Fosterstown 110kV/20MW Distribution Substation Planning & Environmental Considerations Report

Submission to: An Coimisiún Pleanála

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Change History of Report

	New Revision	Author	Summary of Change

Executive Summary

This Planning and Environmental Considerations Report (PECR) has been prepared by ESB Engineering and Major Projects (EMP) to accompany a planning application being made by the Electricity Supply Board (ESB) to An Coimisiún Pleanála (ACP).

The project for which planning consent has been sought is called the "Fosterstown 110kV/20MW Distribution Substation". The project objective is to add capacity and improve distribution security of supply for the Trim area, Co. Meath. This will be achieved by taking power from the existing 110 kV transmission line that traverses the site and transforming the voltage down to 20 kV so it can be used on the ESB Networks distribution network.

This non-statutory Planning and Environmental Considerations Report (PECR) has been prepared to ensure that appropriate planning requirements and potential environmental impacts of the proposed development on receiving environment are considered.

This PECR and associated assessments have concluded the following:

- The development is necessary to ensure the secure and effective supply of electricity to the greater Trim area. National policy outlines the need to invest in the distribution grid to support growing populations. The electrification of new sectors will also drive the increased demand for electricity.
- The characteristics of the proposed development are compatible with the stated objectives and policies of the Meath County Council Development Plans and present no conflicts in terms of surrounding land uses. The Meath County Development Plans also outline the Council's ambitions to work with service providers, such as ESB, to enhance the distribution grid in order to ensure adequate power capacity for the existing and future business and enterprise needs of the County.
- The development is considered to be compatible with all relevant policies and objectives including EU policy, national sectoral policy, national planning policy, regional planning policy and local planning policy.
- The likely significant impacts arising from the construction and operation of the proposed development were assessed against relevant environmental and planning criteria. Where necessary, mitigation measures have been recommended which will be fully implemented. These are detailed in this PECR and set out in a standalone outline Construction and Environmental Management Plan (oCEMP) under separate cover.
- An Appropriate Assessment (AA) Screening has also been prepared for the proposed development (under separate cover). The AA Screening has established that the proposed development has no potential for likely significant effects on any European site, with particular regard to their conservation objectives, either alone or in combination with other projects or plans. Therefore, it is the professional opinion that Stage 2 Appropriate Assessment is not required.

Contents

Appendices

1 Introduction

This non-statutory Planning and Environmental Considerations Report (PECR) has been prepared by ESB Engineering and Major Projects (EMP) to accompany a planning application being made by ESB to An Coimisiún Pleanála (ACP) for a 110kV/20MV Distribution Substation.

The project for which planning consent has been sought is called the “Fosterstown Distribution Substation” (hereafter referred to as the “Proposed Development”). The project objective is to add capacity and improve distribution security of supply for the Trim area, Co Meath. This will be achieved by taking power from the existing Corduff-Mullingar 110 kV transmission line that traverses the site and transforming the voltage down to 20 kV so it can be used on the distribution network. This will relieve existing transformer capacity in the Trim substation which is urgently required.

This PECR and accompanying documentation has been prepared in support of this planning application to ensure that appropriate planning requirements and environmental effects are fully considered.

This report is structured as follows:

- Section 1 - Introduction
- Section 2 - The Planning Application
- Section 3 - The Proposed Development
- Section 4 - Environmental Assessment
- Section 5 - Planning Policy Context
- Section 6 - Planning Assessment
- Section 7 - Planning and Environmental Conclusions

An Appropriate Assessment Screening and outline Construction Environmental Management Plan (oCEMP) have also been prepared in support of this planning application (under separate covers).

2 The Planning Application

2.1 The Applicant

Permission is being sought by the Electricity Supply Board (ESB). The registered address of the ESB is; ESB Head Office, 27 Fitzwilliam Street Lower, Dublin 2, D02KT92, Ireland.

ESB was established in 1927 as a statutory corporation in the Republic of Ireland under the Electricity (Supply) Act 1927. With a holding of 95%, ESB is majority owned by the Irish Government with the remaining 5% held by the trustees of an Employee Share Ownership Plan.

ESB owns and operates assets across the electricity market: from generation, through transmission and distribution to supply. In addition, ESB provides associated services such as supplying gas, using its networks to carry fibre for telecommunications and developing electric vehicle public charging infrastructure.

ESB provides approximately 43% of electricity generation capacity in the Irish all-island market and supplies electricity to approximately 1.4 million customers. ESB Group employs approximately 7,000 people.

ESB's mission is to bring sustainable and competitively priced energy solutions to its customers and its vision is to be Ireland's foremost energy company competing successfully in the all-island market.

2.2 Site Location

The proposed development is located on lands located approximately 3 km southwest of Trim, Co Meath along a stretch of the R160 Trim -Longwood regional road (Figure 2-1). The proposed site is traversed by the Corduff-Mullingar 110 kV overhead transmission line. The proposed development will loop into this transmission line.

The planning application boundary encompasses c. 2.75 ha of agricultural grassland. The characteristics of the land are typical of other agricultural lands in the area, encompassing improved agricultural grassland, hedgerows, scrub and fence-lines. The site is relatively flat with a gentle slope west to east. The main land uses within the surrounding area are agricultural, low density residential.

A row of five residential properties is located fronting onto the eastern side of the R160, directly across the road to the proposed site and there are two golf courses located approximately 300m to the southwest and 300m to the northeast.

Access to the site will be via an existing access of the R160 regional road.

Figure 2-1 Site Location Map

Figure 2-2 Planning Application Boundary

2.3 Substation Development as Described in Public Notices

In accordance with Section 182A of the Planning and Development Act 2000, as amended, the Electricity Supply Board (ESB) gives notice of its intention to make an application for approval to An Coimisiún Pleanála in relation to the proposed development of a c. 27,513 sq.m site on the R160, Carberstown, Trim, Co. Meath, described below.

The proposed development will consist of the construction of a 110 kV / 20MV electrical substation and will include the following elements:

1) Demolition of an agricultural hay shed;
2) Construction of:
    i. a substation compound (c. 4,340sq.m.) with c.2.6 m high palisade perimeter fencing;
    ii. a seven bay 110 kV Gas Insulated Switchgear (GIS) building (c. 707sq.m.; c. 13m in height);
    iii. two 110 kV Double Circuit Overhead Line End Masts (c. 16 m in height) and associated outdoor electrical equipment to facilitate underground cable connections between the existing transmission circuit and the proposed GIS building;
    iv. two 110 kV transformers in transformer bays (c. 4.6 m in height) with associated electrical equipment;
    v. an internal access road (c. 6 m wide); and
3) All other associated and ancillary site development works including the provision of site services; fencing; gates; lighting; temporary construction compound and temporary overhead line tower to facilitate line diversion; upgraded access from the R160; drainage; and hedgerow removal.

2.4 Planning History

There has been no recent planning permission sought within the subject site. There are two historic applications that lie within the proposed site boundary, relating to the erection of a bungalow (MCC Ref. 90923) and erection of a single storey house and associated works (MCC Ref. 981221). There are no documents available to view for these applications on Meath's online planning portal. Both applications were refused planning permission. Directly across from the proposed site on the R160, there are a cluster of residential dwellings for which several applications have been made, only one of these applications (TA191337) has documents available to view.

Application reference	Applicant	Proposed Development	Proximity to proposed development	Decision	Decision date
90923 (no docs available)	M. Feely	Erection of bungalow and septic tank.	Within site	Refused	11/09/1990
981221 (no docs available)	R. Griffith	Replace existing house with a new single storey house and install a biocycle waste water treatment system with	Within site	Refused	28/08/1998

		irrigation area including demolishing existing outbuildings.			
TA20130 (no docs available)	B. Swan	1) alter and extend dwelling, 2) build domestic garage, 3) resite entrance	Directly across the road (R160), less than 50m	Approved (subject to 8 no. conditions)	04/06/2002
TA30311 (no docs available)	N. Slevin	Removal of septic tank and upgrade to proprietary domestic effluent treatment system.	Directly across the road (R160), less than 20m	Approved (subject to 4 no. conditions)	06/04/2004
TA50460 (no docs available)	B. McConnell & A. Tarpey	Revisions to planning ref. no TA/20130 (see above)	Directly across the road (R160), less than 50m	Refused	15/02/2006
TA191337	K&B Munnelly	Extension to dwelling and conversion of garage.	Directly across the road (R160), less than 20m	Approved (subject to 12 no. conditions)	18/06/2020

2.5 The Planning Application Process

2.5.1 Pre-Planning Consultation

Pre-planning consultations with ACP took place in September 2023 (Case No. 317654-23), the purpose of which was to outline details of the proposed development constitutes strategic infrastructure in accordance with the meaning provided by the Planning and Development Act (PDA) 2000, as amended. In October 2023, ABP decided that the proposed development falls within the scope of Section 182A of the PDA 2000 as amended, and that a planning application should be made directly to the Board – see **Appendix A.**

2.5.2 Statutory Consultation and Public Notices

In accordance with the requirements for public notices set out under the PDA 2000, ESB has notified the public of this application by means of the following:

- Site notices – 2 no. site notices have been erected on the relevant lands. The location of the notices is shown on the submitted planning application drawings. A copy of the notice is included in the application pack.
- Newspaper notices – a notice has been published in a national newspaper. A copy of the newspaper notice has been included in the application pack.
- A copy of this application has been circulated to the prescribed bodies, as advised by ABP during the pre-planning consultations.
- A stand-alone website has been established (www.esbfosterstownsubstation.ie). All planning application documentation can be viewed on this website.

2.5.3 Drawing Scales

This application has been prepared in accordance with the requirements set out under the PDA and its associated regulations, as amended. The list of drawings prepared in support of this planning application is tabulated below.

Table 2-1 Drawing submitted in support of planning application.

Drawing Title	Drawing Number	Size	Scale
Site Location	PE492-D282-016-001-002	A1	1:1000
Overall Construction and Operational Layout	PE492-D282-016-002-002	A1	1:500
Existing Site Layout	PE492-D282-016-003-002	A1	1:500
Proposed Site Layout	PE492-D282-016-004-002	A1	1:500
Proposed Drainage Layout	PE492-D282-016-005-001	A0	1:200
Proposed Plans & Section	PE492-D282-016-006-001	A0	1:100
Proposed Building Elevations	PE492-D282-016-007-000	A0	1:100
Proposed Transformer Bund Layout	PE492-D282-016-008-000	A1	1:50
Proposed Site Elevations	PE492-D282-016-009-001	A0	1:200
Proposed Palisade Fence Details	PE492-D282-016-010-001	A3	1:50
Proposed Substation Entrance Gate Details	PE492-D282-016-011-001	A3	1:50
Proposed Lighting Detail	PE492-D282-016-012-000	A3	1:25
Proposed Drainage Details	PE492-D282-016-013-000	A0	1:25
Proposed Road Details	PE492-D282-016-014-001	A3	1:25
Proposed NES Details	PE492-D282-016-015-001	A3	1:25
Proposed NER Details	PE492-D282-016-016-000	A3	1:25
Proposed Post & Rails Details	PE492-D282-016-017-001	A3	1:25
Proposed Site Clearance and Temporary Works	PE492-D282-016-018-001	A1	1:500
Proposed Sight lines Details	PE492-D282-007-001-000	A1	1:250 1:1000
Landscape Mitigation Plan	LD.FSTRSTWN-SBST 1.0	A1	1:500

2.5.4 Statement of Legal Interest in the Lands

A letter of consent was provided from the relevant landowners consenting to the making of this application.

3 The Proposed Development

3.1 Description of the Proposed Development

The description of the proposed development is included in Section 2 of this report. The existing and proposed site layouts are illustrated on drawings: PE492-D282-016-003 and PE492-D282-016-004.

3.2 Project Rationale

The existing 38kV substation at Trim is overloaded on normal feeding and experiencing numerous security of supply issues. There is no capacity for any demand load growth for new housing schemes in the area that will require connection over the next few years.

The objective of this project is to add capacity and improve distribution security of supply for the Trim area, co. Meath. This will be achieved by taking power from the existing Corduff-Mullingar 110 kV transmission line that traverses the site and transforming the voltage down to 20 kV so it can be used on the ESB Networks distribution network.

The overall strategy for the Trim area is as follows:

1. Install the new 110kV/20kV GIS station.
2. Transfer all 20kV feeders from Trim 38kV station to the new station.
3. Retain the existing Trim 38kV/10kV station for the medium term to ensure N-1 capability of the 10kV Trim urban networks.
4. All major new loads in the Trim and surrounding areas to be connected at 20kV to the new station.
5. Carry out further 20kV conversion of MV networks from 10kV to 20KV under the 20kV Conversion program.
6. Reduce the demand on Trim 38kV station and the 38kV network but retain the station in order to provide additional security of supply for the area and options for 38kV and 10kV source voltage in the area.

3.3 Construction Phase Activities

The commencement date for construction is subject to the date of grant of planning permission, pre-commencement obligations, and progression of the design to construction stage.

The construction work will take place in two broad phases:

- Civil Construction
- Electrical Installation

Details of each phase is outlined in sections 3.4.1 and 3.4.2 below.

3.3.1 Civil Construction

The exact programme of works will be proposed by the Contractor prior to mobilisation to site. The following is a non-exhaustive list of the works to be carried out:

- Site entrance modifications and creation of access road.

- Demarcation of construction works area, including site levelling to prepare the works area.
- Site establishment including welfare facilities, site office, etc.
- Construction of site drainage works.
- Enabling works and the formation of a construction route.
- Construction of underground 110 kV cable ducts.
- Installation of substation earth-grid.
- Construction of GIS building, including foundations works, structural steelwork erection, cladding and building finishing works.
- Construction of civils bases for transformer bunds, lightning monopoles, compound lighting columns, LV control cable surface block ducts etc.
- Permanent foul and surface water drainage works.
- Electrical and Mechanical fit out of building
- Compound stoning and paving,
- Finishing and Completion works.

All works will be carried out in accordance with the building regulations and up-to-date design codes at the time of mobilisation.

3.3.1.1 Site Access

The proposed access to the substation shall be via the existing entrance gate of the R160. If required, a wheel-wash will be installed within the site compound to wash dirt from the wheels of road trucks exiting the site. The access route shall be monitored to ensure no dirt accumulates on the public road due to the construction traffic and will be cleaned if required.

3.3.1.2 Site Preparation & Enabling Works

A programme of ground clearance and levelling will be undertaken across the proposed development site. Minor vegetation, topsoil removal and scrub clearance will be undertaken where required.

Prior to the preparation of the programme of clearance, a site investigation will be carried out. During the detailed design and engineering studies, further surveys of the proposed site may be undertaken to confirm the underlying ground conditions. The results of these surveys will be used to inform the final design and layout of the main plant / equipment items.

Topsoil will be stripped using excavators and stockpiled within the construction compound. The subsoil will be graded to align with the final ground levels as provided in the design. Stone for compound surfacing and access road will be delivered in a tipper truck and graded into place using an excavator. Once the stone base is in place, temporary perimeter fencing and gates will be erected, all within the boundary of the application site. Appropriate hoarding will be erected as required in order to shield neighbours from potential noise during construction works. Once fencing and gates are in place, installation of the site offices and construction compound, will commence.

3.3.1.3 Temporary Construction Area

An area has been identified for use as a construction compound. The area is currently agricultural land. The construction compound will facilitate temporary accommodation for the construction phase, and as a contractor laydown area for material storage for deliveries. This

area will also be used to accommodate temporary welfare facilities. Any discharges from the welfare facilities will be connected to a sealed holding tank to be emptied and disposed of off-site by a licenced contractor to an approved licensed facility. A temporary surface will be provided comprising granular stone material with passing bays provided. Storage of fuels and refuelling will be undertaken within a bunded hardstand area. Water will be tankered on to site as required. Foul waste will be disposed off-site using appropriate facilities. A suitably bunded generator may also be used for power.

3.3.1.4 Construction Plant & Machinery

The typical plant to be utilised during construction of the substation is presented in Table 3.3. It is estimated that traffic movements will peak at 20 HGV vehicles per day during the civil construction works.

The combined HGV vehicles importing site equipment, plant, materials, including stone & concrete during the civil works is expected to be approximately 700 - 800 HGV vehicle movements with the majority of HGV deliveries front loaded in the early stage of the works. Therefore, it is envisaged that there will be on average approximately —10 HGV vehicle movements entering the construction site per day and 10 exiting out per day. The above vehicle assumptions are for the estimated volume of imported materials only. Exporting of waste material offsite is not expected to be significant.

The estimated number of construction personal on site during peak times is expected to be 45. Assumed vehicle occupancy of 1.25 persons per vehicle. Therefore, up to 36 vehicles is expected per day during the civil construction works.

Table 3-1 Construction Plant & Machinery

Phase	Plant	BS 5228-1 Ref	Construction Noise Level (dB Laeq/1hr) at 10m distance BS5228-1 Ref)
Site Preparation	Track Excavator	C2.22	72
	Pneumatic Breaker	D2.11	87
	Dump Truck	C1.11	80
	Wheeled Loader Lorry	C2.26	79
	Dozer	C2.10	80
Foundations	Track Excavator	C2.22	72
	Pneumatic Breaker	D2.11	87
	Concrete Pump	C3.25	78
	Compressor	C3.19	75
	Poker Vibrator	C3.19	78
Steel Erection	Tower Crane	C4.48	76
	Articulated Lorry	C11.10	77
	Electric Impact Torque Wrench		78
General Construction	Hand Tools		81
	Pneumatic Circular Saw	D7.79	75

	Internal Fit Out		70
Landscaping	Dozer	C2.10	80
	Dump Truck	C1.11	80
	Surfacing	D8.25	68

3.3.2 Electrical Installation

Electrical installation includes the following:

- Electrical and Mechanical fit out of buildings.
- Delivery and installation of two 110 kV/MV transformers and associated equipment. These are large pieces of electrical plant and the deliveries will be managed in accordance with regulations governing the movement of large loads.
- Delivery and installation of all other outdoor HV equipment.
- Delivery and installation of all 110 kV GIS switchgear
- Pulling and termination of cables.
- LV cabling and wiring of 110 kV equipment and protection and control equipment.
- Installation of compound lighting and security systems.
- Commissioning of all newly installed equipment.

3.3.3 Construction Programme

The construction works will include site preparation, construction of the main building, structures, and site finishing works. It is envisaged that these works will take approximately 12 months to complete. Following this, electrical erection and commissioning will take place and it is envisaged that these works shall also take a further 18 months, subject to availability of required outages of the existing 110 kV overhead line from the electrical transmission system operator, Eirgrid and the time of year, weather conditions and the availability of specialised equipment.

Table 3-2 Outline Construction Schedule

Phase	Activity	pproximate Timeline	Total
Civil Construction	Site Preparation	8 Weeks	52 Weeks
	Civil Construction	44 Weeks	
Electrical Installation	Electrical Installation	52 Weeks	78 Weeks
	Electrical Commissioning	26 Weeks	

3.3.4 Working Hours

The proposed working hours for the construction phase of the project are tabulated below (Table 3-3). No construction works will take place outside these hours, unless such work:

- Is required under exceptional circumstances; or
- Is carried out with the prior written approval of the local authority.

Table 3-3 Normal Construction Working Hours

Day	Working Hours
Monday to Friday	07:00 – 19:00
Saturday	08:00 – 16:00
Sunday or Bank Holiday	N/A

3.3.5 Construction Personnel

A maximum daily workforce of approximately 30 people is expected during the peak period for construction works on site. However, typical daily workforce requirements will be less than this. Car parking for workers and visitors will generally be provided in the contractor's compound.

3.4 Operation Phase Activities

Once commissioned, the substation will be operating 24-hours per day, seven days per week. The plant will not have permanent staff but there will be periodic engineering checks and maintenance visits. Lighting of the compound area will only occur during these periods.

During this lifespan there will be on-going routine maintenance on the different primary plant units. The routine maintenance will be carried out within the substation compound and no environmental impacts are envisaged.

3.4.1 Engineering Services

An Engineering Services Report (ESR) has been prepared by ESB Engineering and Major Projects for the proposed development (**Appendix B).** A summary of the existing and proposed surface water, foul and water supply is provided below.

3.4.1.1 Surface Water

Existing Surface Water Drainage

A site visit was undertaken in June 2023. No drainage features were observed within the site boundary of the proposed development. There is no existing surface water infrastructure located along the R160 fronting the site.

There are two established drainage ditches located to the north and east of the site as shown in Figure 3-1. These drainage ditches converge from the west and east before continuing south as a single drainage ditch. This drainage ditch flows into the Moynasboy stream before then discharging to the Knightsbrook river.

Figure 3-1 Map Showing Existing Watercourses

Proposed Surface Water Drainage

The surface water drainage proposals for the proposed electrical substation have been developed to mimic the natural drainage patterns of the site and in accordance with Sustainable Drainage Systems (SuDS). The surface water proposals replicate greenfield drainage conditions where possible.

Preliminary investigations suggest the soil present is a silt loam or silty clay loam. A site investigation is to be undertaken prior to detailed design, which will include soakaway tests in accordance with BRE Digest 365. The soakaway design will be confirmed during detailed design.

Drainage from the proposed substation development will be collected on site in a dedicated drainage network and will discharge to a proposed soakaway. A soakaway tank with a storage to be confirmed during detailed design will be located in the northeast corner of the proposed development site. The soakaway system will manage flows during storm events and will incorporate an isolator row to enhance the removal of total suspended solids.

The two bunded transformers will be drained by new surface water sewers which will convey the runoff to the soakaway. The transformers will incorporate an Entexol SCS001 (or equivalent) oil sensitive bund dewatering system in addition to an Entexol SCS002 (or equivalent) integrated full retention oil separator.

The new access road within the site will be drained to the adjacent ground, before saturating the soil. This will then either infiltrate to ground or will evaporate as it would on a greenfield site.
All runoff will pass through a catchpit before flowing through the proposed soakaway system to catch any fines.

The remainder of the compound area of the substation will comprise a permeable surface consisting of 50 mm single sized clean compound stone. The permeable compound stone will provide a means of attenuating runoff in these areas and will allow rainwater to saturate the soil. This will then either infiltrate to ground or will evaporate as it would on a greenfield site.

The surface water drainage proposals are illustrated on drawing No. PE492-D282-016-005

3.4.1.2 Foul Water

Existing Foul Water Drainage

There are currently no foul water services within the boundary of the proposed site.

Proposed Foul Water Drainage

It is proposed to discharge foul water generated by the welfare facilities in the substation building to an underground foul water holding tank. A new foul sewer is proposed to convey wastewater to the underground holding tank which is proposed to be located to the north-east of the site.

The foul drainage proposals must cater for the wastewater generated in the welfare facilities of the proposed development. These welfare facilities include for one toilet (WC) and one wash hand basin (WHB) in the north eastern side of the GIS substation building, In addition there are to be two eye wash stations, one in the control room and one in the entrance lobby in the west of the building.

The proposed development will generate small quantities of foul waste. The facility will typically be unmanned. As such, the quantities of foul waste generated will therefore be low.

There will be visits to the site for scheduled and unscheduled inspections, maintenance and repairs as necessary. A two-person crew visiting site for three days a week would be the most that would be expected on the site. In such circumstances the operatives could be expected to use each of the facilities four times a day. A 2,500 gallon (11.36m3) round Carlow Concrete foul water holding tank (or equal approved) is proposed for the development. This will be emptied at 6-month intervals by a licensed waste contractor.

The calculated Population Equivalent (PE) for foul loading is estimated at 48 litres per day. This is consistent with the recommended wastewater loading for industrial sites without a canteen as per the EPA Wastewater Treatment Manual for Small Communities, Businesses, Leisure Centres and Hotels. This equates to 14,976 litres per annum. While such a consistently high visitation rate is unlikely, there is the possibility of increased numbers of staff being present on site for short durations of one to two weeks for the commissioning of electrical elements of the site from time to time. It is considered that these irregular occurrences would

balance with the ordinary operation of the unmanned site to produce a maximum of 14,976 litres of foul waste per annum.
It is common for much lower usage of the facilities on unmanned facilities and therefore a much lower foul loading. A common problem on such unmanned stations is odours in the toilet areas due to the water trap in the WC drying out through evaporation from the lack of use. For this reason, it is proposed to use self-flushing toilets in the station, which would flush automatically twice per week. The station will include one 6 litre flush WC so a minimum weekly foul flow of 12 litres can be expected from this. The self-flushing WC together will therefore contribute 624 litres per annum.

Combining the automatic flush and maximum user demand figures would result in a maximum annual generation of 15,600 litres of foul water. A 2,500 gallon (11.36m^3) round Carlow Concrete foul water holding tank (or equal approved) is proposed for the development. This will be emptied at 6-month intervals by a licensed waste contractor.

3.4.1.3 Water Supply

Existing Water Supply

There is currently no water supply within the site of the proposed development.

Proposed Water Supply Proposals

It is proposed to sink a well at the east section of the site which will provide the water supply for the development. This will provide water for toilet flushing, hand washing and for the eye wash stations in the east of the building.

Given the anticipated low use of the substation facilities following completion it is not considered that the water demand will be greater than the estimated foul water volumes.

3.4.2 Offload to MV Distribution Network

Once operational, the Fosterstown substation will offload to the Medium Voltage (MV) Distribution Network to provide capacity for demand growth and alleviate security of supply issues in the Trim region, Co. Meath whilst also reducing any overloading concerns of the nearby 38kV substation at Trim, Co. Meath.

3.5 Decommissioning Phase Activities

The expected lifespan of the proposed development is in the region of 50 to 60 years. In the event that part or all of the proposed infrastructure is to be decommissioned, all structures, equipment and material will be removed from site.

It is expected that the proximity of sensitive receptors may change over the operational lifetime of the Project. However, impacts during decommissioning are expected to be of a similar magnitude to those during construction but generally of shorter duration.

4 Environmental Assessment

This chapter provides details of the scope and approach to the environmental assessment, a summary of the assessment findings relative to each environmental topic considered and summary of mitigation and management measures identified during the assessment process.

4.1 Scope and Approach

4.1.1 Environmental Impact Assessment (EIA) Screening

The applicant has considered the provisions of Schedule 5 of the Planning and Development Regulations 2001 (as amended), and the governing European Directives.

The proposed development does not fall within any of the classes of development within Part 1 or Part 2 of Schedule 5.

The Proposed Development is not a type of development to which Schedule 5 applies and therefore the requirement for sub-threshold development does not apply (as that can only apply to a Schedule 5 development). As such it is considered that an EIA is not required for the Proposed Development.

This planning application is supported by a non-statutory Planning and Environmental Considerations Report to ensure that appropriate planning requirements and any potential environmental impacts to the receiving environment are considered.

4.1.2 Environmental Scoping

A preliminary environmental scoping exercise has been undertaken by ESB. The purpose of the scoping process was to establish aspects of the environment to be considered in this PECR, in particular those sensitive aspects requiring more in-depth study. The exercise has resulted in an iterative design process, such that the proposal and design has been modified to address the main environmental concerns (i.e. Flood Risk, Drainage Design, Landscaping, etc). Experience of similar developments also informed the process.

Following the preliminary scoping exercise, the following environmental topics have been comprehensively addressed within the PECR and supporting appendices.

- Biodiversity (Section 4.2.1)
- Flood Risk Assessment (Section 4.2.3)
- Noise Impact Assessment (Section 4.2.3)
- Traffic and Transport Assessment (Section 4.2.4)
- Cultural Heritage Appraisal (Section 4.2.4)
- Landscape & Visual Impact Assessment (Section 4.2.6)
- Waste and Resource Management (Section 4.2.7)

An Appropriate Assessment Screening has also been prepared in support of this planning application (under separate cover).

4.2 Environmental Assessment

4.2.1 Biodiversity

4.2.1.1 Introduction

This Ecological Impact Assessment (EcIA) for the proposed development (as described in Section 3.1) was carried out by David Daly (B.Sc., M.Sc.; Ecologist at ESB Engineering and Major Projects). The purpose of this assessment is to identify, describe and assess the likely significant effects of the proposed development on the existing ecological environment and where relevant provide mitigation measures to avoid significant residual effects.

A standalone Appropriate Assessment Screening has been produced, in accordance with the requirements of the Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (hereafter referred to as the 'Habitats Directive') and the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011), which considers the potential impacts of the proposed development on European sites (sites designated as Special Areas of Conservation (SACs) and Special Protection Areas (SPAs)) within the Zone of Influence of the proposed development and should be read in conjunction with this report.

4.2.1.2 Approach and Methodology

Assessment Criteria

This EcIA has been prepared in line with the following established best practice guidance:

- Chartered Institute of Ecology and Environmental Management (2018 (Version 1.2, April 2022)) Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland: Terrestrial, Freshwater, Coastal and Marine
- EPA (2022) Guidelines on the information to be contained in Environmental Impact Assessment Reports
- NRA (2009) Guidelines for Assessment of Ecological Impacts of National Road Schemes (formerly National Roads Authority (NRA), now Transport Infrastructure Ireland (TII))
- DHPLG (2018) Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment

The following legislation and policy documents have also been considered as part of this EcIA:

- European Communities (Birds and Natural Habitats) Regulations 2011 S.I. 477 of 2011 (as amended)
- The Habitats Directive (92/43/EEC) (as amended)
- The Birds Directive (2009/147/EC) (as amended)
- The Wildlife Act, 1976 (as amended)
- The Flora (Protection) Order 2015 [S.I. 356/2015]
- Meath County Development Plan 2021-2027 (Meath County Council, 2024)
- Ireland's 4th National Biodiversity Action Plan 2023-2030 (National Parks & Wildlife Service, 2023)

In accordance with the NRA/TII and CIEEM methodological guidance (outlined above), an evaluation of the value of ecological receptors at the proposed development site was carried out in order to characterise effects, to assess the significance of effects and establish the scale of any residual effects. Potential impacts to Key Ecological Receptors form a core aspect of this assessment; these are defined as features of sufficient value as to be material in the decision-making process for which potential impacts are likely.

Ecological receptors are valued as follows:

- International Importance;
- National Importance;
- County Importance;
- Local Importance (Higher Value)
- Local Importance (Lower Value)

Features of Local importance (Lower Value) are not considered to be Key Ecological Receptors.

Desktop Study

A desktop study was undertaken to establish the existing ecological conditions of the proposed development site and its surrounding environs and to identify the Zone of Influence of the proposed development. The following information was consulted as part of this study:

- Information on international and national designated sites for nature conservation (Special Areas of Conservation (SAC), Special Protection Areas (SPAs), Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs)) and protected and rare species, held by National Parks and Wildlife Service (NPWS), viewed on the 31st July 2025 at https://www.npws.ie/
- Information on records of protected and rare species, held by the National Biodiversity Data Centre (NBDC), viewed on the 31st July 2025 at https://maps/biodiversity.ie/Map
- Information on surface, ground and coastal waterbodies, including the nomenclature of waterbodies and Water Framework Directive status, held by Environmental Protection Agency (EPA), viewed on the 31st July 2025 at https://gis.epa.ie/EPAMaps/
- Aerial photography of the proposed development site and the surrounding area as relevant to this assessment, held by Ordnance Survey Ireland, viewed on 31st July 2025 at https://geohive.ie/
- Information on planning applications within the environs of the proposed development site, viewed on the 31st July 2025, held by Meath Council at https://www.meath.ie/council/council-services/planning-and-building/planning-permission/view-or-search-planning-applications
- Information on the location and design of the proposed development provided by the design team.

Field Survey

The proposed development site was visited by ESB ecologist, David Daly on 03rd November 2023. The purpose of this survey was to identify all habitats within the proposed development site boundary and to assess their potential to support protected and/or rare species.

The approach to the field surveys is based on accepted standard practice and methods. Habitats within the study area were classified after 'A Guide to Habitats in Ireland' (Fossitt, 2000). The dominant plant species present in each habitat type were recorded during the field surveys and this is considered sufficient to allow accurate classification of the habitats present and assess their correspondence to habitats listed as Qualifying Interests, with reference to the Interpretation Manual of European Union Habitats (EC, 2013).

Limitations

The field survey was undertaken outside the optimal season for flowering plants. However, this is not considered to be a significant limitation on the findings of this assessment given that the proposed development site is dominated by improved agricultural grassland which is low in species diversity.

4.2.1.3 Receiving Environment

The proposed development site is a greenfield site located north-east of the Meath Golf Club and south-west of South Meath Gold Club, west of the regional road (R160) and south-west of Trim, Co. Meath.

Designated Sites for nature conservation

The proposed development site is not located within or immediately adjacent to any European or nationally designated site(s). The nearest site is the River Boyne and River Blackwater SAC [002299], which is located approximately 1.25 km west of the proposed development site. This is followed by the River Boyne and River Blackwater SPA [004232], which is located 1.3 km west of the proposed development site. The nearest Nationally designated site is Rathmoylan Esker pNHA [000557], which is located 4.1 km southeast of the proposed development site. The proposed development is hydrologically connected to the Trim pNHA [001357], which is designated for the same reasons and overlaps with the River Boyne and River Blackwater SAC.

The only potential impact pathway that exists between the proposed development and designated sites is via a tenuous hydrological connection – i.e. instream distance of 1 km of field drainage ditches, 0.8 km of Moynasboy stream, and 4.5 km the Knightsbrook River, before reaching the River Boyne (River Boyne and River Blackwater SAC and SPA and Trim pNHA). All other designated sites are considered to be beyond the ZoI of the proposed development. European sites are valued as being of international ecological importance, while pNHAs are valued as being of national ecological importance.

The assessment of potential impact on European sites arising from the proposed development is fully assessed and presented in the AA Screening report submitted as part of this planning application.

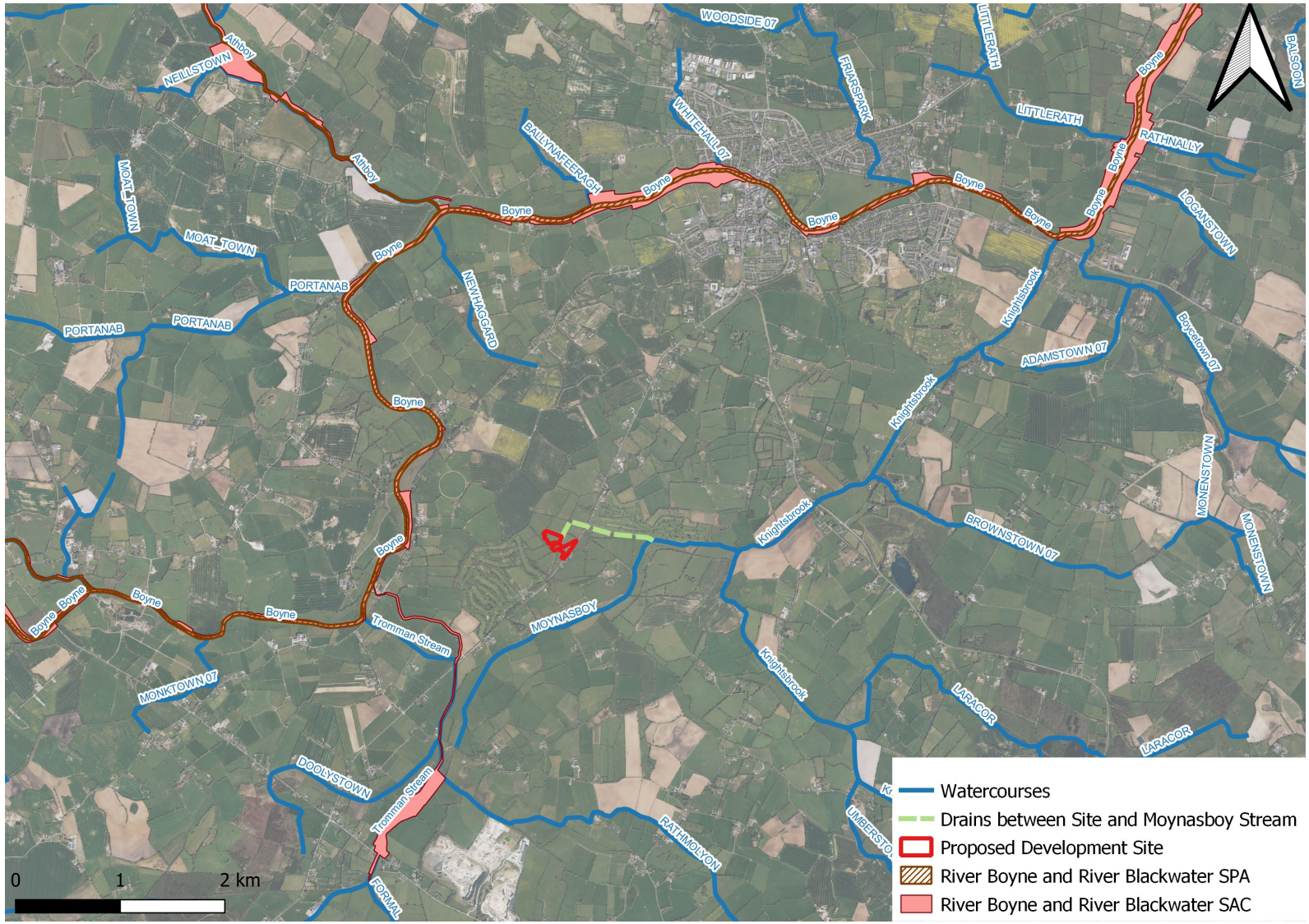


Figure 4-1 European sites located within the vicinity of the proposed development site

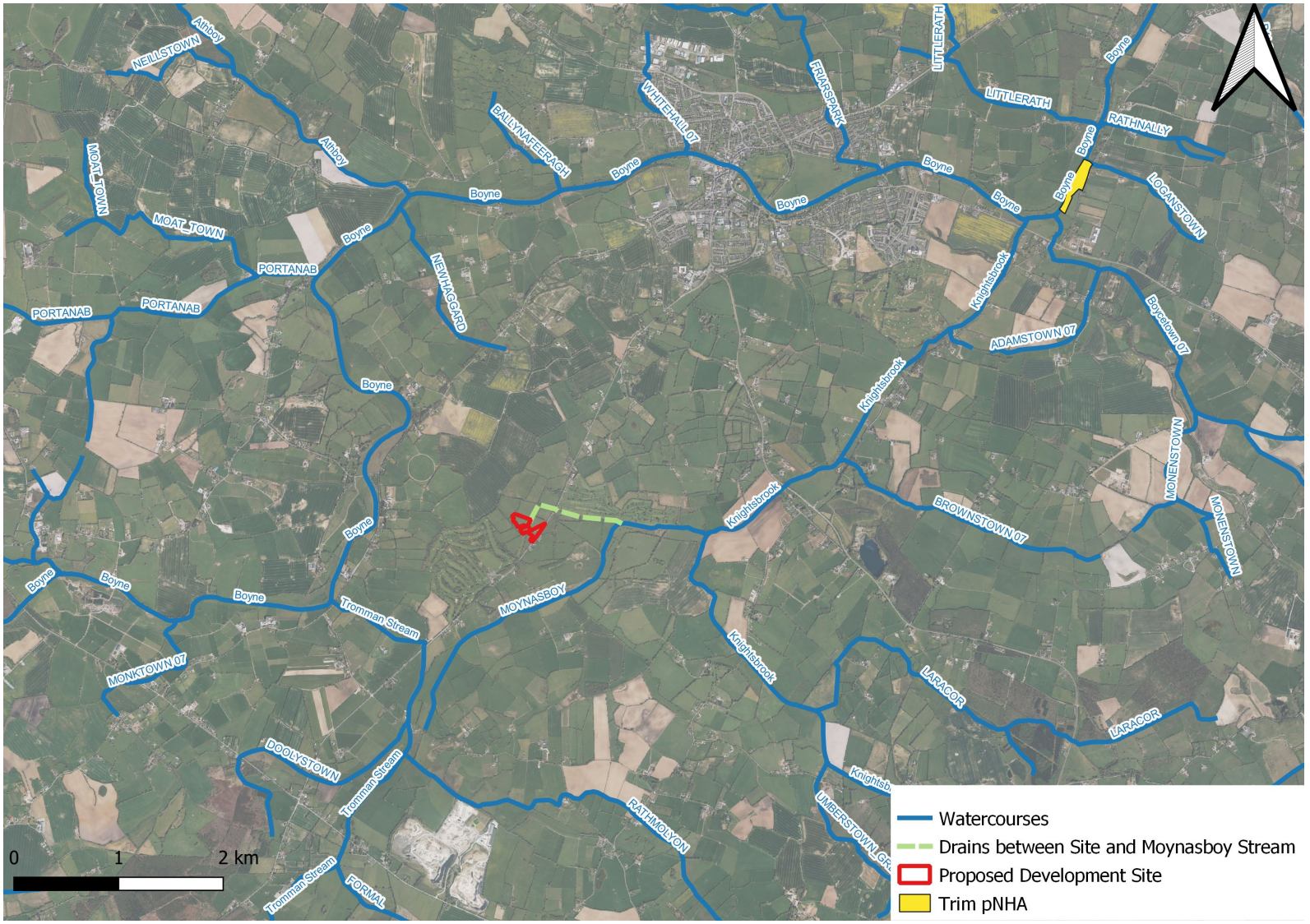


Figure 4-2 pNHA sites located within the vicinity of the proposed development site

Habitats and Protected/Rare Plant Species

According to NPWS Flora (Protection) Order 2022 map viewers and NBDC map viewer, there are no recent records (i.e. last 25 years) of protected and/ or rare plant species within the proposed development site. No protected and/ or rare plant species were recorded during the field survey.

The site comprises the following habitat types:

- Improved agricultural grassland (GA1) - the dominant habitat onsite, largely Perennial ryegrass (Lolium perenne) with other typical grasses (such as Poa annua) and a low diversity of herbaceous species i.e. Dock (Rumex obtusifolius), Clovers (Trifolium spp.), Meadow buttercup (Ranunculus acris). A high level of grazing was evident during the site visit; considered to be of negligible ecological importance.
- Improved wet grassland (iGS4) - corners of the grassland fields that are more water-logged. Soft rushes (Juncus effusus) are prevalent here; considered to be of local ecological importance (lower value).
- Scrub (WS1) - small areas of Bramble (Rubus fruticosus agg.); considered to be of local ecological importance (lower value).
- Buildings and artificial surfaces (BL3) - hardstand area around a derelict cottage and open hayshed; considered to be of negligible ecological importance.
- Hedgerows (WL1) - largely Hawthorn (Crataegus monogyna) hedgerows and strips of dense Bramble; considered to be of local ecological importance (higher value).
- Treelines (WL2) - Hawthorn hedge layer with Ivy-clad (Hedera helix) mature and semi-mature Ash (Fraxinus excelsior) trees; considered to be of local ecological importance (higher value).
- Drainage ditch (FW4) - straight field boundary ditches, associated with hedgerows/ treelines. Low flow and heavily vegetated with Watercress (Nasturtium officinale) in sections; considered to be of local ecological importance (lower value).

Photos of the habitats within the proposed development site are provided below (Plate 4.2.1 – Plate 4.2.5)

Figure 4-3 Habitats present within the proposed development site

Plate 4.2.1. Improved agricultural grassland (GA1) and treelines (WL2) under the existing overhead line – proposed location for new substation. Photograph taken facing a northerly direction.

Plate 4.2.2. Area of improved wet grassland (GS4) and drainage ditch (FW4) along the northern site boundary of the proposed development. Photograph taken facing a northerly direction.

Plate 4.2.3. Culverted drainage ditch (FW4) along existing farm track. Proposed access tracks to cross the drain at this location. Photograph taken facing a southerly direction.

Plate 4.2.4. Derelict cottage (BL3) along south-easterly boundary of the proposed development site. The cottage is to be retained. Photograph taken facing a westerly direction.

Plate 4.2.5. Hayshed (BL3) to be removed proposed for access roads. Scrub (WS1) and treelines (WL2) also present in background. Photograph taken facing a northerly direction.

Species

According to NBDC map viewer, the following protected fauna species were recorded within approximately 2 km of the proposed development site:

- One Red-listed bird species (as per Birds of Conservation Concern in Ireland 4: 2020-2026, Gilbert et al. 2020) - Swift
- Nine Amber-listed bird species (as per Birds of Conservation Concern in Ireland 4: 2020-2026, Gilbert et al. 2020) - Cormorant, House Martin, Kingfisher, Mallard, Mute Swan, Sand Martin, Sandpiper, Swallow, Teal.
- Two bat species – Daubenton's bat, Pipistrelle sp.
- Three other terrestrial mammals – Otter, Badger, Hedgehog

No protected fauna species were recorded during the field survey.

Birds

The proposed development site is dominated by agricultural fields (improved agricultural grassland and areas of wet grassland), which offers limited foraging habitat for birds.

The woody vegetation within the proposed development site, which comprises Bramble scrub, Hawthorn hedgerows and Ash trees, may provide some suitable nesting habitat for local common passerine species, which are of local importance (higher value).

Bats

The proposed development site is in an area of moderate habitat suitability for bats (Lunday *et al.* 2011). According to NBDC map viewer, the closest mapped bat roost is a Common Pipistrelle roost recorded in 1998 over 1.5 km east of the proposed development site.

The derelict cottage near the site entrance has moderate potential to be used by roosting bats, due to gaps in woodwork and the masonry work. The external roosting features were inspected for signs of roosting bats during the field visit, with no evidence recorded. Due to the derelict nature of the cottage, the internal area of the building was not fully inspected for health and safety reasons. However, the roof is made up of corrugated steel, and it is therefore unlikely that the internal roof space is suitable for roosting bats due to extreme fluctuations in temperature.

Mature ivy-clad trees in the surrounding hedgerows and treelines have low potential for roosting bats. These trees are outside the proposed development.

All bat species in the area are of national importance.

Non-volant mammals

The proposed development site is dominated by agricultural fields (improved agricultural grassland and wet grassland), which offers limited foraging habitat for mammal species such as badgers.

The woody vegetation within the proposed development site, which comprises Bramble scrub, hawthorn hedgerows and Ash trees, may provide suitable habitat foraging habitat for Badger (national importance). No evidence of badger was recorded during the field survey.

There is no suitable foraging or breeding habitat onsite for Otter, with no signs of Otter during the field survey.

Other taxa

While frogs have not previously been recorded within or adjacent to the site, the drainage ditches within the proposed development site have limited foraging and breeding habitat for frog.

4.2.1.4 Impacts of the Development

Construction Phase

Designated Sites for nature conservation

The assessment of potential impacts on European sites arising from the proposed development is fully assessed and presented in the AA Screening report submitted as part of this planning application.

The AA Screening concluded that there is no potential for likely significant effects on any European site (including River Boyne and River Blackwater SAC and SPA), with particular regard to their conservation objectives, either alone or in combination with other projects or plans.

The Trim pNHA overlaps with the River Boyne and River Blackwater SAC and SPA and is designated for the same Qualifying Interests. As such there is also no potential for a significant negative effect on this pNHA, or any other nationally designated site.

Habitats and Protected/Rare Plant Species

The habitats present within the proposed development site valued as being local importance (lower value) or of negligible ecological importance are not Key Ecological Receptors and are therefore not assessed further. Only those habitats of local importance (higher value) are assessed further below; i.e. hedgerows and treelines.

Approximately 75 m length of hedgerow/ treelines will be removed during the construction of the proposed development. In the absence of mitigation, there would be a significant effect to hedgerows/ treelines at a local scale

Species

Birds

Considering the suboptimal nature of the improved grassland habitats to support local common passerine species, and the availability of similar, and often more suitable, habitat in the wider area, no significant effects to birds are predicted due to the loss of improved agricultural grassland or the patches of wet grassland.

The proposed development will result in disturbance to nesting and foraging birds using. The hedgerows and treelines onsite. Given the small scale of suitable habitat onsite and the availability of suitable habitat in the wider area, disturbance to local passerines will not result in a significant effect on local bird populations at any geographical scale

The proposed development will result in the loss of some breeding bird habitat – hedgerows and treelines. In addition, the clearance of breeding bird habitat during the active season (i.e. March to August inclusive) could result in the increased risk of mortality and/or injury to common breeding passerine bird species that may be utilising the habitat. These hedgerows and treelines also provide foraging habitat for birds. Given the small scale of vegetation loss and the availability of suitable habitat in the wider area this loss will not result in a significant effect on local bird populations at any geographical scale. However, mitigation will still have to be provided due to the legal protection afforded to breeding birds.

Bats

The cottage near the site entrance will be retained. No trees with bat roosting potential will be trimmed/ felled as part of this development. Therefore, there will be no direct impact to roosting bats.

Proposed works in close proximity to the cottage are limited to vegetation clearance and the laying of the access road. The road will pass 10 m from the cottage at its closest point. The temporary site compound is located 79 m northwest of the cottage, and the proposed substation is 154 m north of the cottage, with intervening treelines between these locations and the cottage. However, the construction of the access road to the southeast of the site may lead to temporary increased levels of disturbance due to increased levels of light. Construction activity will be largely limited to after sunrise and before sunset during the peak bat activity months (April-September), see Table 3-3. Increased levels of light during construction on

hedgerows and treelines may reduce the suitable foraging and commuting habitat for bats in the surrounding area. In the absence of mitigation, there would be a significant effect to bats at a local scale.

Additionally, the removal of hedgerows and treelines could reduce the foraging and commuting habitat for bats in the surrounding environs. Approximately 75 m length of hedgerow/ treelines will be removed in total, which will consist of widening existing gaps in hedgerows slightly for access tracks and for trees to be trimmed back along the regional road to allow appropriate sightlines to accessing/ egressing vehicles. Considering the very limited sections of hedgerows and treelines to be removed – which will not create significant gaps in the commuting routes along hedgerows, and the availability of other suitable foraging/ commuting habitat in the wider area, no significant effects on commuting or foraging bats is considered at any geographical scale due to vegetation removal.

Badger

There were no signs of Badger recorded during the field visits. However, the site offers limited Badger foraging habitat. Given the availability of similar, and often more suitable, grassland habitat in the wider area, no significant effects to badger are predicted due to the loss of improved agricultural grassland or the patches of wet grassland. The proposed development will result in the loss of 75 m of hedgerows and treelines, which may provide suitable foraging habitat for Badger. Considering the very limited sections of hedgerows and treelines to be removed, and the availability of other suitable foraging habitat in the wider area, no significant effects on Badger is considered at any geographical scale during the construction phase.

Other Taxa

The site's drainage ditches may provide limited foraging and breeding habitat for Frog. There is only one proposed drain crossing for the access roads. This is at an existing culverted farm track. The existing culvert will be replaced with a slightly larger one for the proposed access road. This section of the drain is not considered suitable for breeding Frog, given its ephemeral nature and significant flow when wet.

Operational Phase

Designated Sites for nature conservation

As outlined in the AA Screening report, given the nature and scale of the proposed development site as well as the existing environment there is no potential for impacts on designated sites during the operation of the proposed development.

Habitats and Protected/Rare Plant Species

No further habitat loss is proposed during the operation of the proposed development, therefore there is no potential for significant effects on habitats or protected plant species at any geographical scale.

Species

Birds

Maintenance of hedgerows along access roads will be required during the operational phase. Any trimming of these hedgerows during the active season (i.e. March to August inclusive)

could result in the increased risk of mortality and/or injury to common breeding passerine bird species that may be utilising the habitat. In the absence of mitigation, there would be a significant effect to nesting birds at a local scale.

Bats

The plant will not have permanent staff, with only periodic engineering checks and maintenance visits, and security lighting of the compound area limited to these periods. However, increased levels of light during would lead to a significant effect to roosting, foraging or commuting bats at a local scale.

Badger

As the plant will not have permanent staff, with only periodic engineering checks and maintenance visits, and security lighting of the compound area limited to these periods. Therefore, there is no potential for impacts on Badger during the operational phase of the proposed development.

Other taxa

There are no potential impacts on Frogs or any other taxa envisioned during the operational phase of this development.

4.2.1.5 Mitigation Measures

Construction Phase

Designated Sites for nature conservation

There is no potential for impacts on designated sites during the construction of the proposed development and as such no mitigation measures are required.

Habitats and Protected/Rare Plant Species

It is proposed to plant a new hedgerow, total length of approximately 189 m, and bolster 359 m of existing hedgerows with native whips. The hedgerows will be planted up with native species: Hawthorn, Blackthorn, Holly, Willow, Gulder Rose, Dog-Rose and Honeysuckle, see Appendix H for locations of these features.

It is also proposed to plant 0.09 ha of native woodland around the site. Native species such as Oak and Scots Pine will be used. See Appendix H for full species list.

It is proposed to allow a total of approximately 0.8 ha to establish as areas of wildflower meadows. These areas will not be reseeded with intensive agricultural grasses, with local native wildflowers being encourages to established through the maintenance measures of these areas. Locally sourced Yellow Rattle is to be added to areas of grassland/ disturbed soil.

The maintenance measures of these hedgerows and wildflower areas are outlined in Section 4.2.1.5.

Species

Birds

The removal and trimming of scrub, hedgerows and treelines will be undertaken outside of the breeding bird season (March 01st to August 31st inclusive). Where this period cannot be

avoided, nesting bird surveys will be carried out by an experienced ecologist within 48 hours of any vegetation clearance. Where nests are recorded, a no works exclusion buffer will be implemented until after birds have fledged the nest.

Bats

Any construction lighting will be reviewed and agreed with an ecologist and will be positioned as to avoid light spill on to potential bat roosting, commuting or foraging sites – i.e. no light spill on to the derelict cottage or hedgerows and treelines. Luminaries should lack UV elements when manufactured, with LED luminaires used where possible. A warm white light source (2700 Kelvin or lower) will be used, with peak wavelengths higher than 550 nm. Column heights will be considered to minimise light spill. Only luminaires with negligible or zero Upward Light Ratio, and within good optical control will be considered.

Mammals

There is no potential for impacts on badger during the construction of the proposed development and as such no mitigation measures are required.

Other Taxa

There is no potential for impacts on frogs or any other taxa during the construction of the proposed development and as such no mitigation measures are required.

Operational Phase

Designated Sites for nature conservation

There is no potential for impacts on designated sites during the operation of the proposed development and as such no mitigation measures are required.

Habitats and Protected/Rare Plant Species

Hedgerows will be trimmed on a two- or three-years cycle in rotation. This will allow some sections to produce flowers each year. Trimming will only be required for safety and work access reasons.

The wildflower areas will be mown once a year in late autumn. Cuttings will be removed from the areas to maintain low fertility levels, thereby reducing grasses from outcompeting the herbaceous species. Any colonizing woody vegetation such as Gorse, Elder, and Bramble will be removed from these locations during annual mowing.

Species

Birds

Maintenance trimming of existing and proposed hedgerows during the operational phase will be undertaken outside of the breeding bird season (March 01st to August 31st inclusive). Trimming will only be necessary if required for safety and work access reasons.

Bats

Any external operational lighting will be reviewed and agreed with an ecologist and will be positioned as to avoid light spill on to potential bat roosting, commuting or foraging sites – i.e. no light spill on to the derelict cottage or hedgerows and treelines. Luminaries will lack UV elements when manufactured, with LED luminaires used where possible. A warm white light

source (2700 Kelvin or lower) will be used, with peak wavelengths higher than 550 nm. Column heights will be considered to minimise light spill. Only luminaires with negligible or zero Upward Light Ratio, and within good optical control will be considered.

Lighting will be limited to the compound area and will only occur during periodic engineering checks and maintenance visits. External security lighting will be set on motion-sensors for as short as possible, i.e. one or two minutes.

Badgers

There is no potential for impacts on Badger during the operation of the proposed development and as such no mitigation measures are required.

Other Taxa

There is no potential for impacts on Frogs or any other taxa during the operation of the proposed development and as such no mitigation measures are required.

4.2.1.6 Residual Impacts

Following the implementation of the prescribed mitigation measures, there will be no potential for residual impacts on any sensitive ecological receptors as a result of the proposed development.

4.2.1.7 Cumulative Impact

According to the Meath County Council planning application map viewer, there are a number of granted and undecided planning permissions proposed for lands located in the wider environs of the proposed development site, in particular towards the outskirts of Athboy town. These developments in the immediate environs are generally small scale in nature and involve:

- Demolition of existing structures and construction of new structures on existing built land (including associated site drainage).
- Construction of new single residential dwellings and/or extensions on existing residential sites.
- Various agricultural related activities, including the construction of slurry tanks, slabs and public entrances to farms and constructing cattle sheds.
- Retention for an existing 7 bay driving range building.

The construction of these developments and the proposed development during the same period of time could potentially act in cumulative effects on sensitive ecological receptors. However, considering the nature and scale of the proposed development, its potential impacts and that all identified potential impacts will be fully mitigated against, no cumulative effects are predicted. In addition, all projects within the boundaries of Meath County Council are subject to the overarching environmental protective policies and objectives contained within the Meath County Development Plan 2021-2027 (MCC, 2024), including those that related specifically to nature conservation.

4.2.2 Flood Risk Assessment

A Flood Risk Assessment (FRA) was carried out by ESB Engineering and Major Projects for the proposed development (**Appendix C**). A summary of the assessment is provided below.

- The FRA has been prepared in accordance with the Planning System and Flood Risk Management Guidelines to assess the flood risk associated with the proposed development.
- The site is located in Flood Zone C as defined by the 'The Planning System and Flood Risk Management Guidelines'. The proposed substation is classified as a highly vulnerable development which is permissible in Flood Zone C.
- Surface water proposals for the proposed works will be developed to mimic the natural drainage patterns of the site in accordance with the Best Management Practices of SuDS. The surface water proposals will replicate the greenfield drainage conditions of the site where possible.
- The proposed development will not increase the current flood risk in the catchment.

4.2.3 Noise Assessment

A Noise Impact Assessment has been prepared as supporting information for the application seeking full planning permission for a 110kV substation at Fosterstown, Co. Meath **(Appendix D).** The report has been prepared by Stephen Cleary (BA[Mod] MSc MIOA MIEMA CEnv) of Alive Environmental Ltd, who has over 20 years' experience in the area of Noise Impact Assessment.

The main conclusions of the study are summarised as follows:

- The assessment has been conducted on the basis of worst-case assumptions for construction and operational phase noise.
- The assessment has also been completed against a baseline noise dataset measured during weekday and weekend periods to determine existing ambient (LAeq) and background sound levels (LA90) in the study area.
- Subject to the appropriate mitigation measures being in place, the proposed development can be constructed and operated without generating any significant noise impact at the nearest sensitive properties.
- During the construction phase, a Construction Environmental Management Plan will be prepared in advance of the commencement of works and will detail all measures and monitoring to ensure that construction noise levels are maintained below the Category A BS5228 noise threshold limits.
- Operational phase noise levels from the proposed substation will be substantially below existing background sound levels at the nearest noise sensitive properties and will not generate any noise impact at these properties.

4.2.4 Traffic and Transport Assessment

A Traffic and Transport Assessment has been prepared by ORS to address the traffic and transport related issues that may arise in relation to the proposed New Distribution Substation development near Fosterstown, Co. Meath to the southwest of Trim **(Appendix E)**.

The main conclusions of the study are summarised as follows:

- This Traffic and Transport Assessment was conducted to accompany the planning application for a proposed new Distribution Substation near Fosterstown, Co. Meath.

- The development will consist of a control room, MV Switchgear room, HV Cable room and other ancillary facilities. Overall distribution centre will provide 1288 m2 of area, along with upgrading of site access and all associated site works and services.
- The proposed development will have no dedicated car parking spaces as the substation will be unmanned. During the construction, there will be temporary parking spaces provided.
- ORS liaised with the local authority to scope the requirements for the Traffic and Transport Assessment (TTA), and it was agreed that this report would focus on 3No. key-junctions: the R160/ Site access T-junction (JTC1), the 4-arm R160/ R158 junction to the south of the site (JTC2), and the R160/ R158/ Summerhill Road Roundabout to the north of the site (JTC3).
- The chosen junctions were subjected to capacity analysis to examine the potential traffic levels generated from the development to the existing road network.
- Automatic junction turning counts (JTCs) were undertaken by a third-party company named IDASO, on Wednesday the 8th of May, at the junctions mentioned above. The AM and PM traffic peak periods were identified along the junctions and occurs between 08:00 and 09:00 in the morning in Junction 1 and Junction 3 and between 07:45 and 08:45 in Junction 2. The PM peak occurs between 16:45 and 17:45 in Junction 1 and Junction 2 and between 16:30 and 17:30 in Junction 3. The peak flows indicated high traffic flow numbers for junctions JTC2 and JTC3 with especially high volumes of traffic to/from Trim.
- The Meath County Council planning website was consulted to obtain information about committed developments near the proposed site to be included in this traffic analysis. It was found that 1No. granted planning application will make use of the Junction 3, therefore, it was included in future scenarios of the junction's modelling.
- The traffic splits in the examined junctions could be calculated from the traffic counts and it is expected that the traffic from the proposed development will follow the same trend. The trip generation from the committed development was assessed from the TRICS database.
- The junctions analysed in this traffic assessment were assessed against the TII threshold and it was found that the development is anticipated to generate greater than 5% increase in traffic at the junction between the R160 and the development access road during the morning peak period; however, congestion is not expected to occur at this junction. Nevertheless, to demonstrate that the proposed development will not negatively affect the public roads, a junction modelling was conducted to evaluate the traffic impact generated by the proposed development across all future design years.
- The junctions were examined using Junctions 9 (PICADY and ARCADY) software for the AM and the PM peak conditions under conservative future projections and Central background Traffic Growth for the considered year of construction 2025, year of opening 2026, 5-years and 15-years after development conclusion.
- From a transportation planning perspective, the proposed substation is not anticipated to adversely impact the operation of the three junctions under analysis. The existing junctions JCT2 and JCT3 are currently operating below optimal efficiency and have capacity limitations. It is evident from the analysis that the introduction of additional traffic will result in minimal effects on the road network. However, it is important to acknowledge that the 4-arm R160/ R156 junction is currently experiencing heavy traffic

volumes. Forecasts indicate that this junction is likely to exceed its capacity limits, leading to queues and delays

4.2.5 Cultural Heritage Appraisal

A Cultural Heritage Appraisal Report was carried out by Byrne Mullins & Associates for the proposed development (**Appendix F)**. The report provides information with respect to previously identified baseline data and assesses the impact of the proposals on identified sites and areas of Cultural Heritage interest and/or potential. A summary of the main conclusions of the study are summarised as follows:

Local History (Construction Phase):

- There are no significant historical events associated with the subject development area which could be impacted upon by the construction of the proposed development. Consequently, it is considered that there are no predicted impacts with respect to Historical Heritage regarding the proposed construction phase of the development. The impact can be stated as Neutral with no significant effect.

Archaeological Heritage (Construction Phase):

- In terms of terrestrial and industrial archaeological heritage, there are there are no previously identified archaeological monuments or structures of industrial archaeological interest located within the subject development site; likewise, no features of archaeological potential were noted by a review of historic cartographic, aerial photographic and satellite imagery source material of by the subsequent field reconnaissance survey.
- There is one monument of terrestrial archaeological interest located within the defined Cultural Heritage Study Area (2.4 above); this is an Enclosure Site (SITE CH-1; SMR No: ME036-042; Carberrystown Td) which is included in the RMP. The closest extent of the monument to the subject site (road frontage/planning boundary) is approximately 64.6m; the extent of the established RMP Zone and SMR Zone of Notification is approximately 52m outside the planning application (red line) boundary. It is considered that his monument is of Medium Value/Significance.
- In terms of Marine/Underwater Archaeology, several wrecks are recorded in the general area of the subject site, none of which are located within the defined Cultural Study Area.
- No predicted direct impacts will occur with respect to the identified Archaeological Heritage Monument (CH-1) during the construction phase of the development. The effect can be stated as Neutral and of no significance.

Architectural Heritage (Construction Phase):

- There are no structures located within the subject site or wider study area listed in the Record of Protected Structures (RPS) of the Meath County Development Plan 2021-2027; likewise, there are no structures of architectural heritage interest, or historic gardens, listed by the National Inventory of Architectural Heritage (NIAH) within the overall defined study area.
- There are two structures (house – CH-2; hay barn) located within the site boundaries, both associated with a former residential farmyard adjacent the public road. The house (CH-2) is a partially ruinous gable-ended, entrance-lobby cottage, largely constructed

of cob with basal stone walls and covered with a rough render with replacement corrugated pitched roof and later rear lean-to extension; it is considered that this early nineteenth century structure, which is an undesignated cultural heritage asset of poor preservation is of Low Value/Significance and of local interest only; this will be retained in situ as part of the development proposals. The hay barn structure is of late twentieth century date and of no architectural or historical note; it will be removed as part of the overall development as it is positioned along a section of the access road.

- It is considered that no predicted direct impacts will occur with respect to Architectural Heritage during the construction phase of the development. The effect can be stated as Neutral and of no significance.

Operational/Post-Construction

There are no extant monuments or structures of historical, archaeological or architectural heritage interest located within the extent of the proposed planning application boundary; one monument (Site CH-1) is located to the east and to the rear of a row of residential plots along the eastern side of the public road and not readily visible from the subject site. Furthermore, there are no Protected Structures of NIAH-listed structure or landscape features located within the subject site or wider study area. The site contains an undesignated early nineteenth century ruinous cottage of poor preservation which will be retained as part of the overall proposals.

It is considered that the various proposed elements of the proposed development, will not cause any adverse visual impact to the setting or general views of or from any monuments, sites or features of archaeological interest or protected/designated structures and that no predicted visual impacts will occur with respect to historical, archaeological or architectural heritage relating to the operational/post-construction phase of the development. The impact can be stated as Neutral with no significant effect.

Consequently, given the above, the following mitigation measures, based on OPR Practice Note PN03: Planning Conditions (October 2022), are suggested:

1. The developer shall engage a suitably qualified archaeologist (licenced under the National Monuments Acts) to monitor all site clearance and topsoil stripping required of the development. The use of appropriate machinery to ensure the preservation and recording of any surviving subsurface archaeological remains shall be necessary. No subsurface work shall take place in the absence of the archaeologist without his/her express consent.
2. Prior to the commencement of any works in the vicinity of SITE CH-2, the structure should be protected from accidental damage by the installation of the temporary protective barriers around the southern, western and northern sides.
3. Should archaeological remains be identified during archaeological monitoring, all works in the area of archaeological interest shall be suspended, pending a decision of the Planning Authority, in consultation with the National Monuments Service, Department of Housing, Local Government and Heritage.
4. The developer shall facilitate the archaeologist in recording any remains identified. Any further archaeological mitigation measures specified by the Planning Authority,

following consultation with the National Monuments Service, shall be complied with by the developer.

5. Following the completion of all on-site archaeological interventions and any necessary post-excavation specialist analysis, the Planning Authority and the National Monuments Service shall be furnished with a final archaeological report describing the results of the monitoring and any other archaeological investigations/interventions that might subsequently have been required. All resulting and associated costs shall be borne by the developer.
6. The Construction Environmental Management Plan (CEMP) shall include the location of all archaeological and architectural heritage constraints relevant to the proposed development. The CEMP shall clearly describe all identified likely archaeological and architectural impacts, both direct and indirect (visual), and all mitigation measures to be employed to protect the archaeological/architectural heritage environment during all phases of site preparation and construction activities.

4.2.6 Landscape and Visual Impact Assessment

A Landscape and Visual Impact Assessment (LVIA) has been prepared by Macro Works in respect of a planning application for the proposed development (**Appendix G**). A summary of the assessment is provided in the sections below. The LVIA is supported by photomontages prepared in respect of the selected viewpoints (Under Separate Cover).

The proposed development is considered to have a relatively modest physical impact on the site as the substation is contained within the existing hedgerow network, and the proposed development will result in only very minor areas of permanent hedgerow removal to facilitate the site access road and the underground cable. Concerning landscape character, even though the proposed development will appear marginally incongruous in this landscape context, the proposed development is thematically linked to the existing development trends within the hinterland landscape of the study area. Indeed, it is likely to be perceived as an evolution of the existing electrical overhead line that passes through the study area. This is a productive rural landscape with associated landscape values, and whilst the proposed development may alter the 'landscape fabric' of the area, it does not markedly affect the prevailing landscape pattern or predominantly working rural landscape character of the area. This is considered an appropriately sited development in a robust landscape context. Consequently, the impact on landscape character (post-construction) will be of Moderate-slight significance and a Negative quality with a Permanent duration.

Visual impacts were assessed at four viewshed reference point locations, representing various viewing distances, angles and receptor types. The visual receptor sensitivity judgements ranged from High-medium to Medium-low. The overall significance of visual impacts was 'Slight' at the nearest viewshed reference point (VP4) significance, with a Negative quality with a Permanent duration. At all the other viewshed reference points, the impact was deemed to be 'Imperceptible' (VP1 to VP3). This is principally a consequence of the high degree of existing screening located within the intervening low-lying landscape, which heavily reduces the visual exposure of the proposed development.

Based on the landscape and visual impact judgements provided throughout this LVIA, the proposed development is not considered to give rise to any significant landscape and visual impacts.

Overall Significance of Impact: Based on the landscape and visual impact judgements provided throughout this LVIA, the proposed Fosterstown Distribution Station development at Trim, County Meath is not considered to give rise to any significant landscape or visual impacts.

4.2.7 Waste and Resource Management

Waste management on site will be carried out in accordance with "*Best Practice Guidelines on the Preparation of Waste Management Plans for Construction & Demolition Projects*" produced by the Department of Environment, Community and Local Government. Regulations in relation to waste management will be adhered to.

A Resource & Waste Management Plan (R&WMP) will be prepared and implemented by the contractor to minimise waste generation. The key principles underlying the plan will be to minimise waste generation and to segregate waste at source.

The following general measures will be applied on site:

- Disposal of construction waste will be to licensed disposal facilities;
- On-site segregation of waste will be provided by the contractor using skips for timber, metal, general waste, and recyclables; &
- All waste will be removed from site by one or more waste haulage contractor(s) who hold a current valid waste collection permit issued by the National Waste Collection Permit Office (NWCPO).

4.3 Summary of Mitigation Measures

This section of the report contains a summary of all mitigation measures and monitoring requirements proposed within this PECR and supporting appendices.

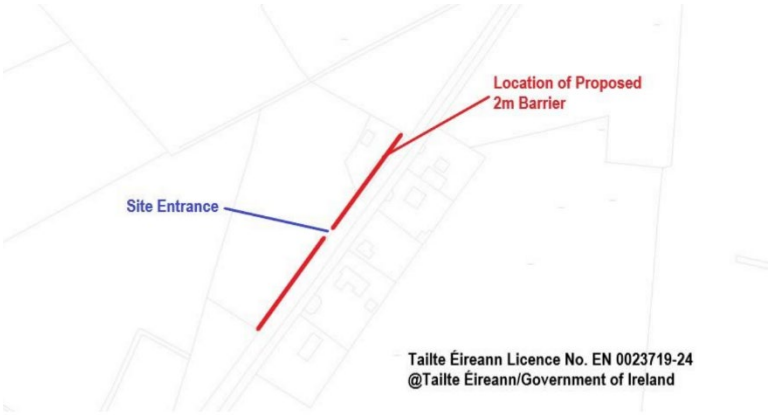
Early integration of the engineering design team with the planning and environmental team has enabled the implementation of "mitigation by design" causing many likely significant effects to be eliminated or reduced to an acceptable level during the preliminary design stage.

Following an examination, analysis and evaluation of the significant effects of the project in relation to the receiving environment, additional mitigation measures and monitoring programmes have been recommended which will be fully implemented during the construction and operation phase of the proposed development. Table 4-1 summarises the mitigation measures recommended within the PECR and supporting appendices.

Table 4-1 Mitigation measures recommended within the PECR

Potential Impact	Summary of Proposed Mitigation
General Mitigation during Construction	
Suspended Sediment (construction)	Sediment control in the construction stage is important to ensure that only high quality, treated runoff leaves the site. Silt fences (to Hy-Tex Premium specification or similar) and silt traps will be installed prior to commencement of works and will be inspected daily to inform adaptive management as required. Other erosion control measures include: Minimising the area of exposed ground and ensuring excavation will not proceed faster than the rate of construction. Monitoring of the weather forecast prior to planning excavation works. Providing impermeable mats (plastic sheeting) as covers to mounded excavated material and open excavations during periods of heavy rainfall.
Accidental release of contaminants (construction)	Concrete wash water will be retained on site and prevented from entering drains and refuelling will be undertaken using purpose designed equipment bunded to prevent leaks. Should any fuels or other liquids spill or leak from any vehicles these will be cleaned immediately, and any affected soils excavated and removed. Excavations for service runs will be managed using control measures such as bunding areas to prevent surface run-off and protecting drains. In order to reduce the risk of contamination arising as a result of spills or leakages, measures including, but not limited to, the following will be employed. All collected waste will be managed in accordance with the Waste Management Act 1996, and associated Regulations. Fuels, chemicals, liquid and solid waste will be stored on impermeable surfaces. Refuelling of plant, equipment and vehicles will be carried out on impermeable surfaces or using mobile drip trays where it's not possible to provide an impermeable surface. All tanks and drums will be bunded in accordance with established best practice guidelines. Spill kits will be provided at all compound locations and carried by all crews during underground cable installation works.

Biodiversity (Section 4.2.1)	
Designated Sites	
Habitats and protected / rare plant species	Construction Phase It is proposed to plant a new hedgerow, total length of approximately 189 m, and bolster 359 m of existing hedgerows with native whips. The hedgerows will be planted up with native species: Hawthorn, Blackthorn, Holly, Willow, Gulder Rose, Dog-Rose and Honeysuckle, see Appendix H for locations of these features. It is also proposed to plant 0.09 ha of native woodland around the site. Native species such as Oak and Scots Pine will be used. See Appendix H for full species list. It is proposed to allow a total of approximately 0.8 ha to establish as areas of wildflower meadows. These areas will not be reseeded with intensive agricultural grasses, with local native wildflowers being encourages to established through the maintenance measures of these areas. Locally sourced Yellow Rattle is to be added to areas of grassland/ disturbed soil. Operational Phase Hedgerows will be trimmed on a two- or three-years cycle in rotation. This will allow some sections to produce flowers each year. Trimming will only be necessary if required for safety and work access reasons. The wildflower areas will be mown once a year in late autumn. Cuttings will be removed from the areas to maintain low fertility levels, thereby reducing grasses from outcompeting the herbaceous species. Any colonizing wood vegetation such as gorse, elder, and bramble will be removed from these locations during annual mowing.
Fauna	Construction Phase Birds: The removal and trimming of scrub, hedgerows and treelines will be undertaken outside of the breeding bird season (March 01st to August 31st inclusive). Where this period cannot be avoided, nesting bird surveys will be carried out by an experienced ecologist within 48 hours of any vegetation clearance. Where nests are recorded, a no works buffer will be implemented until after birds have fledged the nest. Bats: Any construction lighting will be positioned as to avoid light spill on to potential bat roosting, commuting or foraging sites – i.e. no light spill on to the derelict cottage or hedgerows and treelines. Luminaries will lack UV elements when manufactured, with LED luminaires used where possible. A warm white light source (2700Kelvin or lower) will be used, with peak wavelengths higher than 550 nm. Column heights will be considered to minimise light spill. Only luminaires with negligible or zero Upward Light Ratio, and within good optical control should be considered. Operational Phase Birds: The trimming of existing and proposed hedgerows will be undertaken outside of the breeding bird season (March 01st to August 31st inclusive). Trimming will only be necessary if required for safety and work access reasons. Bats: Any operational lighting will be positioned as to avoid light spill on to potential bat roosting, commuting or foraging sites – i.e. no light spill on to the derelict cottage or hedgerows and treelines. Luminaries should lack UV elements when manufactured, with LED luminaires should be used where possible. A warm white light source (2700Kelvin or lower) should be used, with peak wavelengths higher than 550nm. Column heights should be considered to minimise light

	spill. Only luminaires with negligible or zero Upward Light Ratio, and within good optical control should be considered. Lighting will be limited to the compound area and will only occur during periodic engineering checks and maintenance visits. External security lighting will be set on motion-sensors for as short as possible, i.e. one or two minutes.
Flood Risk Assessment (Section 4.2.2)	
Surface Water Drainage	The Surface water drainage proposal for the site has been developed to mimic the natural drainage patterns of the site in accordance with the Best Management Practices of SuDS. The surface water proposals will replicate the greenfield drainage conditions of the site where possible.
Noise Assessment (Section 4.2.3)	
Construction (Working Hours)	Where construction activity takes place for a development in the vicinity of residential properties, it is standard practice that the activities would operate between the hours of 07:00 and 18:00 on Monday to Fridays, between 08:00 and 13:00 on Saturdays and there will be no activity on Sundays or Bank Holidays.
Construction (site hoarding)	It is proposed that a noise barrier in the form of site hoarding is erected at the site boundary with the R160 and directly across the road from the nearest noise sensitive properties. The location of this barrier is illustrated in Figure 7.1 pf Appendix D It is proposed that this is a minimum of 2m height with no gaps in it, which will provide noise attenuation of approximately 10dB(A) in the direction of the nearest noise sensitive properties. 
Construction Environmental Management Plan (CEMP)	A detailed Construction Environmental Management Plan (CEMP) will be prepared and will include a range of measures aimed at reducing the potential construction noise impacts on the nearest receptors to the proposed development site. This plan will address the mode and timing of construction activity in close proximity to the site boundary with the nearest receptors, aiming to reduce the noisiest activities in the vicinity of the boundary of the proposed site. This should also include measures to communicate and coordinate construction phase activities at the nearest boundary to the most affected receptors so as to reduce these noise impacts to the lowest possible levels. The detailed CEMP will include the noise threshold limits included BS5228:2009+A1:2014, which must be adhered to throughout the construction phase. On the basis of the noise monitoring survey completed, the lowest noise threshold limits

	included in this table (i.e. Category A) must be applied for all construction activities. British Standard BS5228:2009+A1:2014 – Noise and vibration control on construction and open sites outlines a range of measures that can be used to reduce the impact of construction phase noise on the nearest noise sensitive receptors. These measures should be applied by the contractor where appropriate during the construction phase of the proposed development. Examples of some of the best practice measures included in BS5228 are listed below: • ensuring that mechanical plant and equipment used for the purpose of the works are fitted with effective exhaust silencers and are maintained in good working order; • careful selection of quiet plant and machinery to undertake the required work where available; • all major compressors should be 'sound reduced' models fitted with properly lined and sealed acoustic covers which should be kept closed whenever the machines are in use; • any ancillary pneumatic percussive tools should be fitted with mufflers or silencers of the type recommended by the manufacturers; • machines in intermittent use should be shut down in the intervening periods between work; • ancillary plant such as generators, compressors and pumps should be placed behind existing physical barriers, and the direction of noise emissions from plant including exhausts or engines should be placed away from sensitive locations, in order to cause minimum noise disturbance. Where possible, in potentially sensitive areas, acoustic barriers of enclosures should be utilised around noisy plant and equipment. • Handling of all materials should take place in a manner which minimises noise emissions; • Audible warning systems should be switched to the minimum setting required by the Health & Safety Executive; • A complaints procedure should be operated by the Contractor throughout the construction phase.
Operational phase	No specific mitigation measures and monitoring measures are proposed for operational noise impacts at off-site sensitive receptors.
Traffic and Transport Assessment (Section 4.2.4)	
It is considered that there are no predicted impacts with respect to Traffic and Transport regarding the proposed construction and post-construction/operational phases of the proposed development. Consequently, it is considered that no mitigation measures are required.	
Cultural Heritage Appraisal (Section 4.2.5)	
General mitigation measures, based on OPR Practice Note PN03: Planning Conditions (October 2022).	1. The developer will engage a suitably qualified archaeologist (licenced under the National Monuments Acts) to monitor all site clearance and excavations required of the development. The use of appropriate machinery to ensure the preservation and recording of any surviving subsurface archaeological remains will be necessary. No subsurface work will take place in the absence of the archaeologist without his/her express consent.

	2. Should archaeological remains be identified during archaeological monitoring, all works in the area of archaeological interest will be suspended, pending a decision of the Planning Authority, in consultation with the National Monuments Service, Department of Housing, Local Government and Heritage. 3. The developer will facilitate the archaeologist in recording any remains identified. Any further archaeological mitigation measures specified by the Planning Authority, following consultation with the National Monuments Service, will be complied with by the developer. 4. Following the completion of all on-site archaeological interventions and any necessary post-excavation specialist analysis, the Planning Authority and the National Monuments Service will be furnished with a final archaeological report describing the results of the monitoring and any other archaeological investigations/interventions that might subsequently have been required. All resulting and associated costs will be borne by the developer. 5. The Construction Environmental Management Plan (CEMP) shall include the location of all archaeological and architectural heritage constraints relevant to the proposed development. The CEMP shall clearly describe all identified likely archaeological and architectural impacts, both direct and indirect (visual), and all mitigation measures to be employed to protect the archaeological/architectural heritage environment during all phases of site preparation and construction activities.
Landscape and Visual Impact Assessment (Section 4.2.6)	
Mitigation by Design	The main mitigation measure employed is 'mitigation by avoidance'. The siting of the proposed Fosterstown Distribution Station is in a robust and well-contained rural area that also avails of both terrain and hedgerow screening such that the scheme will not be prominent within the surrounding landscape. Retention of existing hedgerow boundaries within and around the site also prevents a sense of ambivalence, aids visual screening, and maintains the existing field pattern. In this respect, the proposed Fosterstown Distribution Station is not perceived to impose itself on the existing landscape pattern.
New Hedgerow	In addition to retaining the existing hedgerows around the site, it is also proposed to bolster existing perimeter hedgerows with under-planting and inter-planting of whip transplants to ensure dense and consistent site screening in perpetuity. Whip species will be selected to complement the existing broadleaf hedgerow species mix around the site and will be of local provenance. A new hedgerow is proposed outside the palisade security fence that encloses the main substation. This planting will be allowed to mature up to a maintained height of 3-4m to further enhance and aid in screening the proposed development when viewed from nearby dwellings and roads. Some native trees are proposed across the site and a grassland/meadow management protocol is proposed in the undeveloped portions of the site. The mitigation measures are indicated on the Landscape Mitigation Plan (Appendix H).
Waste and Resource Management (Section 4.2.7)	

Construction Waste and Resource Management	Waste management on site will be carried out in accordance with "*Best Practice Guidelines on the Preparation of Waste Management Plans for Construction & Demolition Projects*" produced by the Department of Environment, Community and Local Government. Regulations in relation to waste management will be adhered to. A Resource & Waste Management Plan (R&WMP) will be produced and implemented by the contractor to minimise waste generation. The key principles underlying the plan will be to minimise waste generation and to segregate waste at source. The following general measures will be applied on site: Disposal of construction waste will be to licensed disposal facilities; On-site segregation of waste will be provided by the contractor using skips for timber, metal, general waste, and recyclables; & All waste will be removed from site by one or more waste haulage contractor(s) who hold a current valid waste collection permit issued by the National Waste Collection Permit Office (NWCPO).

4.3.1 Implementation of Mitigation Measures

ESB intends to appoint a Contractor(s) to undertake each phase of the works. The mitigation measures set out in the PECR have been incorporated into an outline Construction Environmental Management Plan (oCEMP) for the proposed development (under Separate Cover).

The oCEMP sets out the minimum requirements which will be adhered to during the construction phase of the project. The oCEMP will form part of the Contract Documents for the construction stage to ensure that the Contractor undertakes the works required to implement the mitigation measures.

5 Planning Policy Context

5.1 National Planning Policy

5.1.1 National Planning Framework First Revision and the National Development Plan Review 2025

Project Ireland 2040 is the overarching policy guiding the sustainable development of Ireland. This policy is comprised of the National Planning Framework (NPF) First Revision, which sets out a vision for the social and economic growth of the nation to 2040, and the National Development Plan (NDP) Review 2025, which attributes funding to projects which achieve the goals of the NPF.

The development of Ireland's electricity grid is a key part of the NPF, coming under National Strategic Outcome (NSO) 8: *Transition to a Carbon Neutral and Climate Resilient Society*. It is recognised within this NSO that it will be imperative that the national grid is developed and upgraded to accommodate increasing levels of demand and supply, a key element reiterated under National Policy Objective 71:

> **National Policy Objective 71:** *Support the development and upgrading of the national electricity grid infrastructure, including supporting the delivery of renewable electricity generating development.*

The NDP sets out funding priorities for national, regional, and local projects based on the NSOs outlined in the NPF. Investment priorities for the Irish electricity grid are outlined in the NDP in Chapter 5.8. The NDP outlines that investment in grid infrastructure will enable ESB and EirGrid *"to significantly increase capital investment to expand electricity transmission and distribution network infrastructure".* The importance of infrastructure development in achieving the wider goals of the NDP and NPF is outlined in Chapter 8.5 of the NDP:

> *"...this infrastructure is required to underpin the development of all other economic and social infrastructure we need to function as a society. It is also vital to enable the development of the 300,000 homes we need to meet the Government's housing target, and to support our economy's competitiveness."*

5.2 National Sectoral Policies

5.2.1 Climate Action Plan 2025

Electricity has a challenge ahead to achieve a 75% reduction in emissions by 2030, based on a 2018 baseline and its success has knock-on implications for other sectors in reaching their target. Achieving the target heavily relies on the continued deployment of renewable energy generation and supporting electrical grid infrastructure enhancements. The plan outlines the importance of strengthening the grid connection to achieve the goals for the electricity sector:

> *"This represents an immense challenge as the sector not only has a requirement to reduce emissions, but also to meet the increasing electricity demand required*

> *for our economy, ensuring the energy security of the State, and supporting those sectors which are decarbonising through electrification."*

The proposed substation will strengthen the distribution system, providing greater security of electricity supply in the local area, and enabling future development in the Trim area in line with zoning objectives in the Development Plan.

5.3 Regional Guidelines

The proposed development is located in the Eastern and Midlands Regional Assembly (EMRA). Regional Assemblies guide the social and economic development of the region, by applying objectives set out by Project Ireland 2040 to the regional context. The EMRA has published the Regional Spatial and Economic Strategy (RSES) 2019-2031 to guide the region's development in line with its expected population growth. It aims to ensure that the services, including energy, within the region are developed to support social and economic growth, and funding is outlined within the document to allow this.

Aligning with the NPF and NDP, the RSES advocates for energy security in the context of increasing demand due to population growth and economic development (10.3 'Energy' pg. 224):

> *"A secure and resilient supply of energy is critical to a well-functioning region, being relied upon for heating, cooling, and to fuel transport, power industry, and generate electricity. With projected increases in population and economic growth, the demand for energy is set to increase in the coming years.*"

In the RSES, Section 10.3 outlines the policy approach for the development of energy infrastructure within the Region. It is acknowledged that there is a need to reinforce the electrical grid in the greater Dublin Region, noting that it is a major load centre on the Irish electricity transmission system. In this context it is stated within the RSES that:

> *"The main urban demand centres are composed of a mix of residential, commercial and industrial demand, which is expected to grow up to 2025 and beyond. Developing the grid in the Region will enable the transmission system to safely accommodate more diverse power flows from renewable generation and also to facilitate future growth in electricity demand. These developments will strengthen the grid for all electricity users, and in doing so will improve the security and quality of supply.*"

Relevant regional policy (RPO) objectives for this project relating to the reinforcement of the electrical grid are:

> ***RPO 10.20:*** *Support and facilitate the development of enhanced electricity and gas supplies, and associated networks, to serve the existing and future needs of the Region and facilitate new transmission infrastructure projects that might be brought forward in the lifetime of this Strategy. This Includes the delivery of the necessary integration of transmission network requirements to facilitate linkages of renewable energy proposals to the electricity and gas transmission grid in a*

sustainable and timely manner subject to appropriate environmental assessment and the planning process.

RPO 10.22: *Support the reinforcement and strengthening of the electricity transmission and distribution network to facilitate planned growth and transmission/distribution of a renewable energy focused generation across the major demand centres to support an island population of 8 million people, including:*

- *Facilitating interconnection to Europe, particularly the 'Celtic Interconnector' to France and further interconnection to Europe/the UK in the longer term*
- *Facilitating interconnection to Northern Ireland, particularly the 'North-South Interconnector and further co-operation with relevant departments in Northern Ireland to enhance interconnection across the island in the longer term.*
- *Facilitating transboundary networks into and through the Region and between all adjacent Regions to ensure the RSES can be delivered in a sustainable and timely manner and that capacity is available at local, regional and national scale to meet future needs.*
- *Facilitate the delivery of the necessary integration of transmission network requirements to allow linkages of renewable energy proposals to the electricity transmission grid in a sustainable and timely manner.*
- *Support the safeguarding of strategic energy corridors from encroachment by other developments that could compromise the delivery of energy networks.*

5.4 Local Policies and Objectives

5.4.1 Meath County Development Plan 2021-2027

The Meath County Development Plan 2021-2027 (MCDP) contains the relevant local policy for this proposal. The MCDP clearly supports the upgrading of electricity infrastructure in the county in order to keep up with growing local demand and to ensure security of supply.

Chapter 6 outlines the Infrastructure Strategy for the County and highlights that the Council, in conjunction with other agencies and authorities, needs to ensure that development of infrastructural services occurs in tandem with, and facilitates, physical development to ensure the continued economic growth of the County.

Section 5.15.4.1 outlines the importance of ensuring that the existing electricity networks can be upgraded and can provide enhanced capacity to provide for significant economic and supporting residential development within the Plan period. The MCDP states that this capacity is essential to facilitate the future development of the County in line with the Core and Settlement Strategies. The MCDP further highlights that the strengthening of the national grid is important for a number of reasons including improving security of supply for the domestic,

residential and enterprise market as well as attracting high-end enterprise which often require significant energy capacity and reliability.

There are several policies within the MCDP which are relevant to the proposed development;

INF POL 46: *To support and facilitate the development of enhanced electricity and gas supplies, and associated networks, to serve the existing and future needs of the County and to facilitate new transmission infrastructure projects that may be brought forward during the lifetime of the plan including the delivery and integration, including linkages of renewable energy proposals to the electricity transmission grid in a sustainable and timely manner.*

INF POL 47: *To co-operate and liaise with statutory and other energy providers in relation to power generation in order to ensure adequate power capacity for the existing and future business and enterprise needs of the County.*

INF POL 48: *To ensure that energy transmission infrastructure follows best practice with regard to siting, design and least environmental impact in the interest of landscape protection.*

INF OBJ 50*: To seek the delivery of the necessary integration of transmission network requirements to facilitate linkages of renewable energy proposals to the electricity transmission grid in a sustainable and timely manner.*

5.4.2 Other Local Policies and Objectives

5.4.2.1 Land Use Zoning and Development Management Standards

Chapter 11 of the MCDP which sets out the development standards and land use zoning objectives to be applied in the assessment of planning applications has been referred to in the design of the proposed development in order that the proposed development is in accordance with proper planning and sustainable development.

The subject site is located outside of the Trim Settlement Boundary within the MCDP and therefore, is not located on any identifiable zoned land.

The following policies and objectives of Chapter 11 have been considered in the preparation of the proposed development:

- **DM OBJ 11:** *Existing trees and hedgerows of biodiversity and/or amenity value shall be retained, where possible.*
- **DM POL 27:** *To encourage renewable development proposals which contribute positively to reducing energy consumption and carbon footprint.*
- **DM OBJ 76:** *In the assessment of individual energy development proposals, the Council will take the following criteria into account:*
    - *The proper planning and sustainable development of the area;*
    - *The environmental and social impacts of the proposed development;*
    - *Traffic impacts including details of haul routes;*
    - *Impact of the development on the landscape, (please refer to Appendix 5 Landscape Character Assessment);*
    - *Impact on protected Views and Prospects, (please refer to Appendix 10 Protected Views and Prospects);*

- *Impact on public rights of way and walking routes, (please refer to Appendix 12 Public Rights of Way);*
- *Connection to the National Grid (where applicable);*
- *Mitigation features, where impacts are inevitable;*
- *Protection of designated areas - NHAs, SPAs and SACs, areas of archaeological potential and scenic importance;*
- *proximity to structures that are listed for protection, national monuments, etc. (Please refer to Chapter 8 Cultural Heritage, Natural Heritage, Landscape and Green Infrastructure and Appendices 6-9 inclusive for further details);*
- *Cumulative Impact of proposal.*

6 Planning Assessment

6.1 Project Justification

This section of the report provides a justification and rationale for the project and all associated development. This submission builds on the stated need for the proposed development (see Section 3 above) and considers the project in the context of prevailing policy and the principles of sustainable development. The project is justified having regard to the following plans, policies, and objectives:

1. Compliance with and implantation of National energy policy;
2. Realising objectives set out in the Regional Spatial Economic Strategy;
3. Delivering on policies and objectives set out in Meath County Development Plan.

6.1.1 Implementing National Planning Policy

As noted in Section 5, the development of Ireland's distribution grid takes a key place in national, regional, and local energy policies. Reinforcing the grid will enable the achievement of objectives relating to ensuring a secure supply of energy to support population and economic growth.

The Climate Action Plan 2025 (CAP25) refers to a need for improvements to grid infrastructure which will enable a renewables-led system to radically reduce emissions in the electricity sector, protect our energy security, and ensure our economic competitiveness. CAP25 signifies support for the development of electricity grid enhancements, in order to allow greater capacity on the grid to support the transition to greater renewable generation capacity. The proposed development will be in line with CAP25.

The support for the construction of new and upgrades to existing electricity grid infrastructure outlined in the CAP25, is echoed in the revised NPF and NDP. In particular NSO 8: Transition to a Carbon Neutral and Climate Resilient Society within the NPF, recognises the requirement for the national grid to be upgraded to accommodate increasing levels of demand and supply. In particular, National Policy Objective 71 supports the development and upgrading of grid infrastructure, which the proposed development will align with. Similarly, the NDP outlines national support for investment to upgrade to the distribution network (i.e. specifically what is being proposed under the subject development) and outlines the importance of same to achieving the wider economic and social infrastructure goals within the NPF.

Ireland's national planning policies, aim to develop infrastructure in line with expected demand based on population and economic growth. With the economy of Dublin City and surrounding areas continuing to grow, the population is also expected to grow. This will create a need for an upgrade to the distribution grid within the Greater Dublin area, including Meath, to accommodate increased demand. The proposed development will contribute to the direction within the national planning policies to transition to a low carbon economy while supporting national social and economic development.

6.1.2 Realising Objectives set out in the Regional Spatial and Economic Strategy

The proposed development which will enhance the capacity of the greater Trim distribution system is supported by and in line with the EMRA RSES.

Section 10.3: Energy specifically recognises the need for upgrades to the electricity distribution network within the region in order to provide greater security of supply, particularly in areas with a current infrastructure deficit. A more secure distribution grid supports the social and economic growth of local areas within the region. This support is detailed on pg. 224:

> *"A secure and resilient supply of energy is critical to a well-functioning region, being relied upon for heating, cooling, and to fuel transport, power industry, and generate electricity. With projected increases in population and economic growth, the demand for energy is set to increase in the coming years".*

This project, which will bolster the distribution network in the Meath area, will facilitate increased electricity demand within the area. This will also reduce pressure on the existing distribution grid. Again, the importance of strengthening the grid is detailed on pg. 224:

> *"The main urban demand centres are composed of a mix of residential, commercial and industrial demand, which is expected to grow up to 2025 and beyond. Developing the grid in the Region will enable the transmission system to safely accommodate more diverse power flows from renewable generation and also to facilitate future growth in electricity demand. These developments will strengthen the grid for all electricity users, and in doing so will improve the security and quality of supply".*

The proposed development aligns with the wider RSES, and in particular RPOs 10.20 and 10.22 which support the strengthening of the electrical grid.

Meath is a major demand centre and the current distribution network is under pressure to meet local electricity demand. The project will support the increasing electricity needs of the area by providing increased capacity on the distribution network. Therefore, the proposed development contributes to achieving the objectives of the RSES.

6.1.3 Delivering on Policies and Objectives set out in Meath County Development Plan

The proposed development which will enhance the electricity distribution network in the greater Trim area to accommodate existing and growth in electricity demand, is supported by and in-line with the MCDP and in particular Chapter 6.

The Council's support for distribution grid enhancements, such as this project is demonstrated in Section 6.15.4, where the importance of ensuring that existing networks can be upgraded and can provide enhanced capacity for the region is highlighted.

The Council has additionally outlined their support for service providers, such as ESB, to provide the necessary enhancements of the distribution grid below under Policy Objective *INF POL 47: To co-operate and liaise with statutory and other energy providers in relation to power generation in order to ensure adequate power capacity for the existing and future business and enterprise needs of the County.*

The importance of upgrading the electricity network in Meath is acknowledged by the Council through Policy Objective *INF POL 46* and *INF OBJ 50.*

The proposed development aligns wholly with the MCDP energy infrastructure policies and objectives related to upgrading the distribution network, in order to support increased

population and employment to provide enhanced capacity. The proposed development will increase capacity within the County.

In line with the MCDP, sensitive design for new infrastructure development is important under Policy Objective *INF POL 48: To ensure that energy transmission infrastructure follows best practice with regard to siting, design and least environmental impact in the interest of landscape protection.* Landscape, visual, and associated amenity impacts have been robustly assessed during the preparation of this planning application. Overall, it is considered that this is an appropriately sited development, and consequently, the impact on landscape character (post-construction) will be of *Moderate-slight significance and a Negative quality*.

The proposed development is located outside of the Trim Settlement Boundary within the MCDP and therefore, is not located on any identifiable zoned land. However, under the 'RA Rural Areas' zoning objective within the MCDP, it is an objective to: *protect and promote in a balanced way, the development of agriculture, forestry and sustainable rural-related enterprise, community facilities, biodiversity, the rural landscape, and the built and cultural heritage.* Sustainable Energy Installations and Utility Structures are permissible uses under the 'RA' zoning objective.

Given the above it is considered that the proposed development complies with the wider MCDP policies and objectives, particularly those which support the upgrading of the electrical distribution network, and which relate to the sensitive location and design of utility installations.

7 Planning and Environmental Conclusions

The existing 38kV substation at Trim is overloaded on normal feeding and experiencing numerous security of supply issues. There is no capacity for any demand load growth for new housing schemes in the area that will require connection over the next few years.

The project for which planning consent has been sought is called the “Fosterstown 110kV/20MW Distribution Substation”. ESB is seeking permission to facilitate construction and commissioning of the new substation.

The project objective is to add capacity and improve distribution security of supply for the Trim area, co. Meath. This will be achieved by taking power from the existing Corduff-Mullingar 110 kV transmission line that traverse the site and transforming the voltage down to 20 kV and offload to the MV distribution network. This will relieve existing transformer capacity in the Trim substation which is urgently required.

Substation facilities and associated distribution equipment, such as that proposed, are located throughout Ireland’s rural landscape. This PECR and appended assessments have demonstrated that the proposed substation will not give rise to any significant planning or environmental effects.

The development is necessary to ensure the secure and effective supply of electricity to the greater Trim area. National policy outlines the need to invest in the distribution grid to support growing populations. The electrification of new sectors will also drive the increased demand for electricity. The RSES specifically references the importance of enhancing the grid in the Greater Dublin Region. The MCDP outlines the Council’s ambitions to work with service providers, such as ESB, to enhance the distribution grid in order to ensure adequate power capacity for the existing and future business and enterprise needs of the County.

The proposed development is not an EIA type set out in the planning and Development Act 2000 (as amended) or Planning and Development Regulations 2001 (as amended) and therefore no EIA is required. Nevertheless, this planning application is supported by a non-statutory Planning and Environmental Considerations Report (PECR) to ensure that appropriate planning requirements and any potential environmental impacts to the receiving environment are considered.

The following environmental topics have been comprehensively addressed within the PECR: Biodiversity; Flooding; Noise; Traffic and Landscape. The likely significant effects arising from the construction and operation of the proposed development were assessed against relevant environmental and planning criteria. Early integration of the engineering design team with the planning and environmental team has enabled the implementation of “mitigation by design” causing many likely significant effects to be eliminated or reduced to an acceptable level during the preliminary design stage. Where necessary, mitigation measures have been recommended which will be fully implemented. These are detailed in the PECR and set out in the outline Construction and Environmental Management Plan.

An Appropriate Assessment (AA) Screening has also been prepared for the proposed development (under separate cover). The AA Screening Report established that the proposed development has no potential for likely significant effects on any European site, with particular regard to their conservation objectives, either alone or in combination with other projects or

plans. Therefore, a Stage 2 Appropriate Assessment is not required for the proposed development.

The characteristics of the development are compatible with the stated objectives and policies of the MCDP and present no conflicts in terms of surrounding land uses.

Having regard to these considerations the proposed development is compatible with the principles of proper planning and sustainable development and should be favourably considered.

Appendix A – An Bord Pleanála SID Determination (October 2023)

Appendix B - Engineering Services Report

Appendix C – Flood Risk Assessment

Appendix D – Noise Impact Assessment

Appendix E - Traffic Impact Assessment

Appendix F – Cultural Heritage Appraisal

Appendix G – Landscape and Visual Impact Assessment

Appendix H – Landscape Mitigation Plan