

East Meath to North Dublin Grid Upgrade Environmental Impact Assessment Report (EIAR): Volume 2

Chapter 20 Cumulative Impacts and Environmental Interactions

EirGrid

March 2024



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20. Cumulative Impacts and Environmental Interactions

20.1 Introduction

This Chapter of the Environmental Impact Assessment Report (EIAR) considers and assesses the potential for cumulative impacts arising from the East Meath – North Dublin Grid Upgrade (hereafter referred to as the Proposed Development) in combination with approved developments or other developments which, at the time of assessment, were yet to be approved, but for which a decision on such development is reasonably foreseeable over the likely consenting and construction period anticipated for the Proposed Development.

In addition, this Chapter addresses the potential for interactions between impacts on different environmental factors of the Proposed Development itself on the receiving environment.

This Chapter should be read in conjunction with Chapter 5 to Chapter 18 in Volume 2 of this EIAR, and their appendices, which present the assessment of the likely potential environmental impacts arising from the Proposed Development itself and proposed mitigation measures to ameliorate those likely potential impacts. It should also be read in conjunction with Appendix A20.1 in Volume 3 of the EIAR, which contains the detailed cumulative assessment of other developments.

20.1.1 Cumulative Impacts

Annex IV of Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment, as amended by Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment (hereafter referred to as the EIA Directive) requires that an EIAR provides a "*description of the likely significant effects of the project on the environment resulting from...the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources.*" In addition, Schedule 6 of S.I. No. 600/2001 – Planning and Development Regulations, 2001 (as amended) states that the EIAR should include "*a description of the likely significant effects (including.....cumulative.....) of the proposed development*".

The Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions (European Commission 1999) provide the following definition of cumulative impacts:

"Impacts that result from the incremental changes caused by other past, present or reasonably foreseeable actions together with the project."

The Environmental Protection Agency (EPA) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (hereafter referred to as EPA Guidelines) (EPA 2022) define cumulative effects as:

"The addition of many minor or insignificant effects, including effects of other projects, to create larger, more significant effects."

It should be noted that the EPA Guidelines use the terms impacts and effects interchangeably. A relatively minor effect on a particular receptor caused by the Proposed Development could result in a significant effect if it is added to by impacts from another nearby development. This Chapter identifies and provides an assessment of likely significant cumulative effects caused by the Proposed Development in combination with other planned developments. Section 20.2 sets out the process for deciding which other planned developments were included in the assessment.

20.1.2 Environmental Interactions

Environmental interactions are the reactions between impacts, whether between impacts of just one development (i.e., the Proposed Development), or between the impacts of multiple developments. For each environmental topic there will be certain interactions or interdependencies with other environmental topics, whereby impacts may interact to create a greater effect or a different type of effect. An assessment of these interactions has been undertaken as required by Article 3 of the EIA Directive, which states the following:

"The environmental impact assessment shall identify, describe and assess in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of a project on the following factors:

- (a) Population and human health;*
- (b) Biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;*
- (c) Land, soil, water, air and climate;*
- (d) Material assets, cultural heritage and the landscape;*
- (e) The interaction between the factors referred to in points (a) to (d)."*

This is also reflected in Section 171A(b) of Number 30 of 2000 - Planning and Development Act 2000 (as amended by Section 53 of Number 30 of 2010 – Planning and Development (Amendment) Act 2010, which states:

"... 'environmental impact assessment' means an assessment carried out by a planning authority or the Board, as the case may be, in accordance with this Part and regulations made thereunder, that shall identify, describe and assess in an appropriate manner, in light of each individual case and in accordance with Articles 4 to 11 of the Environmental Impact Assessment Directive, the direct and indirect effects of a proposed development on the following:

- (a) human beings, flora and fauna;*
- (c) soil, water, air, climate and the landscape;*
- (d) material assets and cultural heritage; and*
- (e) the interaction between the factors mentioned in paragraphs (a), (b) and (c)."*

Some of the topic assessments within this EIAR already address environmental interactions. For example, Chapter 5 (Population) in Volume 2 of this EIAR provides an assessment of effects on community amenity, which relates to the interaction of impacts on air quality; visual amenity; traffic and transport; and noise and vibration. Furthermore, Chapter 6 (Human Health) in Volume 2 of this EIAR describes and assesses how a combination of impacts on health determinants (air quality, noise and vibration, community amenity, traffic and transport) can interact and influence health outcomes.

Section 20.6 of this Chapter sets out the main environmental interactions identified from the Proposed Development, sign-posting chapters which already address environmental interactions and providing a description and assessment of environmental interactions which are not addressed elsewhere in this EIAR.

20.1.3 Relevant Guidelines

This assessment has been completed with regard to the following guidance documents:

- EPA Guidelines (EPA 2022);
- Guidance on the Preparation of the Environmental Impact Assessment Report (European Commission 2017);

- Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions (European Commission 1999); and
- Advice Note 17: Cumulative Effects Assessment Relevant to Nationally Significant Infrastructure Projects (The Planning Inspectorate 2019).

20.2 Methodology for Cumulative Impact Assessment

20.2.1 Introduction

It is necessary to consider the scale, nature and likely impacts of other developments which could combine with the Proposed Development to cause cumulative impacts. It was therefore necessary to identify which other developments should be included for analysis as part of the cumulative impact assessment. A staged approach to identify such other developments was applied, as illustrated in Image 20.1, with each stage described in subsequent Chapter sections.

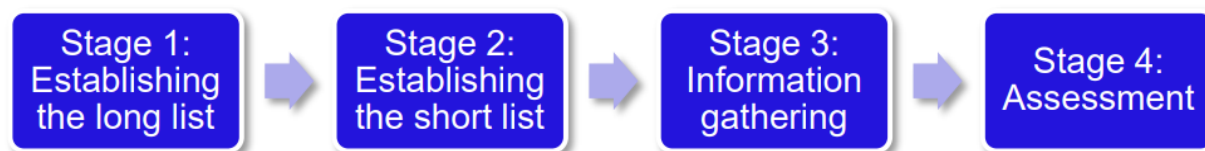


Image 20.1: Staged Approach to Identifying Which Other Developments Should be Included for Analysis as Part of the Cumulative Impact Assessment

20.2.2 Identification of Other Developments

20.2.2.1 Stage 1: Establishing the Long List of Other Developments

The first stage of the cumulative assessment was to identify other developments deemed potentially relevant to be included in the long list. While the EIA Directive only requires the consideration of other existing and / or approved developments, the assessment has gone further in that it has considered a number of other developments with the potential to receive approval and be progressed, which may give rise to cumulative impacts, in combination with the Proposed Development.

Stage 1 involved a desk-based assessment, which is outlined in the following sections.

20.2.2.1.1 Zone of Influence

The long listing process involved establishing the topic Zones of Influence (Zoi). This was achieved by establishing whether each of the other developments identified would fall within the study areas for the topics considered for the Proposed Development in isolation, as assessed in the topic chapters of this EIAR. The Zoi provides a guide as to the likelihood that another development may contribute to potentially significant cumulative impacts with the Proposed Development. The largest Zoi identified in the assessment chapters of the EIAR was 1 kilometre (km). Therefore, a 1km buffer from the Planning Application Boundary was applied and considered appropriate to capture the potential cumulative impacts that could arise for all assessment topics.

20.2.2.1.2 Sources of Identification of Other Developments

Potentially relevant other developments include those from various sectors, such as residential and commercial projects, utilities, and transport projects. The identification of developments for the long list considered the following sources:

- The An Bord Pleanála (ABP) website (ABP 2024) – for details of Strategic Infrastructure Developments, Strategic Housing Developments and Large-Scale Residential developments;
- Local authority websites and the development plans for Meath and Fingal – for details of allocations for housing, areas for regeneration and other zoning objectives (Fingal County Council 2024; Meath County Council 2024);
- National Planning Application Database (Government of Ireland 2024) – for downloadable list of planning applications sent from Local Authorities;
- EirGrid-owned developments, as provided by EirGrid, and captured within the National Planning Application Database and the ABP website;
- Projects being planned by the National Transport Authority (NTA) on the NTA website (NTA 2024), as part of other major transport projects and programmes in accordance with the Greater Dublin Area Transport Strategy 2022 – 2042 (hereafter referred to as the GDA Transport Strategy) (NTA 2023);
- Project Ireland 2040, which combines the National Development Plan 2021-2030 (Government of Ireland 2021) and the National Planning Framework (Government of Ireland 2019);
- Transport Infrastructure Ireland (TII) website (TII 2024) – to identify major transport projects and programmes;
- The EIA Portal maintained by the Department of Housing, Planning and Local Government (DHPLG 2024) – for applications for development consent accompanied by an EIAR;
- Uisce Éireann's website, which includes a page on its projects (Uisce Éireann 2024); and
- Other infrastructure and utility providers and developers, including daa, as captured within the National Planning Application Database and the ABP website.

All planning application data provided by each local authority is fed into the National Planning Application Database. This dataset was used to identify planning applications within the Zol of the Proposed Development. The dataset included all planning applications lodged to the relevant local authorities within 1km of the Planning Application Boundary. The dataset contained planning applications which had been granted, granted and appealed, refused, refused and appealed, withdrawn or invalidated. The application list was screened for potential cumulative impacts to contain any application that was conditional, or appealed and conditional. The exercise to identify relevant planning applications was undertaken in January 2024, with a cut-off date for assessment of other developments of 5 January 2024.

In addition to this process, and to capture other potentially relevant foreseeable developments, major projects as part of transport and other infrastructure programmes, were added to the preliminary long list, using the sources outlined above. This included other EirGrid proposed developments that had not been submitted for planning but which might reasonably (if approved) give rise to cumulative impacts.

The planning application datasets were searched to identify and exclude very minor applications from the long list on the basis that, given their minor nature, these were not likely to have a cumulative impact noticeable over the impacts of the Proposed Development in isolation. Examples of planning applications which were excluded from the preliminary long list were applications for one off houses and residential housing extensions. Granted and pending applications older than five years were also excluded from the preliminary long list on the basis that they would likely already have been built (and so would form part of the existing baseline) or are now unlikely to be progressed. Applications which have been refused or invalidated were discounted from the preliminary long list on the basis that they are unlikely to progress, unless through successful appeal.

The types of developments that were identified for consideration on the long list have been classed as follows:

- Local Planning Applications – those developments for which planning permission is applied for through local planning authorities themselves and were identified from the local authority planning application lists;
- Strategic Housing Developments or Large-Scale Residential Developments – housing developments of a certain type and scale (e.g., 100 or more houses or student accommodation units) for which applications are lodged directly with ABP);
- Strategic Infrastructure Developments - major developments by local authorities and others for which applications are lodged directly with ABP;
- Uisce Éireann Projects – projects under the programmes of work listed on Uisce Éireann’s website; and
- Other Major Projects – major projects which were at a pre-application stage at the time of identification, but which are anticipated to be developed over the estimated programme for the Proposed Development. These include major projects from various sectors including energy, utilities and transport, as identified from the sources listed in this Section.

20.2.2.1.3 Assignment of Tiers

A ‘tier’ (1 or 2) was assigned to each of the other developments to indicate the level of certainty associated with its implementation, as detailed in Image 20.2. While the tiers provide an indication of the level of information available on which to base an assessment, the status of planning applications change through time.

Appendix A20.1 in Volume 3 of this EIAR provides an indication of the tier of each other development at the time of assessment.

Tier 1	Under construction	Decreasing level of detail likely to be available ↓
	Permitted application(s) but not yet implemented	
	Submitted application(s) but not yet determined	
Tier 2	Identified in the relevant Development Plan and Strategies (and emerging Development Plans, with appropriate weight being given as they move closer to adoption) recognising that much information on any relevant proposals will be limited	
	Identified in other plans and programmes (as appropriate) which set the framework for future development consents/approvals, where such development is reasonably likely to come forward.	

Image 20.2: Tier 1 and Tier 2 Classification for Other Developments (adapted from The Planning Inspectorate 2019)

20.2.2.2 Stage 2: Establishing the Shortlist of Other Developments

The aim of Stage 2 was to narrow down the Stage 1 long list to include only those other developments where there was the potential for significant cumulative impacts to arise in combination with the Proposed Development. To do this, the following were considered:

- Whether the development has been completed, or the planning applications have been refused (where not identified at Stage 1), invalidated or expired (if so, they were not shortlisted). If a development was identified as completed, it has been considered as part of the baseline as appropriate;
- Whether there is a likelihood of temporal overlap (including overlap for construction periods) between the Proposed Development and the other development; and

- Whether the scale and nature of the other development is likely to significantly contribute to the effects of the Proposed Development, taking account of the aspects of the environment for which the Zol is relevant.

In considering the scale and nature of the other developments, regard was had for the screening thresholds set out in Schedule 5 of S.I. No. 600/2001 - Planning and Development Regulations, 2001 (as amended). For example, the threshold for screening a housing development for Environmental Impact Assessment (EIA) is where there are more than 500 dwelling units. The use of EIA screening thresholds was only a guide however, and some developments which are below thresholds, yet relatively close in proximity to the Proposed Development and still of a scale to be noticeable in the local context were shortlisted. Ultimately, the judgement as to whether a development should be shortlisted depended on whether the scale, location and / or nature could be sufficient to generate impacts which would be noticeable against typical baseline trends in the same Zol as the Proposed Development.

The shortlisting was informed by input from the environmental topic specialists involved in the preparation of this EIAR, which allowed for consideration as to whether a particular type of development could result in impacts to receptors of interest for the Proposed Development assessment.

The rationale for whether a development should be scoped out or not is recorded, where relevant, in Appendix A20.1 in Volume 3 of the EIAR, which provides a record of key decisions made when shortlisting developments for Stages 3 and 4 of the cumulative impact assessment. This includes a note of the reasons where a specialist has scoped out a development that falls within the Zol for their topic. The shortlisted developments are indicated on Figure 20.1 in Volume 4 of the EIAR.

20.2.2.3 Stage 3: Information Gathering for the Shortlist of Other Developments

The cumulative impact assessment has relied primarily on the gathering of environmental information from a range of sources published as part of planning application submissions or planning documentation for the shortlisted developments. In addition, where environmental assessments have not yet been undertaken or published, then any published Strategic Environmental Assessments (SEA) have been relied on for additional supporting information, where available. Specific information has been obtained from the following sources:

- Planning application documentation and supporting environmental assessments obtained via the National Planning Application Database and the EIA Portal;
- Local authority websites and the development plans for Meath and Fingal; and
- Developer websites (where available), for example for Uisce Éireann and other utilities companies.

The information sought focused on:

- Proposed design and location of the development;
- Proposed programme of construction, operation and decommissioning (if relevant); and
- Environmental assessments, if available, that set out baseline data and effects arising from the development.

In some cases, there is limited information on the above available with which to inform the cumulative impact assessment (i.e., for many of the developments in a pre-application stage or where environmental impact assessment is not required).

20.2.2.4 Stage 4: Assessment of Other Developments

The potential cumulative impacts of the Proposed Development with each of the other developments were assessed to a level of detail commensurate with the information that was available at the time of assessment. Where information regarding other developments was limited, these gaps were acknowledged within the assessment and the associated uncertainty in these cases is documented.

There are no prescriptive techniques used in the evaluation of the significance of cumulative impacts. Professional judgement and consideration of standards, guidelines and environmental carrying capacities have been applied to determine whether in-combination impacts have the potential to give rise to additional levels of significance. The EPA Guidelines (EPA 2022) significance criteria were applied.

The significance criteria used to assess likely cumulative impacts considered the capacity of environmental resources and receptors to accommodate changes that are likely to occur. These include:

- The duration of the impact (i.e. would it be temporary or permanent);
- The extent of impact (e.g. its geographical area);
- The type of impact (e.g. whether additive (i.e. the loss of two pieces of woodland of one hectare (ha), resulting in 2ha cumulative woodland loss) or synergistic (i.e. two discharges combine to have an effect on a species not affected by discharges in isolation);
- The frequency of the impact;
- The 'value' and resilience of the receptor affected; and
- The likely success of mitigation.

The potential cumulative impacts of other developments with the Proposed Development are assessed against the significance criteria outlined in Table 1.3 in Chapter 1 (Introduction and the Environmental Impact Assessment Process) in Volume 2 of this EIAR. These effects are based on their combination with the potential impacts identified in the individual topic assessments. Mitigation measures are identified if required, and where relevant, residual impacts are assessed.

20.3 Potential Cumulative Impacts

The long list of developments considered are presented in Table 1 in Appendix A20.1 in Volume 3 of this EIAR. Table 2 in Appendix A20.1 in Volume 3 of this EIAR presents the assessment of potential cumulative impacts for each of the 'other developments' carried forward for Stage 4 assessment and provides a breakdown of the assessment per environmental topic.

It should be noted that the environmental topic of 'climate' was screened out of the cumulative impact assessment, as the assessment of cumulative greenhouse gas (GHG) emissions cannot be carried out in a process analogous to other environmental topics because there is no causal link between the location of GHG emissions and the impacts arising from the cumulative aggregation of GHGs in the atmosphere. This limitation has also been recognised in the recent update to the Institute of Environmental Management and Assessment (IEMA) Guide: Assessing Greenhouse Gas Emissions and Evaluating their Significance (IEMA 2022).

Of the initial long list of 57 'other developments' considered to have the potential to overlap (either spatially or temporally) with the Proposed Development at Stage 1 / Stage 2, 29 were assessed for potential cumulative impacts with the Proposed Development at Stage 3 / Stage 4. A summary of each of the 28 other developments carried forward for Stage 3 / Stage 4 assessment, and their temporal and spatial relationship to the Proposed Development, is included in Table 20.1 (please refer to Appendix A20.1 in Volume 3 of the EIAR for further detail).

Table 20.1: Summary of Other Developments Assessed at Stage 4

Planning Application Reference / Planning Body	Other Development Applicant / Name	Potential for Spatial or Temporal Overlap with the Proposed Development
PCI0001 / ABP	EirGrid - CP0466 North South Interconnector	<ul style="list-style-type: none"> • Planning permitted; • Overlaps with the Planning Application Boundary for the Proposed Development at Woodland Substation; • Construction is due to commence in Q1 2025 and be completed by 2027. There is therefore the potential for Construction Phases to overlap; and • Operational Phases will coincide.
316372 / ABP	EirGrid - CP0966 Kildare Meath Grid Upgrade	<ul style="list-style-type: none"> • Submitting for planning permission in Q1 2024; • Overlaps with the Planning Application Boundary for the Proposed Development at Woodland Substation and along the 'Woodland Corridor' between Woodland Substation and the R156 Regional Road (refer to Figure 20.2 in Volume 4 of this EIAR); • Construction Phase of CP0966 is estimated to commence in Q2 2026 and be completed by Q3 2028. There is therefore the potential for Construction Phases to overlap; and • Operational Phases will coincide.
312131 / ABP	Uisce Éireann - Greater Dublin Drainage Project	<ul style="list-style-type: none"> • Lodged for planning. No determination as of yet; • Proposed orbital sewer will overlap with the Planning Application Boundary for the proposed cable route on approach to Belcamp Substation; • Construction is estimated to commence in Q4 2025 and be completed by Q4 2028, with commissioning to take place through to Q4 2029. There is therefore the potential for Construction Phases to overlap; and • Operational Phases will coincide.
314724 / ABP	TII – MetroLink	<ul style="list-style-type: none"> • Lodged for planning. No determination as of yet; • Overlaps with the Planning Application Boundary for the proposed cable route at the R132 Regional Road; • Proposed to deliver MetroLink by 2035 (subject to planning approval), with a 9.25 year construction programme indicated. There is therefore the potential for Construction Phases to overlap; and • Operational Phases will coincide.
314232 / ABP	TII – Dart+ West	<ul style="list-style-type: none"> • Lodged for planning. No determination as of yet; • Directly adjacent to the Planning Application Boundary for the proposed cable route at M3 Parkway; • Originally proposed to commence construction in the second half of 2023 (subject to planning approval) but planning is yet to be granted. A 47 month construction programme indicated and there is therefore potential for Construction Phases to overlap; and • Operational Phases will coincide.
317121 / ABP	NTA – BusConnects - Swords to City Centre Core Bus Corridor Scheme	<ul style="list-style-type: none"> • Lodged for planning. No determination as of yet; • Overlaps with the Planning Application Boundary for the proposed cable route at the R132 Regional Road; • Proposed to deliver the BusConnects schemes over the period 2023 to 2028 (subject to planning approval), with a 36 month construction programme indicated. There is therefore the potential for Construction Phases to overlap; and • Operational Phases will coincide.
312060 and F21A/0401 / ABP and Fingal County Council	Gannon Properties - Residential development at Belcamp Hall, Malahide Road, Dublin 17	<ul style="list-style-type: none"> • Planning permitted; • Approximately 1km from Planning Application Boundary at Belcamp Substation;

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Planning Application Reference / Planning Body	Other Development Applicant / Name	Potential for Spatial or Temporal Overlap with the Proposed Development
		<ul style="list-style-type: none"> Construction timeline for the other development is unknown and there is therefore the potential for Construction Phases to overlap; and Operational Phases will coincide.
314169 and F22A/0136 / ABP and Fingal County Council	Gerard Gannon Properties – Residential development at Belcamp Hall, Malahide Road, Dublin 17	<ul style="list-style-type: none"> Planning permitted; Approximately 695m to the east of Planning Application Boundary at Belcamp Substation; Construction timeline for the other development is unknown and there is therefore the potential for Construction Phases to overlap; and Operational Phases will coincide.
308130 / ABP	Enginenode Limited -220kV substation with 2 underground transmission cables between Pace and Bracetown	<ul style="list-style-type: none"> Planning permitted; Approximately 3m from Planning Application Boundary proposed cable route at the M3 Motorway crossing; Construction timeline for the other development is unknown and there is therefore the potential for Construction Phases to overlap; and Operational Phases will coincide.
309833 and FW21A/0003 / ABP and Fingal County Council	Montague Ventures Limited - Residential development at Hollystown, Mulhuddart, Dublin 15	<ul style="list-style-type: none"> Planning permitted; Approximately 237m to the south of the Planning Application Boundary for the proposed cable route before the M2 Motorway crossing; Construction timeline for the other development is unknown and there is therefore the potential for Construction Phases to overlap; and Operational Phases will coincide.
312271 / ABP	Glenveagh Homes Limited - Residential development at Hollystown-Kilmartin, Dublin 15	<ul style="list-style-type: none"> Planning permitted; Approximately 184m to the south-west of the Planning Application Boundary for the proposed cable route before the M2 Motorway crossing; Construction timeline for the other development is unknown but construction is estimated to take approximately 36 months. There is therefore the potential for Construction Phases to overlap; and Operational Phases will coincide.
312848 and F21A/0488 / ABP and Fingal County Council	Gerard Gannon Properties – Residential development at Belcamp Hall, Malahide Road, Dublin 17	<ul style="list-style-type: none"> Planning permitted; Approximately 961m to the east of Planning Application Boundary at Belcamp Substation; Construction timeline for the other development is unknown but construction is estimated to take approximately 24 months. There is therefore the potential for Construction Phases to overlap; and Operational Phases will coincide.
314894 / ABP	Kilshane Energy Ltd. – Proposed 220kV Gas Insulated Switchgear substation on lands at Kilshane Road, and an underground 220kV cable to the existing Cruiserath 220kV substation.	<ul style="list-style-type: none"> Planning permitted; Approximately 557m to the south of the Planning Application Boundary for the proposed cable route before the M2 Motorway crossing; Construction timeline for the other development is unknown and there is therefore the potential for Construction Phases to overlap; and Operational Phases will coincide.

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Planning Application Reference / Planning Body	Other Development Applicant / Name	Potential for Spatial or Temporal Overlap with the Proposed Development
F21A/0147 and F23A/0006 / Fingal County Council	Genvest ULC. – Industrial development at a site to the west of Stockhole Lane / Clonshaugh Road, County Dublin.	<ul style="list-style-type: none"> • Planning permitted; • Approximately 121m to the west of the Planning Application Boundary for the proposed cable route on the approach into Belcamp Substation; • Construction timeline for the other development is unknown and there is therefore the potential for Construction Phases to overlap; and • Operational Phases will coincide.
F20A/0550 / Fingal County Council	daa plc - Extension to the North Apron in the Airfield at Dublin Airport, County Dublin	<ul style="list-style-type: none"> • Planning permitted; • Approximately 448m to the south of the Planning Application Boundary for the proposed cable route lying to the north of Dublin Airport; • Construction timeline for the other development is unknown and there is therefore the potential for Construction Phases to overlap; and • Operational Phases will coincide.
F21A/0681 and 3041/22 / Fingal County Council and Dublin City Council	Mayne Stability Limited - Synchronous Compensator Development south of Belcamp Substation, Belcamp Dublin 17	<ul style="list-style-type: none"> • Planning permitted; • Approximately 4m to the south of the Planning Application Boundary at Belcamp Substation; • Construction timeline for the other development is unknown but the Construction Phase is estimated to take approximately 12 months. There is therefore the potential for Construction Phases to overlap; and • Operational Phases will coincide.
FW22A/0167 / Fingal County Council	IPUT plc – Industrial development at The Ward, County Dublin	<ul style="list-style-type: none"> • Planning permitted; • Approximately 4m to the south - east of the Planning Application Boundary for the proposed cable route before the M2 Motorway crossing; • Construction timeline for the other development is unknown and there is therefore the potential for Construction Phases to overlap; and • Operational Phases will coincide.
FW19A/0177 / Fingal County Council	ESB Engineering & Major Projects - Underground cable route from the existing Macetown ESB station to a permitted medium voltage substation in the townlands of Cruiserath and Tyrrelstown	<ul style="list-style-type: none"> • Planning permitted; • Approximately 1km to the south of the Planning Application Boundary for the proposed cable route before the M2 Motorway crossing; • Construction timeline for the other development is unknown. Construction works, testing and reinstatement will take approximately 19 weeks. There is therefore the potential for Construction Phases to overlap; and • Operational Phases will coincide.
F18A/0306 / Fingal County Council	Clarke Family Partnership – Residential development at Fosterstown North, County Dublin	<ul style="list-style-type: none"> • Planning permitted; • Approximately 1km to north of the Planning Application Boundary for the proposed cable route before the M1 Motorway crossing; • Construction timeline for the other development is unknown and there is therefore the potential for Construction Phases to overlap; and • Operational Phases will coincide.

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Planning Application Reference / Planning Body	Other Development Applicant / Name	Potential for Spatial or Temporal Overlap with the Proposed Development
FW22A/0156 / Fingal County Council	Earlstand Corporation Unlimited Company – Industrial development at Northwest Logistics Park, Ballycoolin, Dublin 15	<ul style="list-style-type: none"> • Planning permitted; • Approximately 1km to south of the Planning Application Boundary for the proposed cable route before the M2 Motorway crossing; • Construction timeline for the other development is unknown and there is therefore the potential for Construction Phases to overlap; and • Operational Phases will coincide.
FW21A/0042 / Fingal County Council	Glencaveagh Homes Ltd - Residential development at Hollystown, Dublin 15	<ul style="list-style-type: none"> • Planning permitted; • Approximately 756m south of the Planning Application Boundary for the proposed cable route before the M2 Motorway crossing; • Construction timeline for the other development is unknown and there is therefore the potential for Construction Phases to overlap; and • Operational Phases will coincide.
F22A/0682 / Fingal County Council	Fingleton White – Alterations to the aviation fuel pipeline at the Athletic Union League / FAI sports grounds, M1 and Dublin Airport, within the townlands of Toberbunney and Stockhole, Co. Dublin.	<ul style="list-style-type: none"> • Planning permitted; • Overlaps with the Planning Application Boundary for the proposed cable route to the west of Belcamp Substation; • Construction timeline for the other development is unknown and there is therefore the potential for Construction Phases to overlap; and • Operational Phases will coincide.
F23A/0040 / Fingal County Council	EirGrid - CP1213 Belcamp 220kV Extension	<ul style="list-style-type: none"> • Planning permitted; • Overlaps with the Planning Application Boundary at Belcamp Substation; • Construction timeline for the other development is unknown and there is therefore the potential for Construction Phases to overlap; and • Operational Phases will coincide.
F22A/0687/ Fingal County Council	Clondev Properties Limited - Residential development at Nevinstown, Swords, County Dublin	<ul style="list-style-type: none"> • Planning permitted; • Approximately 1km to the north of the Planning Application Boundary for the proposed cable route before the M1 Motorway crossing; • Construction timeline for the other development is unknown and there is therefore the potential for Construction Phases to overlap; and • Operational Phases will coincide.
4367/19 / Dublin City Council	The Electricity Supply Board - 200m long medium / low voltage underground cable from the former Diamond Innovations site to the existing ESB Darndale Substation	<ul style="list-style-type: none"> • Planning permitted; • Approximately 1km to the south-west of the Planning Application Boundary at Belcamp Substation; • Construction timeline for the other development is unknown and there is therefore the potential for Construction Phases to overlap; and • Operational Phases will coincide.
2360290 / Meath County Council	Marina Quarter Ltd. -	<ul style="list-style-type: none"> • Planning permitted; • Approximately 315m from the Planning Application Boundary for the proposed cable route before the M3 Motorway crossing;

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Planning Application Reference / Planning Body	Other Development Applicant / Name	Potential for Spatial or Temporal Overlap with the Proposed Development
	Large-Scale Residential Development at Dunboyne North, County Meath	<ul style="list-style-type: none"> • Construction timeline for the other development is unknown but estimated to take three years to complete. There is therefore the potential for Construction Phases to overlap; and • Operational Phases will coincide.
22837 and 23136 / Meath County Council	GDA Energy 4 Ltd - Battery energy storage facility and synchronous condenser at Woodland, County Meath	<ul style="list-style-type: none"> • Planning permitted; • Approximately 160m to the north-west of the Planning Application Boundary at Woodland Substation; • Construction timeline for the other development is unknown but estimated to take 10 years to complete. There is therefore the potential for Construction Phases to overlap; and • Operational Phases will coincide.
RA170873 and 23787 / Meath County Council	South Meath Solar Farm Limited - Solar farm at a site in the townlands of Vesingstown, Polleban and Harlockstown, Dunboyne, County Meath	<ul style="list-style-type: none"> • Planning permitted; • Approximately 660m to the north-east of the Planning Application Boundary for the proposed cable route before the M3 Motorway crossing; • Construction timeline for the other development is unknown but estimated to take 10 years to complete. There is therefore the potential for Construction Phases to overlap; and • Operational Phases will coincide.
221550 / Meath County Council	EirGrid PLC CP1194 Woodland Station 400kV Station Redevelopment.	<ul style="list-style-type: none"> • Planning permitted; • Overlaps with the Planning Application Boundary at Woodland Substation; • Construction is due to commence in Q2 2025 and be completed by Q4 2028. There is therefore the potential for Construction Phases to overlap; and • Operational Phases will coincide.

Each environmental topic was considered for potential cumulative impacts with the Proposed Development, in the absence of any mitigation for the Proposed Development. There is limited potential for cumulative impacts during the Operational Phase, on the basis that fewer impacts are anticipated during this phase for the Proposed Development.

Potential cumulative impacts that could arise in the absence of any mitigation for the Proposed Development are summarised in Table 20.2 (please refer to Appendix A20.1 in Volume 3 of the EIAR for further detail).

Table 20.2: Summary of Potential Cumulative Impacts

Environmental Topic	Other Development(s)	Description of Potential Cumulative Impact (Pre-Mitigation)	Phase
Population	312131 – Greater Dublin Drainage, 314724 – Metrolink, 314232 – Dart+ West, 317121 – BusConnects Swords, 308130 – Enginenode Limited development, 309833 / FW21A/0003 – Montague Ventures Limited development, 312271 – Glenveagh Homes Limited development, F21A/0147 / F23A/0006 – Genvest ULC. development, F21A/0681 / 3041/22 – Mayne Stability Limited development, FW22A/0167 – IPUT plc development, F22A/0682 – Fingleton White development, F23A/0040 – CP1213 EirGrid development, 2360290 – Marina Quarter Ltd. Large-Scale Residential Development and 22837 / 23136 – GDA Energy Ltd development.	<ul style="list-style-type: none"> Negative, Slight and Temporary impact on amenity; Negative, Slight to Moderate and Temporary on accessibility and severance of nearby sensitive receptors; Positive, Not Significant and Short-Term on employment; and Negative, Not Significant and Temporary on the local economy. 	Construction Phase
Human Health	CP0966 Kildare Meath Upgrade EirGrid development.	Negative, Imperceptible and Temporary cumulative impact on public health (transport modes, access and connections) if Construction Phases were to overlap.	Construction Phase
	312131 – Greater Dublin Drainage.	Negative, Imperceptible and Temporary cumulative impact on the air quality and noise health determinants for residents of small areas 267005001/02 and 267001009/03 in Dublin, in the event of overlapping Construction Phases.	Construction Phase
	314724 – Metrolink.	Negative, Not Significant and Temporary cumulative impact on the air quality, noise and traffic health determinants for residents of small areas 267005001/02 and 26709902 in Dublin, in the event of overlapping Construction Phases.	Construction Phase
	317121 – BusConnects Swords.	Negative, Not Significant and Temporary cumulative impact on traffic and transport for residents of small areas 267001009/03, 267005001/02, 267132011 and 267099015/01 in Dublin, in the event of overlapping Construction Phases.	Construction Phase
	308130 – Enginenode.	Negative, Imperceptible and Temporary cumulative impact on traffic and transport determinant for residents of small areas 167029015 and 167029001 in Meath, in the event of overlapping Construction Phases.	Construction Phase
	309833 / FW21A/0003 – Montague Ventures Limited development, 312271 – Glenveagh Homes Limited development, F21A/0147 / F23A/0006 – Genvest ULC. development.	Negative, Imperceptible, and Temporary cumulative impact on the air quality and noise determinants for a small number of residential dwellings located in the Hollywood / Hollystown area (Montague development only), the Yellowstown area (Glenveagh Homes development only) and a small number of residential dwellings located in Stockhole Lane area of Clonshaugh area (small area 267005001/02) (Genvest development only), in the event of overlapping Construction Phases.	Construction Phase
	FW22A/0167 – IPUT plc development, and 2360290 – Marina Quarter Ltd. Development.	Negative, Imperceptible and Temporary cumulative impact on the air quality, noise and traffic and transport health determinants for residents of small area 267158009/02 (IPUT development only) and residents of small areas 167029001 and 167029015 (Marina Quarter development only), in the event of overlapping Construction Phases.	Construction Phase
Air Quality	PCI0001 – CP0466 North South Interconnector EirGrid development, 316372 – CP0966 Kildare Meath Upgrade EirGrid development, 312131 – Greater Dublin	Negative, Not Significant and Short-Term dust impact if Construction Phases were to overlap.	Construction Phase

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Environmental Topic	Other Development(s)	Description of Potential Cumulative Impact (Pre-Mitigation)	Phase
	Drainage, 314724 – Metrolink, 314232 – Dart+ West, 317121 – BusConnects Swords, 308130 - Enginenode Limited development, F21A/0681 / 3041/22 – Mayne Stability Limited development, FW22A/0167 – IPUT plc development, F22A/0682 – Fingleton White development, F23A/0040 – CP1213 EirGrid development, 22837 / 23136 – GDA Energy Ltd development, and 221550 - CP1194 EirGrid Station Redevelopment.		
Noise and Vibration	316372 – CP0966 Kildare Meath Upgrade EirGrid development, 312131 – Greater Dublin Drainage, 314724 – Metrolink, 314232 – Dart+ West, 317121 – BusConnects Swords, 308130 - Enginenode Limited development, F21A/0681 / 3041/22 – Mayne Stability Limited development, FW22A/0167 – IPUT plc development, F22A/0682 – Fingleton White development, and F23A/0040 – CP1213 EirGrid development.	Negative, Not Significant and Short-Term noise impact on nearby receptors in the event that Construction Phases were to overlap due to the spatial overlap between the other development and the Proposed Development.	Construction Phase
Biodiversity	Water Quality (see Hydrology below).		
	PCI0001 – CP0466 North South Interconnector, 308130 - Enginenode Limited development, 312271 – Glenveagh Homes Limited development, 312848 / F21A/0488 – Gerard Gannon Properties development, 314894 – Kilshane Energy Ltd. development, F21A/0147 / F23A/0006 – Genvest ULC development, F21A/0681 / 3041/22 - Mayne Stability Limited development, F22A/0682 – Fingleton White development, 2360290 - Marina Quarter Ltd development, 22837 / 23136 – GDA Energy 4 Ltd development, RA170873 / 23787 – South Meath Solar Farm Limited development, and 221550 - CP1194 EirGrid Station Redevelopment.	Negative, Not Significant and Short-Term general impact on biodiversity, if Construction Phases were to overlap.	Construction Phase
	316372 – CP0966 Kildare Meath Upgrade EirGrid development.	Negative, Significant, and Medium-Term impact on breeding birds at Woodland Substation due to spatial overlap and removal of habitat for Construction Phases.	Construction Phase
	F23A/0040 - CP1213 EirGrid development.	Negative, Significant, and Long-Term impact on calcareous grassland / natural grassland and bats at Belcamp Substation due to spatial overlap and removal of habitat for Construction Phases.	Construction Phase
	F23A/0040 - CP1213 EirGrid development.	Negative, Significant, and Medium-Term impact on breeding birds at Belcamp Substation due to spatial overlap and removal of habitat for Construction Phases.	Construction Phase
	317121 – BusConnects Swords.	Negative, Significant and Long-Term impact on trees and hedgerows due to removal required during Construction Phases.	Construction Phase
	309833 / FW21A/0003 - Montague Ventures Limited.	Negative, Significant and Long-Term impact on bats due to disturbance / lighting and the loss of trees / hedgerows, if Construction Phases were to overlap.	Construction Phase
	FW22A/0167 – IPUT plc development, FW22A/0156 – Earlstand Corporation development, FW21A/0042 – Glenveagh Homes Ltd development.	Negative, Slight and Short-Term impact on wintering birds due to disturbance effects, if Construction Phases were to overlap.	Construction Phase
FW19A/0177 - ESB Engineering & Major Projects development Macetown / Corduff underground cable).	Negative, Very Significant and Short-Term impact on North Dublin Bay Special Area of Conservation (SAC), South Dublin Bay and River Tolka Estuary Special Protection	Construction Phase	

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Environmental Topic	Other Development(s)	Description of Potential Cumulative Impact (Pre-Mitigation)	Phase
		Area (SPA) and North Bull Island SPA, for which there is a hydrological connection from both developments, if Construction Phases were to overlap.	
Hydrogeology	PCI0001 – CP0466 North South Interconnector EirGrid development, 316372 – CP0966 Kildare Meath Upgrade EirGrid development, 312131 – Greater Dublin Drainage, 314724 – Metrolink, 317121 – BusConnects Swords, F21A/0681 / 3041/22 – Mayne Stability Limited development, FW22A/0167 – IPUT plc development, F22A/0682 – Fingleton White development, and F23A/0040 – CP1213 EirGrid development.	Negative, Slight and Short-Term cumulative impacts on groundwater quality, if Construction Phases were to overlap.	Construction Phase
	316372 – CP0966 Kildare Meath Upgrade EirGrid development.	Negative, Negligible and Short-Term impact to the underlying aquifers, if Construction Phases were to overlap. Negative, Moderate and Short-Term impact on the hydrology of one groundwater dependent terrestrial ecosystem (GWDTEw2), if Construction Phases were to overlap.	Construction Phase
Hydrology	PCI0001 – CP0466 North South Interconnector EirGrid development, 316372 – CP0966 Kildare Meath Upgrade EirGrid development, F23A/0040 – CP1213 EirGrid development.	Negative, Significant and Short-Term impact on the Dunboyne_010 Stream water body from the potential for an increase in sediment laden runoff, removal of bed material and changes to the bed and bank as a result of open cut trenching, as both developments will cross this watercourse if Construction Phases were to overlap.	Construction Phase
	312131 – Greater Dublin Drainage.	Negative, Significant and Short-Term impact on the Mayne_10 water body from the potential for an increase in sediment laden runoff, removal of bed material and changes to the bed and bank as a result of open cut trenching, as both developments will cross this watercourse if Construction Phases were to overlap.	Construction Phase
	314724 – Metrolink, 317121 – BusConnects Swords.	Adjacent to the Ballymun, Collins Town and Forest Little (for 314724) and Ballymun and Dublin Airport (for 317121), a Negative, Significant and Short-Term impact on Sluice_010 and Mayne_010 water bodies, from the potential for an increase in sediment laden runoff, removal of bed material and changes to the bed and bank as a result of open cut trenching, as both developments would cross these water bodies within 500m of each other, if Construction Phases were to overlap.	Construction Phase
Archaeology, Architectural and Cultural Heritage	312131 – Greater Dublin Drainage.	Negative, Moderate and Permanent impact on CH_32 (Field system) as a result of the interaction between this development and the Proposed Development, as both will remove archaeological remains that form this part of this asset.	Construction Phase
	314724 – Metrolink.	Negative, Slight and Permanent impact on AY_43 (A Recorded Monument) as a result of the interaction between this development and the Proposed Development, as both will be located within the Zone of Notification	Construction Phase
	309833 / FW21A/0003 - Montague Ventures Limited development, 312271 – Glenveagh Homes Limited development, and FW21A/0042 - Glenveagh Homes Ltd development.	Negative, Moderate and Permanent impact on DL_05 (Designed Landscape) as a result of the interaction between each of these other developments and the Proposed Development, as both will remove features that form this part of this asset.	Construction Phase

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Environmental Topic	Other Development(s)	Description of Potential Cumulative Impact (Pre-Mitigation)	Phase
	F22A/0682 – Fingleton White development.	Negative, Slight and Permanent impact on DL_15 as a result of the interaction between this development and the Proposed Development, as both developments will remove features that form this part of this asset.	Construction Phase
	F23A/0040 - CP1213 EirGrid development.	Negative, Slight and Permanent direct impact on CH_32 (Field system) if the Construction Phases were to overlap.	Construction Phase
	309833 / FW21A/0003 - Montague Ventures Limited development, 312271 – Glenveagh Homes Limited development, and FW21A/0042 - Glenveagh Homes Ltd development.	Negative, Moderate and Permanent cumulative impact on DL_05 (Designed Landscape) due to the presence of the other development and permanent access tracks and Joint Bays within the demesne.	Operational Phase
Traffic	PCI0001 – CP0466 North South Interconnector EirGrid development, 316372 – CP0966 Kildare Meath Upgrade EirGrid development, 314724 – Metrolink, 317121 – BusConnects Swords, 314232 – Dart+ West, 312060 / F21A/0401 - Gannon Properties development, 314169 / F22A/0136 – Gerard Gannon Properties development, 312848 / F21A/0488 - Gerard Gannon Properties development, 308130 - Enginenode Limited development, 309833 / FW21A/0003 - Montague Ventures Limited development, 312271 – Glenveagh Homes Limited development, 314894 - Kilshane Energy Ltd. development, F21A/0147 / F23A/0006 – Genvest ULC development, F20A/0550 – daa plc, F21A/0681 / 3041/22 – Mayne Stability Limited development, FW22A/0167 – IPUT plc development, FW19A/0177 – ESB Engineering & Major Projects development (Macetown / Corduff underground cable), F18A/0306 – Clarke Family Partnership development, FW22A/0156 – Earlstand Corporation Unlimited development, FW21A/0042 – Glenveagh Homes Ltd development, F22A/0682 – Fingleton White development, F23A/0040 – CP1213 EirGrid development, F22A/0687 – Clondev Properties Limited development, 4367/19 – ESB development, 2360290 - Marina Quarter Ltd. development, 22837 / 23136 – GDA Energy 4 Ltd development, RA170873 / 23787 - South Meath Solar Farm Limited development, and 221550 - CP1194 EirGrid Station Redevelopment.	Negative, Not Significant and Short-Term impact on traffic if Construction Phases were to overlap due to cumulative construction traffic on the following roads for the following other developments: <ul style="list-style-type: none"> • R125, R147, R154, R156, R157 and The Red Road (CP0466, CP0966 and CP1194); • R139 and Clonshaugh Road (Greater Dublin Drainage and Mayne Stability development); • R132 (BusConnects Swords, daa plc and Clarke Family developments); • R157 (Dart+ West and Marina Quarter development); • R139 (Gannon Properties developments x3 and CP1213 and ESB developments); • R147 and R157 (Enginenode Development); • Cherryhound Tyrrelstown Link Road, Ratoath Road, Kilbride Road and R121 Ward Road (Montague Ventures, Glenveagh Homes x2 and Kilshane Energy developments); • R139 Road, Clonshaugh Road and Stockhole Lane (Genvest development); • Cherryhound Tyrrelstown Link Road (IPUT, ESB Engineering and Earlstand developments); • R139 Road, Stockhole Lane, Clonshaugh Road and the R132 Road (Fingleton White and Clondev developments); • R147, R154 and R125 Roads (GDA Energy development); and • R147, R156 and R157 Roads (South Meath Solar Farm development). 	Construction Phase
Agronomy and Equine	316372 – CP0966 Kildare Meath Upgrade EirGrid development.	There is the potential for cumulative impacts on the following land parcels, within the overlapping Woodland Corridor between the two developments: <ul style="list-style-type: none"> • Land parcel Ref No 1 – Negative, Not Significant and Long-Term; • Land parcel Ref No 2 – Negative, Not Significant and Long-Term; • Land parcel Ref No 3 – Negative, Slight and Long-Term; and 	Construction and Operational Phase

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Environmental Topic	Other Development(s)	Description of Potential Cumulative Impact (Pre-Mitigation)	Phase
		<ul style="list-style-type: none"> Land parcel Ref No 4 – Negative, Slight and Long-Term. 	
	312131 – Greater Dublin Drainage.	Negative, Profound and Permanent impact on land parcel Ref No 39, and a Negative, Significant and Permanent impact on land parcel Ref No., 40 due to land take from both developments.	Construction and Operational Phase
	314232 – Dart+ West.	Neutral, Not Significant and Short-Term impact on land parcel Ref No. 10 and 11 during the Construction Phases of both developments in the area to the south of Junction 5 of the M3 Motorway.	Construction Phase
	308130 - Enginenode Limited development.	Negative, Not Significant and Short-Term cumulative impact on land parcel Ref No. 11 during the Construction Phases of both developments due to land take.	Construction Phase
	F23A/0040 – CP1213 EirGrid development.	Negative, Significant and Permanent impact on land parcel Ref No. 40 due to land take during the Construction and Operational Phases for both developments.	Construction and Operational Phase
Waste	All 29 other developments (as listed in Table 20.1).	Negative, Significant and Short-Term cumulative impact on the annual capacity of waste management facilities within the region during any overlapping Construction Phase years.	Construction Phase
	All 29 other developments (as listed in Table 20.1).	Neutral, Imperceptible and Long-Term cumulative impact as potential wastes from both the Operational Phases will be insignificant.	Operational Phase
Material Assets	PCI0001 – CP0466 North South Interconnector EirGrid development, 316372 – CP0966 Kildare Meath Upgrade EirGrid development, 312131 – Greater Dublin Drainage, 317121 – BusConnects Swords, FW22A/0167 – IPUT plc development, F22A/0682 – Fingleton White development, F23A/0040 – CP1213 EirGrid development, and 221550 - CP1194 EirGrid Station Redevelopment.	Neutral, Imperceptible and Temporary cumulative impact as there is limited potential for an overlap in interfaces with existing utilities requiring diversions during the Construction Phases of the Proposed Development and each of the other developments.	Construction Phase
	314724 – Metrolink.	Negative, Moderate and Temporary cumulative impact due to the potential for an overlap in interfaces with existing utilities requiring diversions if Construction Phases were to overlap.	Construction Phase
	PCI0001 – CP0466 North South Interconnector EirGrid development, 316372 – CP0966 Kildare Meath Upgrade EirGrid development, F21A/0681 / 3041/22 – Mayne Stability Limited development, FW19A/0177 - ESB Engineering & Major Projects development (Macetown / Corduff underground cable), F23A/0040 – CP1213 EirGrid development, 4367/19 – ESB development at Darndale, and 221550 - CP1194 EirGrid Station Redevelopment.	Positive, Significant and Long-Term cumulative impact on the regional electricity network when each other development and the Proposed Development are operational.	Operational Phase
Landscape and Visual	PCI0001 – CP0466 North South Interconnector EirGrid development.	Neutral, Imperceptible and Short-Term visual impacts, if Construction Phases were to overlap.	Construction Phase
	PCI0001 – CP0466 North South Interconnector EirGrid development 221550 - CP1194 EirGrid Station Redevelopment.	Negative, Slight and Short-Term landscape impact, if Construction Phases were to overlap.	Construction Phase

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Environmental Topic	Other Development(s)	Description of Potential Cumulative Impact (Pre-Mitigation)	Phase
	316372 – CP0966 Kildare Meath Upgrade EirGrid development.	Negative, Slight and Short-Term visual impact within the Woodland Corridor, and a Negative, Moderate-Slight and Short-Term impact on the Tara Skryne Hills landscape character area, if Construction Phases were to overlap.	Construction Phase
	F23A/0040 – CP1213 EirGrid development.	Negative, Slight-Imperceptible and Short-Term visual impact, and a Negative, Slight and Short-Term landscape impact, if Construction Phases were to overlap.	Construction Phase
	PCI0001 – CP0466 North South Interconnector EirGrid development 221550 - CP1194 EirGrid Station Redevelopment.	Negative, Imperceptible and Permanent landscape and visual impact during the Operational Phases.	Operational Phase
	316372 – CP0966 Kildare Meath Upgrade EirGrid development.	Negative, Slight and Permanent visual impact within the Woodland Corridor, and a Negative, Imperceptible and Permanent impact on the Tara Skryne Hills landscape character area.	Operational Phase
	F23A/0040 – CP1213 EirGrid development 221550 - CP1194 EirGrid Station Redevelopment.	Negative, Imperceptible and Permanent landscape and visual impact during the Operational Phases.	Operational Phase

20.4 Mitigation and Monitoring Measures

The results of the assessment presented in Table 2 in Appendix A20.1 in Volume 3 of this EIAR indicate that for the majority of environmental topics, no additional mitigation measures other than those provided in this EIAR (as summarised in Chapter 21 (Summary of Mitigation and Monitoring Measures) in Volume 2 of this EIAR), and in the Construction Environmental Management Plan (CEMP) and its associated appendices (included as standalone documents in the planning application pack)), are required to mitigate the identified cumulative impacts.

However, the following additional mitigation measures will be implemented in the event that Construction Phases for the Proposed Development and the CP0966 Kildare Meath Grid Upgrade occur at the same time, due to the spatial overlap between the two developments in the 'Woodland Corridor' (refer to Figure 20.2 in Volume 4 of the EIAR), which extends from Woodland Substation southwards to the R156 Regional Road:

- **Air Quality:** Liaison meetings with the CP0966 construction management team / appointed contractor will be held to ensure plans in the Woodland Corridor are coordinated, in order to reduce cumulative dust and particulate matter emissions. As part of this liaison process, the appointed contractors will be required to determine the interactions of the offsite transport / deliveries which might be using the same strategic road network routes;
- **Hydrology:** Given the proximity of the two development crossings of the Dunboyne Stream_010 water body, coordination of the construction programmes for the two developments will be required between the respective appointed contractors to ensure that, where possible, works to cross the water body are undertaken at the same time, and as such, minimising disruption;
- **Traffic:** Coordination of the construction programmes for the two developments will be required to ensure that there are no conflicting road closures from either development at the same time;
- **Traffic:** Cumulative construction traffic will also be timed to avoid peaks in construction programmes, where possible; and
- **Material Assets:** Coordination / consultation between the appointed contractors for the two developments will be required in the event that there are overlapping works within the Woodland Corridor area. Any future utility work identified as being required during the Construction Phase will be undertaken in consultation with the relevant utility companies.

20.5 Residual Cumulative Impacts

With the implementation of the mitigation measures included in this EIAR and the CEMP, in addition to the additional mitigation measures outlined in Section 20.4, there will be no significant residual cumulative impacts for the majority of the potential cumulative impacts identified in Section 20.3 (please refer to Appendix A20.1 in Volume 3 of the EIAR which sets out the full details for the basis of these conclusions).

Table 20.3 outlines the significant residual impacts (Significant rating or higher unless otherwise stated below) that have been identified.

Table 20.3: Summary of Predicted Significant Residual Cumulative Impacts

Environmental Topic	Other Development(s)	Pre-Mitigation Cumulative Impact	Post-Mitigation Cumulative Impact	Comment
Biodiversity	F23A/0040 – CP1213 Belcamp 220kV Extension.	Negative, Significant, and Long-Term impact on calcareous / natural grassland at Belcamp Substation due to spatial overlap and removal of habitat for Construction Phases.	Negative, Significant, and Medium-Term impact on calcareous / natural grassland, at Belcamp Substation.	There will be a significant and medium-term impact associated with the loss of habitat as habitat will take longer periods to grow / re-establish.
Archaeology, Architectural Heritage and Cultural Heritage	309833 / FW21A/0003 - Montague Ventures Limited development, 312271 – Glenveagh Homes Limited development, and FW21A/0042 - Glenveagh Homes Ltd development.	Negative, Moderate and Permanent cumulative impact on DL_05 (Designed Landscape) due to the presence of the other development and permanent access tracks and Joint Bays within the demesne.	Negative, Moderate and Permanent cumulative impact on DL_05 (Designed Landscape) due to the presence of the other development and permanent access tracks and Joint Bays within the demesne.	There will be a Negative, Moderate (noting that an impact that is Moderate or higher is considered 'significant' in the archaeology, architectural heritage and cultural heritage assessment) and Permanent impact on DL_05 (Designed Landscape) due to the Proposed Development's permanent access tracks and Joint Bay covers remaining visible and the presence of the other development further reducing the legibility of this demesne which cannot be mitigated.
Agronomy and Equine	312131 – Greater Dublin Drainage.	Negative, Profound and Permanent on land parcel Ref No. 39 (Construction and Operational Phases) due to land take.	Negative, Profound and Permanent on land parcel Ref No. 39 (Construction and Operational Phases) due to land take.	All temporary land take will be reinstated in line with the mitigation measures outlined in this EIAR. However, the loss of agricultural land as a result of the construction and operation of each other development and the Proposed Development will be a permanent loss which cannot be mitigated.
		Negative, Significant and Permanent on land parcel Ref No. 40 (Construction and Operational Phases) due to land take.	Negative, Significant and Permanent on land parcel Ref No. 40 (Construction and Operational Phases) due to land take.	
	F23A/0040 – CP1213 Belcamp 220kV Extension.	Negative, Significant and Permanent on land parcel Ref No. 40 (Construction and Operational Phases) due to land take.	Negative, Significant and Permanent on land parcel Ref No. 40 (Construction and Operational Phases) due to land take.	
Material Assets	PCI0001 – CP0466 North South Interconnector EirGrid development, 316372 – CP0966 Kildare Meath Upgrade EirGrid development, F21A/0681 / 3041/22 – Mayne Stability Limited development, FW19A/0177 - ESB Engineering & Major Projects development (Macetown / Corduff underground cable), F23A/0040 – CP1213 EirGrid development, 4367/19 – ESB development at Darndale, and	Positive, Significant and Long-Term impact on the regional electricity network once the Proposed Development and each one of the other developments are operational.	Positive, Significant and Long-Term impact on the regional electricity network once the Proposed Development and each one of the other developments are operational.	N/A

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Environmental Topic	Other Development(s)	Pre-Mitigation Cumulative Impact	Post-Mitigation Cumulative Impact	Comment
	221550 - CP1194 EirGrid Station Redevelopment.			

20.6 Environmental Interactions

The interaction of impacts arises from the combined action of a number of different environmental topic-specific impacts upon a single receptor / resource. For example, the removal of trees can have landscape, visual and ecological impacts, or an individual residential receptor can be affected by noise and visual impacts. Cumulative impacts can also arise from different types of impact within a single topic on a receptor, such as the cumulative visual impact of vegetation removal and erection of an electricity tower on a single receptor.

The technical assessments in Volume 2 of this EIAR (refer to Chapter 5 to Chapter 19) contain assessments of the likely significant impacts arising from the Proposed Development singularly. During the assessment process, coordination took place between assessment specialists to ensure that interacting impacts arising from the Proposed Development singularly were identified, assessed and, where appropriate, mitigated. These impacts are reported in the individual chapters and are not repeated here. Table 20.4 sets out a matrix to indicate where interactions between different impacts on different environmental factors have been addressed. This is in line with the approach set out in the EPA Guidelines (EPA 2022).

Table 20.4: Environmental Interactions Matrix

Environmental Topic	Population	Human Health	Air Quality	Climate	Noise and Vibration	Biodiversity	Soils, Geology and Hydrogeology	Hydrology	Archaeology, Architectural and Cultural Heritage	Traffic	Agronomy and Equine	Waste	Material Assets	Landscape and Visual	Risk of Major Accidents and / or Disasters
Population															
Human Health	X														
Air Quality	X	X													
Climate		X													
Noise and Vibration	X	X													
Biodiversity			X	X	X										
Soils, Geology and Hydrogeology		X				X									
Hydrology		X				X	X								
Archaeology, Architectural and Cultural Heritage							X	X							
Traffic	X	X	X		X										
Agronomy and Equine	X	X	X	X	X		X	X							
Waste							X			X					
Material Assets		X								X					
Landscape and Visual	X	X				X			X						
Risk of Major Accidents and / or Disasters	X	X		X		X	X	X		X			X		

Note: This matrix should be read down, starting with each topic identified across the top. X = significant interaction between. Blank cells indicate no or weak interaction.

Key interactive impacts include:

- Biodiversity and Hydrology – interactive impacts could potentially occur to the surface water environment. They could include potential impacts on aquatic species, requiring mitigation measures;
- Biodiversity and Landscape and Visual – interactive impacts could potentially occur as a result of loss of habitats (hedgerows, trees, grassland, etc.);
- Archaeology, Architectural Heritage, and Cultural Heritage and Landscape and Visual – interactive impacts could potentially occur in relation to the landscape character and setting of cultural heritage assets;
- Archaeology, Architectural Heritage, and Cultural Heritage and Soils, Geology and Hydrogeology – interactive impacts arising from dewatering could potentially impact on cultural heritage sites, such as historical wells; and,
- Material Assets, Agronomy, Air Quality, Noise and Vibration, Traffic and Transport, Population and Human Health – interactions in the human environment are typically complex as there is the potential for receptors to be impacted in a number of ways.

The likely significance of these combined and interrelated impacts has been assessed, and mitigated where required, within the individual assessment chapters.

20.7 References

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