services. Both parts of the substation compound are enclosed within 2.6 metre high security fencing.

The proposed dropdown 110kV transmission lines will connect the proposed 110kV GIS substation building to existing 110kV overhead transmission lines traversing the subject site to the west of the proposed substation and will comprise the provision of two dropdown masts (c. 16 meters in height) and associated overhead transmission lines, transitioning to underground transmission lines set within ducts that will subsequently progress into the 110kV GIS Substation building, which will in turn connect to the four transformers.

The development includes access paths, landscaping, security fencing, provision of internal access roads and car parking within the GIS substation compound, provision of a 49kVa electricity connection (c. 544 metres in length, connecting to existing electrical services in the main avenue of the Drogheda IDA Business and Technology Park) for the GIS substation building, a unit substation, lightning masts, services, all associated construction works, and all ancillary works.

Figures 2.1 (a) and (b) present an overall site layout plan. Figure 2.1a present the GIS substation, transformer bays and client control building, and Figure 2.1b presents the route of the 49kVA electrical supply.

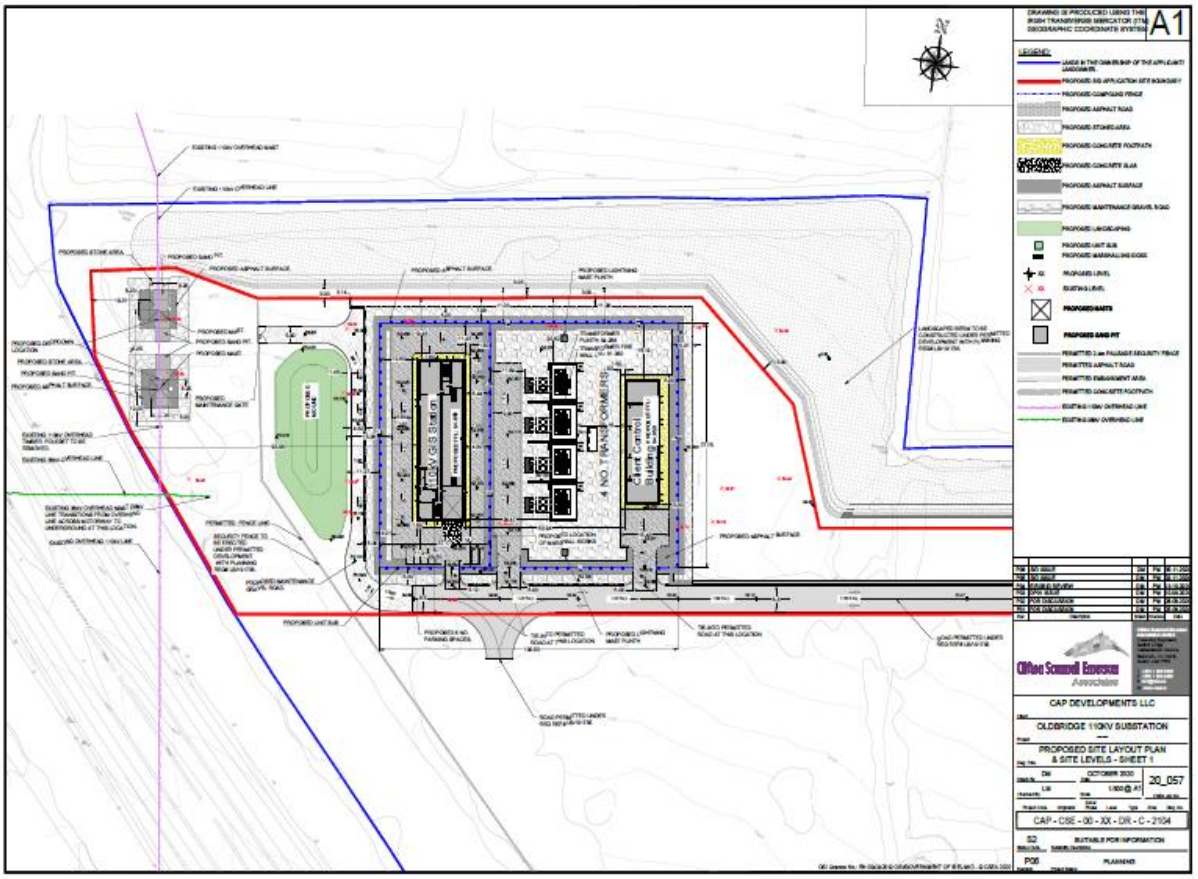

Figure 2.1(a). Site layout plan of the Proposed Development (*Source: MCA)*

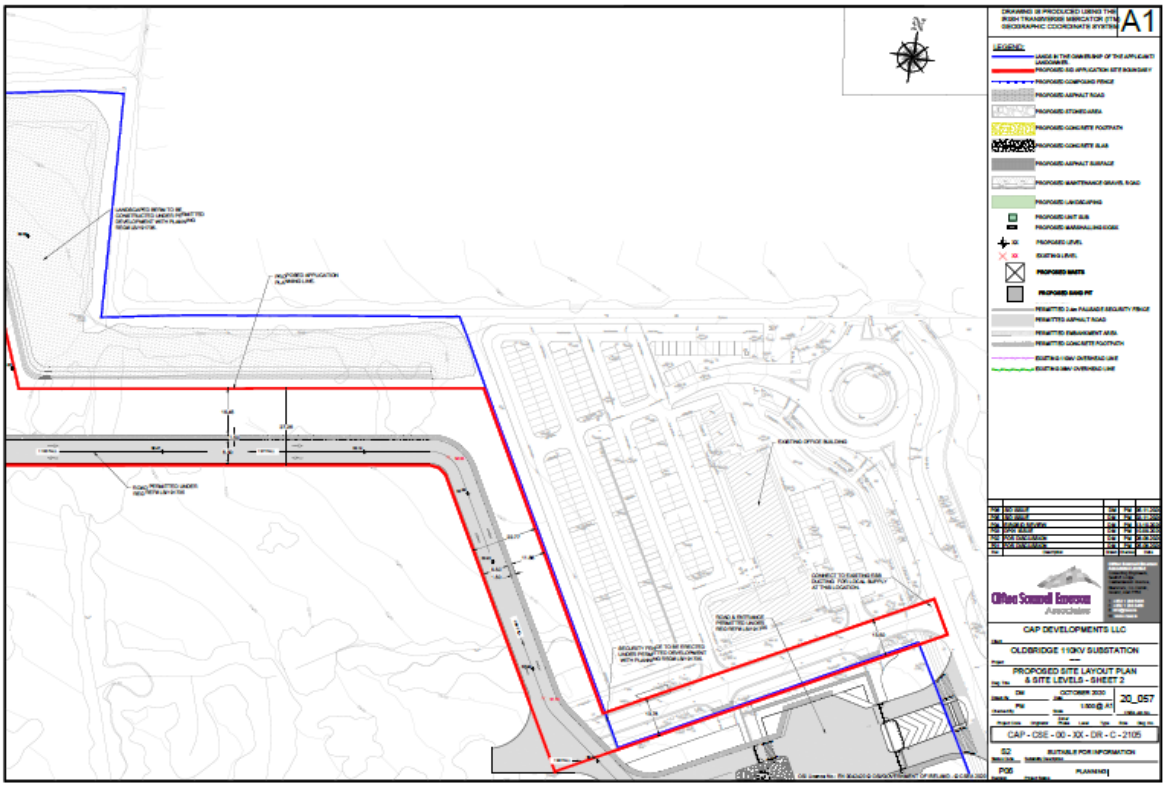

Figure 2.1(b). Site layout plan of the Proposed Development (*Source: MCA)*

Phases of the Project

Under the current EPA Draft EIA Report Guidelines 2017 Draft EPA Guidelines on the information to be contained in EIA Reports, the description of the existence of the project is required to define all aspects of the proposed lifecycle of the Proposed Development under the following headings:

- Construction;
- Commissioning;
- Operation;
- Decommissioning; and
- Description of Other Developments.

Construction

The construction schedule based on receipt of planning is as follows:

- Application for Planning Permission – October 2020
- Commence Site Construction works (subject to grant of planning permission) – Start of Q2 2021
- Completion of Construction and Commissioning – Q3 2021

It is anticipated that the construction of the Proposed Development will be completed during normal construction hours i.e. 7am to 7pm Monday to Friday with a half day working on Saturday (8am -2pm). However, it is possible that the appointed contractors may wish to carry out certain operations outside these hours i.e. evening hours during long summer days etc. Such occurrences will be notified to the local authority, where required and generally kept to a minimum. Where they do occur, contractors will ensure they take place over as short a timeframe as possible and as such are unlikely to cause excessive disturbance.

The total peak construction population on site is estimated to be of the order of c. 30 staff (average 15-20). Site staff will include management, engineers, construction crews, supervisors and indirect staff.

It is proposed that the accesses and haul roads for vehicles, the contractors' compound and fencing that have been established for the construction of the Permitted Development will be utilised for the Proposed Development.

The primary activities that will be required during the site preparation phase for the Proposed Development will be site clearance, excavations and levelling of the site to the necessary base level for construction, surveying and setting out for structures. No rock breaking is required.

A combination of bulldozer, excavators, trucks and other soil shifting plant will commence the main site clearance and levelling aspects.

It is envisioned that 17,000m^3 of material will be excavated from the site to facilitate construction. Surplus excavated material will be removed from site for offsite reuse, recover and/or disposal at suitably authorised facilities. It is estimated that 4,800m^3 importation of soils/stones will be required to facilitate construction. Contractors will be required to submit and adhere to a method statement (including the necessary risk assessments) and indicating the extent of the areas likely to be affected and demonstrating that this is the minimum disturbance necessary to achieve the required works.

Reinstatement along the 49kVA cable installation route will be as current, i.e. grassed in greenfield areas and hardstand along paved areas and roads.

Landscaping will be undertaken in accordance with the landscape masterplan for the Permitted Development (refer to Chapter 11 Landscape and Visual Impact of this EIA Report).

Commissioning

Once the construction of the Proposed Development is completed, ESB Networks will be mobilised to complete the commissioning. Commissioning will be carried out over a period of months. Commissioning works primarily involve a suitably qualified individual connecting the relevant cables to a switchgear within the substations. Following this, energisation can take place.

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

Operation

EirGrid will be the transmission system operator (TSO) and ESB Networks will be the transmission asset owner (TAO). EirGrid will operate transmission stations, including the proposed new GIS substation, remotely from their control centres. However, ESB Networks will carry out all local operations on Eirgrid's behalf.

The ESB Networks will undertake local operational activities from the substations with only interim inspections along the transmission line and MV cable installation.

There are no full-time staff required for operation. However, maintenance of the substation will be required by ESB Networks, including a routine weekly inspection, and a more comprehensive inspection once per year. The weekly inspection of the GIS substation will take a maximum of 8 hours on a single day and will be conducted by up to 2 staff. In addition to the weekly inspections, more comprehensive maintenance works will take place annually on each cubicle. This will require up to 4 staff to conduct testing at the substation over a maximum period of 15 days (120 hours).Traffic relating to staff movements have been assessed as part of the traffic and transportation chapter of this EIA Report (Chapter 13).

Minor volumes of hydrocarbons will be stored within in bunds for transformer oils (36 m^3) and diesel (1 m^3) for an emergency back-up house generator to provide back-up power to the GIS building.

Decommissioning

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

If the GIS substation is no longer required over the long term, then full decommissioning in accordance with prevailing best practice will be undertaken. Retirement of any cables will involve decoupling the cable from the switchgear. An excavation pit of approximately 10m^2 will then be established. The cable to be retired will be identified within this excavation pit and spiked (to ensure that decoupling from the switchgear has been successful and the cable is not live). The cable will then be cut and capped to protect the exposed cable. The excavated pit can be reinstated using the excavated material, with no import of fill required. The retired cable can remain in situ in the ground, with the potential for it to be returned to operation should it be required in the future.

Description of other Developments

A list of the other developments the vicinity of the Proposed Development, is provided in Chapter 3 Planning and Alternatives of this EIA Report. The majority of these are relatively small scale apart from the adjacent Permitted Development and Indicative Masterplan Development.

Sustainability, Energy Efficiency and Resource Use

Eirgrid and ESB Networks are committed to running their businesses in the most environmentally friendly way possible. ESB Networks is a subsidiary within ESB Group. The ESB Group has identified energy efficiency as a strategic priority within its Brighter Future strategy. ESB Group is a commercial semi-state-owned company (95% state-owned) and is committed to supporting and being exemplar in the delivery of Ireland's 2020 public sector targets. These targets, outlined in the fourth National Energy Efficiency Action Plan (2017 – 2020) (NEEAP), include an energy efficiency target of 33% for the public sector.

Major Accidents/Disasters

The 2014 EIA Directive and associated Draft EPA EIA Guidelines requires that the vulnerability of the project to major accidents, and/or natural disasters (such as earthquakes, landslides, flooding, sea level rise etc.) is considered in the EIA Report. The site has been assessed in relation to the following external natural disasters; landslides, seismic activity and volcanic activity and sea level rise/flooding as outlined below. The potential for major accidents to occur at the data storage facility has also been considered with reference to Seveso/COMAH.

Landslides, Seismic Activity and Volcanic Activity

There is a negligible risk of landslides occurring at the site and in the immediate vicinity due to the topography and soil profile of the site and surrounding areas. There is no history of seismic activity in the vicinity of the site. There are no active volcanoes in Ireland so there is no risk of volcanic activity. Further detail is provided in Chapter 5 Land, Soils, Geology & Hydrogeology.

Flooding/Sea Level Rise

The potential risk of flooding on the site was also assessed. A Stage 1 Flood Risk Assessment was carried out and it was concluded that the development is not at risk of flooding. Furthermore, it is not expected that the Proposed Development would adversely impact on flood risk for other neighbouring properties. Further detail is provided in Chapter 6 Hydrology and Appendix 6.2 Stage 1 Flood Risk Assessment.

Seveso/COMAH

The Proposed Development will not be a Seveso/COMAH facility. The only substance stored on site controlled under Seveso/COMAH will be diesel for generators and the amounts proposed do not exceed the relevant thresholds of the Seveso directive.

Minor Accidents/Leaks

There is a potential impact on the receiving environment as a result of minor accidents/leaks of fuel/oils during the construction and operational phases. However, the implementation of the mitigation measures set out in Chapters 6 and 7 will ensure the risk of minor accidents/leaks of fuel/oils is low and that the residual effect on the environment is imperceptible.

3.0 PLANNING AND DEVELOPMENT CONTEXT

Following consultation with An Bord Pleanála (ABP) it was confirmed that the Proposed Development meets the relevant criteria and constitutes a Strategic Infrastructure Development (SID) under Section 182A & 182B of the Planning and Development Act 2000 (as amended).

The site for the Proposed Development is situated within the administrative area of MCC, and therefore the Planning and Development Framework with which the Proposed Development complies is defined by the Meath County Development Plan 2013 – 2019.

The MCC Planning Department and Louth County Council (LCC) Planning Department websites were consulted in order to generate a list of granted planning permissions from the areas surrounding the Proposed Development site within the previous five years. These lists are presented in Appendices 3.1 and 3.2 of Chapter 3 of the EIA Report. The site-specific planning history includes the planning history for the IDA Business and Technology Park.

The Proposed Development is designed to support the power demand of the Permitted Development (Meath County Council Reg. Ref LB/191735) and to serve the power needs of the indicative Masterplan Development on the overall landholding of c 19.46 hectares within the Drogheda IDA Business and Technology Park.

Chapter 3 of the EIA Report concludes that the Proposed Development will be in keeping with all of the aspects of the relevant policy documents and will deliver a key piece of supporting infrastructure. The Proposed Development will be situated on suitably zoned lands in the Drogheda area.

The policies and objectives of MCC regarding the conservation, protection and enhancement of environmental resources and assets of the region will not be contravened by this Proposed Development, as will be described in the relevant chapters in this EIA Report.

4.0 ALTERNATIVES

EIA legislation and the prevailing EPA Draft Guidelines (August 2017) and best practice require that EIA Reports consider 'alternatives' for projects with regard to their environmental effects addressing the do nothing alternative and consideration of alternatives

The wider landholding is subject to an existing permission (MCC ref: LB/191735) for a data storage facility and ancillary development (the "Permitted Development"). A 6 MVA unit substation and associated 6MVA (10kV) electricity connection are in place to support interim power demand for the Permitted Development.

In the event that the Proposed Development does not proceed (I.E THE do nothing scenario), further development of additional data storage facilities on this site would be left without adequate permanent power supply. There are no environmental effects associated with the do-nothing scenario.

The assessment of the alternative routes for the 110kV transmission line considered four route options (presented in Figure 4.1 of Chapter 4 of this EIA Report).

Option 1 – Red route along the M1 -Length 2.2 km.
Option 2 – Blue route along the Slane road, and Donore road, Length 5.8 km
Option 3 – Yellow route - along the Slane, Rathmullen and Donore roads–Length 4.9 km
Option 4 – Green route – drops down from existing overhead line at the Proposed Development site – Length 0.31 km

Option 4 was deemed to be the most suitable based on having the lowest potential temporary environmental effects during construction as a result of its shorter length and distance from environmental (in particular the Boyne (SAC and SPA)) and human receptors. All route options were concluded as having a longterm neutral and *imperceptible* impact on the environment during operation.

The proposed GIS substation is designed based on requirements stipulated by the Operator. The design of the substation units is centred around the equipment requirements of the Operator that are required to provide an efficient and safe service. From a "design and layout" point of view, therefore, the flexibility to select alternative designs and layouts was not available to the Applicant.

In terms of the proposed processes, the proposed GIS substation and new cable bays will employ the same electricity generation and transmission processes that are used by the Operator at their other facilities in Ireland and represents the most up-to-date and state of the art processes currently available. As appropriate, alternative processes are considered on an ongoing basis by the Operator as a part of each of their operations based on many factors including technical feasibility, environmental impact, efficiency, security, reliability and cost. Therefore, from a "process design" point of view, the flexibility to select alternative processes for integrating into the current national grid is not available to the Applicant.

In conclusion, it is considered that the Proposed Development and design is the most suitable choice to provide the support required to meet the power requirements of the Permitted Development and potential future indicative Masterplan Development.

5.0 POPULATION AND HUMAN HEALTH

This chapter evaluates the impacts if any, of the Proposed Development on population and human health. In accordance with the Draft EPA EIA Report Guidance (2017), this chapter has considered the *"existence, activities and health of people"* with respect to *"topics which are manifested in the environment such as employment and housing areas, amenities, extended infrastructure or resource utilisation and associated emissions"*.

This chapter also follows European Commission guidelines (2017; *Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report*) and examines the health effects relevant to the Proposed Development as they relate to a relevant, defined study area. The effects of the Proposed Development on the population and human health are analysed in compliance with the requirements of the EPA Draft EIA Report Guidelines 2017.

Issues examined in this chapter include demography, population, employment, social infrastructure, landscape, amenity and tourism, natural resources, air quality, noise and vibration, material assets, traffic and health and safety.

Impact Assessment

It is predicted that there will be a very slight positive impact on local business activity during the construction phase with the increased presence of up to 30 no. construction workers using local facilities. The positive impact during the operational phase will be less with c. 2 staff on site at any given time for maintenance works.

The best practice dust mitigation measures that will be put in place during construction of the Proposed Development will ensure that the impact of the Proposed Development complies with all EU ambient air quality legislative limit values which are based on the protection of human health. Therefore, the impact of construction of the Proposed Development in relation to dust is likely to be short-term and imperceptible with respect to human health. The proposed cables will be underground and will have no impact air quality in relation to human health once operational. In addition, the proposed substation does not have the potential for any emissions which could impact air quality in terms of human health during operation.

There will be some impact on nearby noise sensitive properties due to noise emissions from site activity and traffic. The application of noise limits and limits on the hours of operation, along with implementation of appropriate noise and vibration control measures, will ensure that noise and vibration impact is kept to a minimum. In addition, due to the distance between the site and the nearest sensitive locations, vibration impacts generated during construction are expected to be negligible. Therefore, the noise and vibration impact of the construction phase of the Proposed Development is likely to be temporary to short term and slight negative with respect to human health because of the temporary to short-term construction phase. The operation of the Proposed Development has negligible noise impacts. The cumulative noise impacts of the Proposed Development and the Permitted Development have been assessed in Chapter 10. The resultant noise impact is negative, not significant and long-term. The Proposed Development will not generate any perceptible levels of vibration during operation and will have a negligible significance of effect with respect to human health. Therefore, there will be no impact from vibrations on human health.

The location of the Proposed Development within an industrial park area, adjacent to a national motorway and in close proximity to developed retail parks will have a minimal impact on the local landscape amenity.

The traffic assessment shows that the additional traffic movements associated with the Proposed Development were found to be short-term, negative and not significant for the construction phase and long-term, neutral and imperceptible for the operational phase.

The Proposed Development has the potential for an impact on the health and safety of workers employed on the site, particularly during the construction phase. The activities of contractors during the construction phase will carried out in accordance with the Safety, Health and Welfare at Work (Construction) Regulations 2013 (S.I. No. 291 of 2013) to minimize the likelihood of any impacts on worker's health and safety. During the operational phase of the development, the operator will implement an Environmental Safety and Health Management System and associated procedures at the facilities.

Mitigation measures proposed to minimise the potential impacts on human health in terms of air quality and climate and noise and vibration are discussed in Chapters 9 and 10 of the EIA Report, respectively. Mitigation measures to reduce the impact of additional traffic movements to and from the development are set out in Chapter 13 of the EIA Report.

Overall, it is expected that the Proposed Development will have a *positive* and *long-term* impact on the immediate hinterland through continued employment opportunities and the associated economic and social benefits.

6.0 LAND, SOILS, GEOLOGY AND HYDROGEOLOGY

This chapter of the EIA Report assesses and evaluates the potential impacts of the Proposed Development on the land, soils, geological and hydrogeological environment.

The limestone aquifer (Regionally Important karstified aquifer) which underlies the site is overlain by low permeability clays which provides natural protection to the underlying aquifer. A site investigation in 2020 confirmed that the depth to bedrock is > 15 metres below lands surface. The aquifer vulnerability following GSI guidelines is designated as having a “Low” aquifer vulnerability.

The Groundwater Body (GWB) underlying the site is the Drogheda GWB (EU Groundwater Body Code: IE_EA_G_008). Currently, the EPA (2019) classifies the Drogheda GWB as *under review*. However, the GWBs to the north and south of this currently are projected as “At Risk” i.e. at risk of not achieving good status

Based on the National Roads Authority (NRA)/Institute of Geologists of Ireland (IGI) criteria for rating the importance of hydrogeological features (refer to Appendix 6.2), the importance of the hydrogeological features at this site is rated as *High Importance*. This is based on the assessment that the attribute has a high-quality significance or value on a local scale. The aquifer underlying the proposed site is a karstified Regionally Important bedrock aquifer, used for public water supply or generally for potable use.

Subsoil stripping and localised stockpiling of soil will be required during construction. The importation of engineering fill will be required to facilitate construction. The project engineers, CSEA, have estimated that the importation of up to 4800m^3 of fill material and exportation of 17000 m^3 will be required

The potential for impact on soil and water is low based on assessment of the potential impacts during construction and operation. Mitigation measures have been identified to further minimise risk of impact further and are included in the Construction Environmental Management Plan (CEMP) for the Proposed Development. Mitigation measures include;

- Management of run-off waters containing suspended solids to ensure adequate settlement of solids and appropriate earthwork handling protocol.
- All fill and aggregate will be sourced from reputable suppliers.
- All fuel tanks shall be stored in designated areas, and bunded 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 which will be away from surface water gulley's or drains.

- It is unlikely that contaminated material will be encountered during construction of the Proposed Development based on site investigation data. 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 6 of the EIA Report and the CEMP, 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. There is a small potential for leaks from the minor fuel storage for transformers and back-up generator to occur on site. However, the volumes stored is small and tanks are bunded and on hardstand areas. In addition to this there is a potential for leaks and spillages from the small number of vehicles which enter this area. Any accidental emissions of oil, petrol or diesel will likely discharge to sewer as located on hardstand and the potential for discharge to ground is low. The underlying aquifer is well protected by low permeability clay and hardstand.

The land is zoned for high technology development and located within an IDA Park. There is no loss of agricultural land as a result of the Proposed Development. The predicted impact on lands soils geology and hydrogeology during operation of the Proposed Development, following implementation of mitigation measures detailed in Chapter 6 of the EIA Report will be long-term, imperceptible and neutral.

7.0 HYDROLOGY

This chapter of the EIA Report assesses and evaluates the potential impacts of the Proposed Development on the surrounding water & hydrological environment. There are no streams on the site itself or along its boundaries and no direct pathway to the River Boyne (estuary) and its tributaries, which are located c. 1 km north of the site.

There are two water quality monitoring station located upstream of the Boyne Estuary, The Old Bridge (RS07B042200) and the New Bridge (RS07M010300) both obtained a Q4 - Good WFD status (in 2018 and 2006 respectively). The Boyne Estuary to the north currently has a rating of 1a, '*At risk of not achieving good status'.*

Based on the NRA methodology (refer to Appendix 7.1), for rating the importance of hydrological features, the importance of the hydrological features at this site is rated as medium importance. This is based on the assessment that the attribute has a medium-quality significance or value on a local scale. The Boyne Estuary is the receiving waterbody for the site, it is not a source of local potable water, and is not widely used as a local water amenity in this area due to the industrial nature of the nearby Drogheda port.

The potential risk of flooding on the site was also assessed. A Stage 1 Flood Risk Assessment was completed for the site (Appendix 7.2 of the EIA Report). The assessment identified no flood hazards for the Proposed Development. The development resides within Flood Zone C and is not at risk of flooding from a 1% or 0.1% Annual Exceedance Potential (AEP) event.

The Proposed Development will require site preparation, excavations and levelling for foundations, car parks and a c c e s s roads, for the installation of services and landscaping. The potential impacts of construction and mitigation measures proposed have been identified and are included in the CEMP for the Proposed Development. The mitigation measures are as outlined in section 6 above.

As there is no direct pathway to surface water from this site there is no likely potential impact on offsite watercourses. Some removal of perched rainwater from the excavation may be required. Volumes will be quite low, and all pumped water will be subject to onsite settlement before release.

The implementation of mitigation measures detailed in Chapter 7 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, drainage form the fuel bund for the transformers will be to the foul sewer. During the operational phase, there is a low potential for contamination of stormwater run-off and no direct pathway to a river. The discharge to foul sewer is minimal as no full-time staff using the facility. The discharge to stormwater and foul sewer discharge was allowed for in the design of the Permitted Development drainage infrastructure. This infrastructure incorporates attenuation and interceptors, ensuring that there is no potential for any off-site impact as a result of the development,

The implementation of mitigation measures highlighted in Chapter 7 will ensure protection of the surface water environment during the operational phase and that the predicted impact will be long-term-imperceptible- neutral.

8.0 BIODIVERSITY

This chapter provides an assessment of the impacts of the proposed development in question on the ecological environment, i.e. flora and fauna.

The Proposed Development area is under construction and comprises spoil and bare ground.

There are no rare or protected habitats recorded in the study area. The site may be considered of Low Local Ecological Value. There are no predicted significant effects on local ecology.

None of the qualifying habitats or species of the European sites considered in the potential zone of impact occur under the footprint of the proposed works areas.

There is no connectivity with the River Boyne. There will be no direct or indirect effects on the European sites associated with the River Boyne.

The Proposed Development will have no predicted effects on European sites or on local ecology, therefore cumulative impacts can be ruled out.

The implementation of standard mitigation measures highlighted in Chapter 8 will ensure that protection of biodiversity in the surrounding environment.

The Proposed Development is located in an area of low local ecological value and, as such, is predicted to have a neutral and imperceptible effect on biodiversity.

9.0 AIR QUALITY AND CLIMATE

This chapter evaluates the impacts which the Proposed Development may have on air quality & climate.

Air Quality

In terms of the existing air quality environment, data available from similar environments indicates that levels of particulate matter less than 10 microns and particulate matter less than 2.5 microns (PM_{10}/$PM_{2.5}$) are, generally, well within the National and European Union (EU) ambient air quality standards.

An assessment of the potential dust impacts as a result of the construction phase of the proposed development was carried out based on the UK Institute of Air Quality Management (IAQM) guidance. This established the sensitivity of the area to impacts from construction dust in terms of dust soiling of property and human health effects. The sensitivity of the area was combined with the dust emission magnitude for the site under three distinct categories: earthworks, construction and trackout (movement of vehicles) in order to determine the mitigation measures necessary to avoid significant dust impacts.

A dust minimisation plan will be implemented during the construction phase of the proposed development to ensure that no significant dust nuisance occurs outside the site boundary, measures include the development of a documented system for managing site practices with regard to dust control, monitoring and assessment of dust. No mitigation is required during operation.

Once mitigation measures, such as dust and traffic management, are implemented the impacts to air quality during the construction of the proposed development are considered, short-term and not significant, posing no nuisance at nearby sensitive receptors (such as local residences).

During operation as there is only one back up generator (< 1MW) and minimal traffic the potential impacts to air quality during the operational phase is longterm and imperceptible.

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). The EPA state that Ireland had total GHG emissions of 60.93 Mt CO_2eq in 2018. This is 5.59 Mt CO_2eq higher than Ireland's annual target for emissions in 2018. Emissions are predicted to continue to exceed the targets in future years, therefore, reduction

measures are required in all sectors.

Based on the scale and temporary nature of the construction works, the potential impact on climate change and transboundary pollution from the construction of the proposed development is deemed to be temporary and not significant in relation to Ireland's obligations under the EU 2020 target. There is no impact during operation as there are no significant emissions from the proposed development.

If the mitigation measures outlined in this assessment are implemented, there will be no residual impacts of significance on air quality or climate from the construction or operational phases of the Proposed Development.

10.0 NOISE AND VIBRATION

This chapter assesses the anticipated noise and vibration impact associated with the Proposed Development at nearby noise sensitive locations.

The existing noise climate has been surveyed at nearby noise sensitive receptors over the course of typical day and night-time periods. Road traffic movements, both distant and local, were noted as the most significant source of noise during both daytime and night-time periods.

When considering a development of this nature, the potential noise and vibration impact on the surroundings must be considered for each of two distinct stages: the short-term impact of the construction phase and the longer-term impact of the operational phase.

During the construction phase of the proposed development there will be some impact on nearby noise sensitive properties due to noise emissions from site activity and traffic. The application of noise limits and limits on the hours of operation, along with implementation of appropriate noise and vibration control measures, will ensure that noise and vibration impact is kept to a minimum. The resultant impact is slight, negative and temporary.

In relation to the operational phase it is concluded that there will be no significant noise emissions from the operation of the cable installations or 220kV substation and associated cable bays. The resultant vibration impact is imperceptible, not significant and long- term.

No significant sources of vibration will be present during the operational phase. There are therefore no predicted vibration impacts at neighbouring dwellings during the operational phase. The resultant vibration impact is imperceptible, neutral and long- term.

The cumulative noise impacts of the Proposed Development and the Permitted Development have been assessed including modelling in the Chapter 10 assessment. The resultant noise impact is negative, not significant and long-term.

There are no operational vibration impacts associated with the Proposed Development or the Permitted Development, hence cumulative impacts do not arise in this instance.

11.0 ARCHAEOLOGICAL, ARCHITECTURAL AND CULTURAL HERITAGE

This chapter assesses the predicted impacts of the Proposed Development on archaeological, architectural and cultural heritage using a number of sources including the Record of Monuments and Place, the National Inventory of Architectural Heritage, the topographical files of the National Museum of Ireland, the Excavations Database, cartographic and documentary sources.

There are no impacts on recorded archaeological, architectural or cultural heritage sites associated with the Proposed Development and no sites of archaeological potential were noted during the field survey. Substantial sub-surface archaeological features have been identified within the site boundary through geophysical survey, archaeological testing and detailed topsoil stripping and assessment.

A comprehensive programme of archaeological excavation commenced on site in March 2020, under licence from the National Monuments Service (License no. 20E0082). The following programme of works is being implemented:

- A suitably qualified archaeological consultant (CRDS Ltd) has been appointed to oversee the works and undertake the required archaeological excavations, monitoring and reporting;
- A suitably qualified archaeological contractor (IAC Ltd) has been appointed to undertake the archaeological excavations;
- Topsoil stripping and assessment of Areas 1, 2 & 4 have been completed and a method statement agreed with the National Monuments Service for the excavation of these features.
- Excavation commenced in May 2020 and is on-going, with an anticipated completion date for site works of November 2020.

The results of the excavation will serve to preserve the archaeological findings by records, and a full report outlining the results will be submitted to the National Monuments Service and to the relevant authorities.

12.0 LANDSCAPE AND VISUAL

The Proposed Development site is located at the south western environs of Drogheda town and is in the north western part of a partially developed IDA Business and Technology Park and within the site development area of the Permitted Development within the IDA Business and Technology Park. The Permitted Development is currently under construction.

The overall IDA lands have strong and established landscape screening along their southern, western and northern boundaries. The eastern part of the IDA lands is undeveloped and adjoins residential developments where boundaries comprise combinations of walls, earthen mounds, and tree and hedge planting. Visibility between the residential areas and the IDA lands varies, with some areas fully screened, and others partially screened.

The IDA lands are accessed from the Donore Road via a distinctive and structured landscape entrance area that leads to a main avenue running northwards through the middle of the overall lands and is also strongly landscaped along both sides. The

Permitted Development is currently under construction and occupies the western half of the overall IDA lands, between the main avenue and the adjoining motorway.

The wider site setting, west of the site and motorway, and to the north and south of Drogheda town, is of rolling agricultural landscape, with the River Boyne flowing from west to east through Drogheda town. The Boyne Valley is a landscape of high quality and high sensitivity, not least for its natural landscape, but also for the megalithic passage tombs of Newgrange, Knowth and Dowth, and the cultural heritage of the Battle of the Boyne at Oldbridge. A ridge of high ground at Red Mountain and Donore Hill is located between the development site and Brú na Bóinne, obstructing visibility between these areas.

The Proposed Development comprises a GIS Substation, transformers, and a Client Control Building set within a secure marshalling compound, as well as two new masts adjacent to the motorway which will provide a drop down connection to and from the existing 110kV grid infrastructure.

As the Proposed Development is to be located within the north western corner of the indicative Masterplan Development, it will also be more remote from potentially sensitive receptors. Furthermore, it will benefit from the established strong perimeter woodland screening along the western and norther site boundaries, and also from additional northern site landscaping that will be delivered as part of the Permitted Development.

Given the overall site layout, including the Permitted Development that is under construction, potential visibility of the Proposed Development will be substantially limited to vantage points that are north of the development site.

Such views will be relative distant, and will, by virtue of the rolling agricultural character of the landscape to the north, be generally only intermittent and partial glimpse views.

Importantly, by virtue of the intervening ridgeline at Red Mountain and Donore, the development will not be visible from the area of the passage tombs at Brú na Bóinne or from the Battle of the Boyne at Oldbridge.

The landscape and visual impact of the development, during construction and upon completion and commissioning, will vary from not significant to slight and from neutral to negative. A series of photomontages have been prepared from representative locations and are included in *Appendix 12.1* of the EIAR.

Mitigation of potential landscape and visual effects of the Proposed Development is achieved primarily through site layout and planning, and by locating the Proposed Developed within a localised corner of the overall development site and benefiting from the existing perimeter woodland screening along the western and northern boundaries, and by the southern and eastern site boundaries facing directly into the site area of the Permitted Development. Additionally, the larger built elements will be finished using the same palette of materials as will be applied to the Permitted Development.

By virtue of its location within the overall development site area, and by sharing the main entrance and parts of the internal access road network associated with the permitted development, the Proposed Development will not alter the distinctive entrance and main avenue landscaping of the IDA Business and Technology Park.

The lands are zoned for high technology development as proposed and the scheme provides for an appropriate response to the permitted land use.

13.0 TRAFFIC AND TRANSPORTATION

This chapter assesses the traffic impact that the Proposed Development will have on the surrounding road network during construction and operation.

The intended site for the Proposed Development is located in the Drogheda IDA Business and Technology Park, Donore Road, Drogheda, Co. Meath. The site is bound to the east by an existing estate road (IDA Business and Technology Park Access Road), to the west by the M1 Motorway, to the north by undeveloped lands, and to the south by an emergency access road and Donore Road.

The surrounding road network in the vicinity of the site includes the IDA Business and Technology Park Access Road, Donore Road, Rathmullen Park and the M1.

The site is currently serviced by Bus and Rail. Bus Eireann services 101X, and 163 and Matthews services 901, 901D, and 904 stop on Donore Road, at a point approximately 270 metres east of its roundabout junction with IDA Business and Technology Park Access Road (i.e. approximately 550m from the site access to the Proposed Development). The nearest railway station to the Proposed Development is Drogheda, located circa 3km east of the Proposed Development.

The potential impact of the Proposed Development has been considered for both the construction and operational stages based on Transport Infrastructure Ireland (TII) guidelines set out in the Traffic & Transport Assessment Guidelines (2014).

A number of traffic surveys were carried out on the local road network in October 2019, which were factored up in accordance with TII Project Appraisal Guidelines – Unit 5.3: Travel Demand Projections (2016) to establish opening (2023) and Horizon (2038) year traffic flows in the area.

Following this step, and in order to establish baseline (do-nothing) flows, further adjustments were made to these flows to account for approved surrounding development in the area not accounted for in the surveys. These adjustments also took into consideration the traffic associated with the Permitted Development under MCC *Reg. Ref: LB/191735* to be delivered with the proposed 110kV GIS Substation.

The trip generation of the Proposed Development during the construction stage was estimated based on construction traffic recorded at a similar 110kV GIS Substation facility. The construction staging for the Proposed Development will be such that the worst-case construction impact will occur in Q4 2020, when the permitted development under *MCC Reg. Ref: LB/191735* is at peak construction.

Therefore, the worst-case construction traffic impact for the Proposed Development has been assessed for Q4 2020. The impact of the construction phase of the development was found to be short-term, negative and not significant during peak construction.

During the operational stage, the 110kV GIS substation does not require any full-time staff to operate it in the daily basis. However, maintenance of the substation will be required, including a routine weekly inspection, and a more comprehensive inspection once per year. The worse case scenario during the operational phase has been assumed to happen during the yearly maintenance inspection.

The traffic generated by the Proposed Development was distributed throughout the nearby network to assess the impacts at relevant junctions in vicinity to the site. The traffic impact of the Proposed Development was estimated as a percentage increase at these junctions for 2023 (opening year) and 2038 (horizon year).

The traffic impact of the operational phase of the Proposed Development was found to be long-term, neutral and imperceptible.

14.0 MATERIAL ASSETS

This chapter of the EIA Report evaluates the impacts, if any, which the Proposed Development may have on Material Assets. The Draft EPA EIA Guidelines (2017) state that material assets are now taken to mean built services and infrastructure, roads and traffic and waste management. The Draft EPA Advice notes also give the following examples of material assets; assimilative capacity of air, ownership and access and tourism. In the EIA Report, the impacts on the various material assets described above have been considered in the following chapters of this EIA Report as follows:

- Chapter 5 Population and Human Health;
- Chapter 9 Air Quality & Climate;
- Chapter 13 Traffic & Transportation; and
- Chapter 15 Waste Management.

Ownership and Access
The site of the proposed development is owned by the IDA Ireland (IDA) and CAP developments LLS. A letter of consent is included with the planning application.

The main site access is along the eastern boundary of the site. It forms a t-junction with the IDA Business and Technology Park access road, at a point approximately 260 metres north of Donore Road. The IDA Business and Technology Park access road, in turn, connects to Donore Road at its roundabout junction with Donore Road and the Drogheda Retail Park access road. The site will be fully secured with a high security fence, CCTV and surveillance systems

Power and Electrical Supply
An existing 110kV overhead power lines crosses the Proposed Development site in the northwest corner. The Proposed Development includes for drop down masts to connect these to the proposed GIS substation development which is proposed to serve the Permitted Development and Indicative Masterplan Development.

Surface Water, Wastewater and Water Supply Infrastructure
The water and wastewater infrastructure for the Proposed Development has been taken into account in the design of the Permitted Development and approval by Irish Water for connection. The overall design incorporates runoff control in the form of attenuation and flow control device, which will restrict discharge from the development at a controlled rate of 39.07l/s which is the equivalent greenfield runoff rate. This infrastructure includes full retention and bypass interceptors and a hydrodynamic solid separator which will be used to remove hydrocarbons and rubbish, debris and sediment from the surface water runoff before it enters the attenuation basin. The attenuated storm water will be discharged offsite to the existing IDA surface water system, via the surface water drainage network for the Permitted Development.

15.0 WASTE MANAGEMENT

This chapter has been prepared to address the issues associated with waste management during the construction and operational phases of the Proposed Development.

An assessment was carried out of the potential impacts associated with resource consumption and waste management during the construction and operational phases of the Proposed Development. The receiving environment is largely defined by MCC 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 waste materials will be generated which will be source segregated on-site into appropriate skips/containers and removed from site by suitably permitted waste contractors to authorized waste facilities. Where possible, materials will be reused on-site to minimize raw material consumption. Source segregation of waste materials will improve the re-use opportunities of recyclable materials off-site. Construction of foundations and services will require the excavation and removal of c. 17,000m^3 of material for offsite reuse, recovery and/or disposal at a suitably authorised facility. There has been no evidence of residual contamination on the site to date and therefore it is anticipated that excavated soils/stones will be clean/inert material suitable for re-use, recovery and/or disposal offsite.

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

Dedicated areas have been allocated for storage of waste materials generated during the operational phase of the development. This waste will be generated from the building staff and will comprise of typical commercial 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 waste storage areas by permitted waste contractors and removed off-site for re-use, recycling, recovery or disposal.

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

16.0 CUMULATIVE IMPACTS

This chapter of the EIA Report considers the potential cumulative impacts on the environment of the Proposed Development with the Permitted Development and indicative Masterplan Development on the site and the cumulative impacts with developments in the locality.

The potential cumulative impacts are assessed for each environmental aspect and the predicted impact for each aspect for each scenario is described in Chapter 16 of the EIA Report. With the implementation of mitigation measures for each

environmental aspect and operation of developments in compliance with legislative requirements and the CEMP, it is predicted that there will be no significant long-term cumulative effects.

17.0 INTERACTIONS – INTERRELATIONSHIPS BETWEEN THE ASPECTS

This chapter of the EIA Report addresses potential interactions and inter-relationships between the environmental factors discussed in the preceding chapters. This covers both the construction and operational phase of the Proposed Development.

In the main, the majority of EIA Report chapters assess potential interactions between environmental aspects however this section presents a summary and assessment of the identified interactions. The majority of interactions are found to have a neutral impact on the environment.