July 2024

Stage 1: Appropriate Assessment - Screening and Stage 2: Natura Impact Statement

Proposed 110kV AIS Substation at Knockraha, Ballinanleigh, Co. Cork

On behalf of

Ballyvatta Solar Farm Limited

MALONE O'REGAN ENVIRONMENTAL

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Title: Stage 1: Appropriate Assessment - Screening and Stage 2: Natura Impact Statement, Proposed 110kV AIS Substation at Knockraha, Ballinanleigh, Co. Cork, Ballyvatta Solar Farm Limited

Job Number: E2297

Prepared By: Henry Tennyson **Signed:** Henry Tennyson

Checked By: Kathryn Broderick **Signed:** K Broderick.

Approved By: Dyfrig Hubble **Signed:**

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Stage 1: Appropriate Assessment - Screening and Stage 2: Natura Impact Statement

Proposed 110kV AIS Substation at Knockraha, Ballinanleigh, Co. Cork

Ballyvatta Solar Farm Limited

Contents

FIGURES

TABLES

Appendices

1 INTRODUCTION

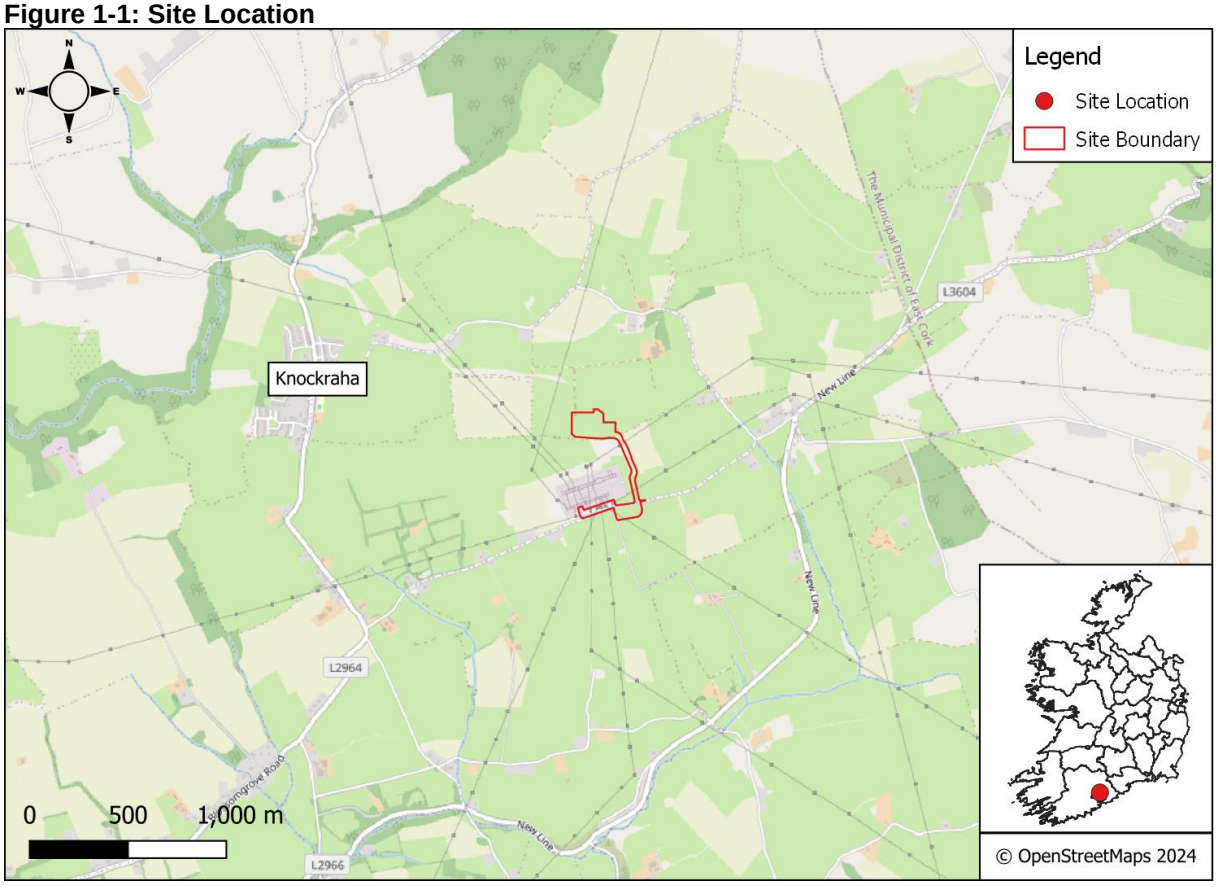
Malone O'Regan Environmental (MOR Environmental) was commissioned by Ballyvatta Solar Farm Limited ('the Applicant') to undertake an Appropriate Assessment to assess the likely significant effects, if any, of the proposed 110kV Substation and all associated works ('the Proposed Development') at Knockraha, Ballinanleigh, Co. Cork (ITM OS Reference X – 577995, Y – 578412) on nearby sites with European conservation designations (i.e., Natura 2000 sites).

The Proposed Development will be located on a site that is circa (ca.) 5.5 hectares (ha) in size and is located within the townlands of Knockraha and Ballinanelagh, Co. Cork, ca. 1.2km east of Knockraha as shown in Figure 1-1 ('the Site').

This report has been prepared to inform the Planning Authority with regard to Stage 1 (Screening) and Stage 2 (Appropriate Assessment) of the Proposed Development through the research and interpretation of best scientific, geographic and engineering knowledge and in view of the conservation objectives of the surrounding European sites. This report seeks to determine whether the Proposed Development will, on its own or in combination with other plans/projects, have a significant effect on European sites within a defined zone of influence of the Site. This Appropriate Assessment Screening Report therefore serves to provide MOR Environmental's opinion on the requirement for further AA, and to provide the information needed by the competent authority, An Bord Pleanála, to make their own screening decision as competent authority for the planning application for the Proposed Development.

On completion of the Stage 1 Appropriate Assessment Screening Report, it was found necessary to progress to a Stage 2 of the Appropriate Assessment process and prepare a Natura Impact Statement (NIS) to assess effects on the integrity of European sites.

Figure 1-1: Site Location



1.1 Statement of Authority

This report was reviewed by Ms. Kathryn Broderick, Principal Consultant - Ecologist. Kathryn has over 7 years' experience working in the ecological consultancy sector. As part of her role Kathryn is required to undertaken habitat surveys and appraisals as well as specialist protected species surveys in support of Ecological Impact Assessments and Appropriate Assessments. Kathryn has also completed a diploma in Environmental Law and Planning, which had a focus on EIA and AA assessment, which has provided her with a comprehensive understanding of the legal context and requirements of these types of assessments.

This report was reviewed and approved by Mr. Dyfrig Hubble, Associate Director - Ecologist. Dyfrig is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM). Dyfrig has over 18 years' experience working in the ecological consultancy sector, including habitat surveys and appraisals and specialist protected species surveys in support of Appropriate Assessments.

1.2 Background / Planning History

The Proposed Development will be critical infrastructure that will be intrinsically linked to previously permitted renewable energy projects located to the northeast of the Site as described below.

These permitted renewable energy projects will not be able to function as standalone development as they will be reliant on connections to the Proposed Development in order to connect to the national grid. Although Knockraha 220kV Substation is located directly adjacent to the Site, the Proposed Development will provide additional capacity to connect to the national grid.

The renewable energy projects to the northeast of the Site comprise of the following planning applications: CCC Planning Ref: 17/5370 / ABP-200434-17 and CCC Planning Ref: 23/4564. It should be noted that CCC Planning Ref: 23/4564 is an amendment and extension to the CCC Planning Ref: 17/5370 application. For the purpose of this report, these applications will be referred to as the 'Permitted Development'.

Cork County Council (CCC) Planning Ref: 17/5370 & ABP-200434-17

This application was granted for the construction of a solar PV development and associated infrastructure on a ca. 48.4ha site to the northeast of the Site.

The Proposed Development will not supersede any part of this granted development but will instead facilitate additional capacity to connect to the national grid, but will facilitate the connection of this renewable development to the national grid.

CCC Planning Ref: 23/4564

This granted application was an amendment and extension to the above permission, which included an additional ca. 7.8ha of solar PV development and associated infrastructure along with the development of a 2.25km cable route connecting the Permitted Development to the Proposed Development.

The Proposed Development will not supersede any part of this granted development but will instead facilitate additional capacity to connect to the national grid, but will facilitate the connection of this renewable development to the national grid.

1.3 Regulatory Context

The following guidance documents were adhered to for the preparation of this NIS report:

- OPR Practice Note PN01, *Appropriate Assessment for Screening for Development Management*, The Office of the Planning Regulator [1];

- *Assessment of plans and projects significantly affecting Natura 2000 sites. Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*, European Commission [2];
- *Guidelines for Ecological Impact Assessment in the UK and Ireland*, Chartered Institute of Ecology and Environmental Management [3];
- *Managing Natura 2000 Sites:* The Provision of Article 6 of the Habitats Directive 92/43/EEC [4]*;*
- *Appropriate Assessment of Plans and Projects in Ireland, Guidance for Planning Authorities,* DoEGLH [5]; and,
- *Appropriate Assessment under Article 6 of the Habitats Directive; Guidance for Planning Authorities. Circular NPW 1/10 and PSSP 2/10*, DoEGLH [6]*.*

This NIS was prepared in accordance with and in compliance with the following legislation:

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna better known as "The Habitats Directive". This provides the framework for legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000. The Habitats Directive was transposed into Irish law by the Planning and Development Act 2000 (as amended) and the European Communities (Birds and Natural Habitats) Regulations (S.I. 477 / 2011) (as amended) [7].

For completeness, the Planning and Development Act 2000 (as amended) states "European site" means:

a. A candidate site of Community Importance;
b. A site of Community Importance, F815 [(ba) a candidate Special Area of Conservation];
c. A Special Area of Conservation (SAC);
d. A candidate Special Area of Conservation (cSAC); or,
e. A Special Protection Area (SPA)

These are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79/409/EEC as amended 2009/149/EC) (better known as "The Birds Directive"). The Birds Directive was also transposed into Irish law through the Planning and Development Act 2000 (as amended) and S.I 477 / 2011 [7].

Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect European sites (Annex 1.1). Article 6(3) establishes the requirement for Appropriate Assessment.

> *"Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans and projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implication for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public."*

The Habitats Directive promotes a hierarchy of avoidance, mitigation and compensatory measures. First, the project should aim to avoid any negative impacts on European sites by identifying possible impacts early in the planning stage and designing the project in order to avoid such impacts. Second, mitigation measures should be applied, if necessary, during the Appropriate Assessment (AA) process to the point, where no adverse impacts on the site(s) remain. If the project is still likely to result in adverse effects, and no further practicable mitigation is possible, it is rejected. If no alternative solutions are identified and the project is required for imperative reasons of overriding public interest (IROPI test) under Article 6 (4) of the Habitats Directive, then compensation measures are required for any remaining adverse effect.

1.4 Stages of Appropriate Assessment

There are four distinct stages to undertaking an AA as outlined in current European Union (EU) and Department of Environment, Heritage and Local Government (DoEHLG) guidance:

Stage 1: Screening

This process identifies the potential impacts of a plan or project on a Natura site, either alone or in combination with other plans and projects and considers whether these impacts are likely to be significant. If potentially significant impacts are identified, the plan or project cannot be screened out and must proceed to Stage 2.

Stage 2: Appropriate Assessment

Where potentially significant impacts are identified, an assessment of the potential mitigation of those impacts is required; this stage considers the appropriateness of those mitigation measures in the context of maintaining the integrity of the Natura 2000 sites. If potential significant impacts cannot be eliminated with appropriate mitigation measures, the assessment must proceed to Stage 3.

Stage 3: Assessment of Alternatives Solutions

This process examines alternative ways to achieve the objectives of the plan or project that avoid adverse impacts on the integrity of the Natura 2000 site if mitigation measures are deemed insufficient.

Stage 4: Imperative Reasons of Overriding Public Interest (IROPI)

Assessment where no alternative solution exists for a plan or project and where adverse impacts remain. This includes an assessment of compensatory measures, which, in the case of projects or plans, can be considered necessary for IROPI.

2 METHODOLOGY

2.1 Determining Zone of Influence

The starting point for this assessment was to determine the Zone of Influence. The Zone of Influence comprises of the area in which the Proposed Development may potentially affect the conservation objectives (or qualifying interests) of a European site.

Guidance in Appropriate Assessment of Plans and Projects in Ireland notes that a distance of 15km is recommended for the identification of relevant European sites. [5]. However, guidance from the NPWS recommends that the distance should be evaluated on a case-by-case basis with reference to the nature, size and location of the project, the sensitivities of the ecological receptors, and the potential for in-combination effects (cumulative) [6]. For some projects, the distance could be greater than 15km, and in some cases, less than 100m.

Definition of the zone of influence for the proposed works includes evaluating the following:

- Identification of the European sites that are situated within, in close vicinity or downstream within the zone of influence of the Proposed Development;
- Identification of the designated habitats and species and conservation objectives for the identified European sites;
- Identification of the environmental conditions that stabilise and increase the qualifying interests of the European sites towards favourable conservation status;
- Identification of the threats/impacts, actual or potential, that could negatively impact the conservation objectives for the European sites;
- Identifying the activities of the proposed works that could give rise to significant adverse impacts; and,
- Identification of other plans or projects for which in-combination impacts would likely have significant adverse effects.

2.1.1 Source-Pathway-Receptor Model

European sites are only at risk from significant effects where a source-pathway-receptor link exists between a Proposed Development and a European site. This can take the form of a direct impact (e.g., where the Proposed Development is located within/in close vicinity to the boundary of a European site), or an indirect impact where impacts occur outside of the European site but affect ecological receptors within the European site (e.g., impacts to water quality which can affect estuarine habitats at a distance from the impact source).

The likely effects of the Proposed Development on any European site have been assessed using a source-pathway-receptor model. A source-pathway-receptor model is a standard tool used in environmental assessment. [8] [9]. The model comprises of:

- A *source*: any potential impacts from the Proposed Development, e.g., the runoff of sediment/construction pollution.
- A *pathway*: the means or route by which a source can affect the ecological receptor.
- A *receptor*: the qualifying interests and / or special conservation interests of the European sites.

In order to establish the Zone of Influence of the Proposed Development works, the likely key environmental impacts/changes associated with the Proposed Development were determined having regard to the project characteristics set out in Section 3.3 of this report. The Zone of Influence for various potential impact pathways are discussed in Section 4.1.

2.2 Desk Based Review

A desk-based review of information sources was completed, which included the following sources of information:

- Review of aerial maps of the Site and surrounding area;
- The National Parks and Wildlife Service (NPWS) website was reviewed with regard to the most up-to-date detail on conservation objectives for the European sites relevant to this assessment [10];
- The Cork County Council Planning Portal was reviewed to obtain details about existing/proposed developments in the vicinity of the Site [11];
- The Department of Housing, Local Government and Heritage's planning portal – the National Planning Application Database, was reviewed to obtain details about existing/proposed developments in the vicinity of the Site [12];
- The National Biodiversity Data Centre (NBDC) website was reviewed with regard to species distributions [13]; and,
- The Environmental Protection Agency (EPA) Maps website was reviewed to obtain details about watercourses in the vicinity of the Site [14].

2.3 Field Based Studies

2.3.1 Habitat Survey

A Site walkover and habitat survey was undertaken on the 20th May 2024, by a suitably qualified and experienced MOR ecologist, to assess extent and the quality of habitats present on the Site and to identify any potential ecological receptors associated with the Natura 2000 sites.

The habitat survey was undertaken for the Site utilising the Heritage Council's – '*A Guide to Habitats in Ireland'* [15].This is the standard habitat classification system used in Ireland and includes both a desk based and field-based assessment.

The assessments were extended to also identify the potential for these habitats to support other features of nature conservation importance, such as species afforded legal protection under either Irish or European legislation.

2.3.2 Invasive Species

The Site was also assessed for the presence of any noxious / invasive species such as Japanese knotweed (*Fallopia japonica*) and any other invasive species within the Site and adjacent area.

2.4 Survey Limitations

No survey limitations were encountered.

3 DESCRIPTION OF THE PROPOSED DEVELOPMENT

3.1 Site Context

The Site is located on a ca. 5.5ha site within the townlands of Knockraha and Ballinanelagh, Co. Cork, which is located ca. 1.2km east of Knockraha Co. Cork. The Site is accessed via the L6989 local road (Ballinanelagh Road), which connects the L2964 local road and L2966 local road.

The Site comprises agricultural fields, hedgerows/treelines and drainage ditches. To the east of the Site is Knockraha 220kV Substation and agricultural fields, while the rest of the Site is bounded by similar agricultural fields and land use practices. The Site is not directly adjacent to any residential or industrial properties. The nearest residential property is located ca. 350m to the east of the Site at its closest point.

The Site and surrounding area are shown below in Figure 3-1.

Figure 3-1: Site Context and Overview

3.2 Watercourses within the Vicinity of the Site

The Site is situated within the Lee, Cork Harbour and Youghal Bay WFD Catchment [Catchment_ID: 19] and the Glashaboy[L.Mahon] subcatchment [Subcatchment_ID: 19_11] [14].

As per EPA maps, there are four hydrological features of note within close proximity of the Site: Lisheenroe stream, Killena_19 stream, Gogganstown stream, and Ballingohig stream.

1. Lisheenroe stream

The Lisheenroe stream is located ca. 605m east of the Site, at its closest point. This stream flows in a southern direction before draining into the Lisheenroe River, ca.1.4km downstream of the Site. The Lisheenroe River flows in an easterly direction for ca. 6.7km before draining

into Butlerstown River and subsequently the Glashaboy [L.Mahon] river, which forms part of the Cork Harbour SPA.

Under the Water Framework Directive (WFD) 2000/60/EC, the EPA classifies the status and the risk of not achieving good water quality status for all waterbodies in Ireland. [14]. According to the WFD 2016-2021 monitoring events, the most up-to-date data at the time of writing this report, the water quality within the Lisheenrow stream/river and Butlerstown river are considered to be at *risk',* and the status of these waterbodies are considered to be '*moderate'* [14].

2. Killena_19 stream

The Killena_19 stream is located ca. 640m south of the Site, at its closest point. This stream flows in the southern direction before draining into the Lisheenroe River, ca. 485m downstream from the Site. Similarly to the Lisheenroe stream, according to the WFD 2016-2021 monitoring events, the most up-to-date data at the time of writing this report, the water quality within the Killena_19 stream is considered to be at *risk',* and the status of this stream is considered to be '*moderate'* [14].

3. Gogganstown stream

The Gogganstown stream is located ca. 820m southwest of the Site, at its closest point. This stream flows southernly direction and drains into the Lisheenroe river as described above. According to the WFD 2016-2021 monitoring events, the most up-to-date data at the time of writing this report, the water quality within the Gogganstown stream is considered to be at *risk',* and the status of this stream is considered to be '*moderate'* [14].

4. Ballingohig stream

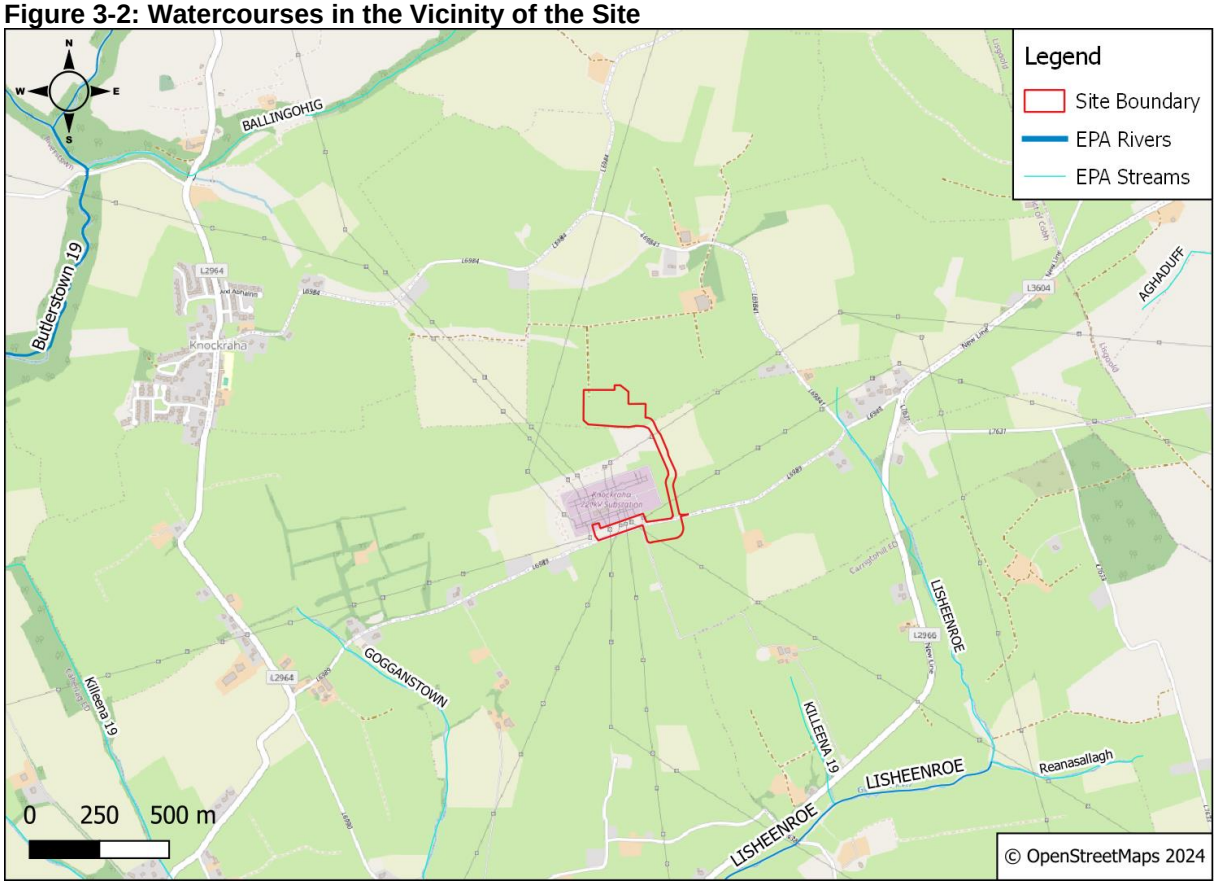
The Ballingohig stream is located ca. 1.6km northwest of the Site, at its closest point. This stream flows easterly before draining into the Butlerstown River, referenced above. The Butlerstown stream flows in a southwesterly direction for ca. 7.3km before draining into the Glashaboy [L.Mahon] river and Cork Harbour SPA.

According to the WFD 2016-2021 monitoring events, the most up-to-date data at the time of writing this report, the water quality within the Ballingohig stream is '*under review',* and the status of this stream is considered to be 'good*'* [14]. Additionally, the water quality of the section of Bulterstown River that this stream drains into is '*under review',* and the water quality status is considered to be '*good.'* [14].

A hydrological connection was identified from the Site to the Ballingohig stream via onsite drainage ditches, as described in Section 3.2.1.

The location of key surface water features in the vicinity of the Site is illustrated below in Figure 3-2.

Figure 3-2: Watercourses in the Vicinity of the Site



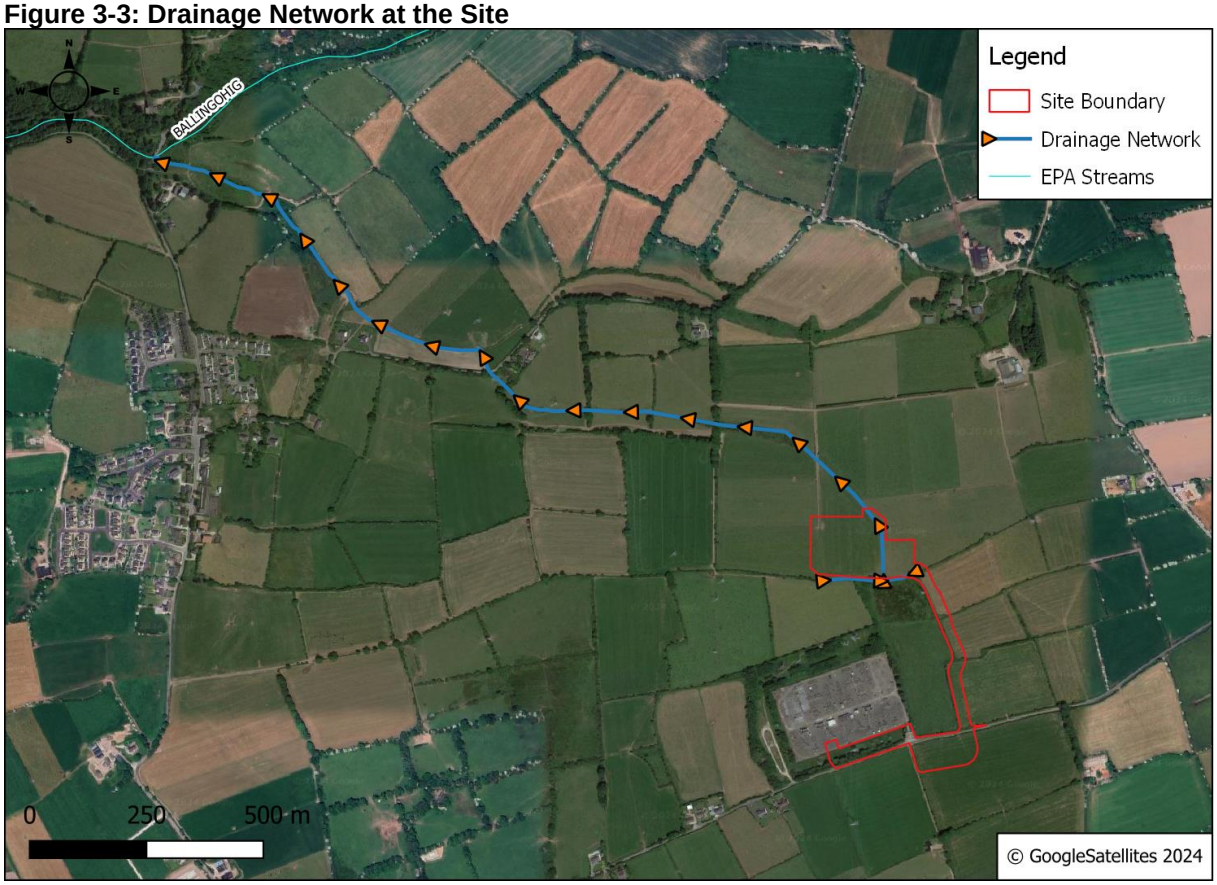
3.2.1 Drainage Ditch Network

During the Site walkover, a drainage ditch network was identified within the northern section of the Site. This drainage network drained in a northerly direction before draining to the west, where it is culverted under the L6898 local road. Following the culvert, the network drains to the west, where it discharges into the Ballingohoig stream, as described in Section 3.2 above.

A dry/damp drainage ditch was also identified within the Site boundary. This drainage ditch ran perpendicular to the wet drainage ditch, as shown in Figure 3-3.

It should be noted that these drainage ditches are not designated as part of a Drainage District or Arterial Drainage Scheme, and the Site does not form part of any of the benefited areas. [16].

Figure 3-3: Drainage Network at the Site



3.3 Description of the Proposed Development

The Proposed Development will consist of a 10 year permission for a 110kV electrical substation and associated 110kV infrastructure required to connect a solar farm (permitted under Cork County Council Reg. Ref: 23/4564; which amended previous permission Reg. Ref: 17/5370 and ABP-300434-17) to the existing Knockraha 220kV substation.

The substation compound will include 2 No. single storey control buildings:

- An Eirgrid control building (comprising relay room, battery room, workshop/store, mess room and W.C, and generator room); and,
- An Independent Power Producer control building (comprising control room, switchgear room, office, store and W.C).

The Proposed Development also includes:

- 110kV grid transformer and two-house transformers within bunded enclosures (height approximately 6m) and associated infrastructure;
- MV switchgear containers;
- Lightning protection masts;
- Perimeter security fencing and entrance gates;
- Security lighting;
- Telecommunication dishes;
- Underground cabling;
- Site drainage infrastructure;

- Proposed access from the L6989 to the south;
- Temporary construction compound; and,
- All associated development works above and below ground including landscaping.

As part of the proposed works, a section of ditch within northeast corner of the Site will be relocated and a section of the ditch culverted.

3.3.1 Drainage

Surface Water Drainage

The surface water drainage strategy for the Proposed Development will replicate pre-development greenfield surface water runoff conditions.

The drainage strategy for the Proposed Development will involve collecting run-off from impermeable and partially permeable areas using surface water linear drainage channels and buried pipework, leading to a central soakaway/attenuation system.

Runoff collected in the stormwater network will pass through an oil/petrol Interceptor prior to discharging to the soakaway/attenuation system which will provide attenuation of the increased volumes of surface water runoff generated from the hard surfaces of the development when compared to the current greenfield condition. There will be no direct discharge of surface water without proper attenuation and treatment.

Further details can be found in Appendix A.

Foul Water Drainage

The Proposed Development will temporarily store foul waste on the site during both the construction and operational phases which will be removed by tanker to a licensed disposal facility at regular intervals.

3.3.2 Proposed Watermain

The substation control buildings will include staff welfare facilities for the operational phase of the Proposed Development. Toilet facilities will be installed with a low-flush cistern and low-flow wash basin. There will be a very small water requirement for occasional toilet flushing and hand washing and therefore the water requirement for the substation does not necessitate a potable source. It is proposed to harvest rainwater from the roofs of the buildings, and if necessary, bottled water will be supplied for drinking.

3.3.3 Earthworks

The Site preparation phase for the Proposed Development will involve site clearance, excavations and levelling of the Site to the necessary base level for construction, surveying and setting out for structures and any rerouting of services/connections to services.

Further details of the Site's cut and fill can be found in Appendix A.

3.3.4 Soil Disposal

Any excess spoil not suitable and/or required for reuse on site will be removed offsite for appropriate reuse, recovery and/or disposal as reused.

3.4 Construction Procedure

During the construction phase of the Proposed Development potential environmental effects will be short-term and localised. Nonetheless, all works will comply with the relevant legislation, construction industry guidelines and best practice to reduce potential environmental adverse effects.

The Proposed Development incorporates embedded measures that avoid or reduce as far as reasonably practicable the potential for adverse effects on several ecological features including incorporating a Construction Environmental Management Plan (CEMP). A CEMP has been prepared and submitted to the planning authority by the appointed contractor in advance of works commencing at the Site.

The CEMP sets out the contractor's approach to managing environmental issues associated with the construction phase of the Proposed Development and provide a documented account of the implementation of the environmental commitments set out in the NIS and any measures stipulated in the planning conditions. To oversee the implementation of the CEMP the contractor will be required to appoint an ecological clerk of works (ECoW) to ensure that the mitigation measures included in the NIS and the CEMP are executed during the construction of the Proposed Development and to monitor that those mitigation measures employed are functioning properly.

The following guidance will be referred to and will be followed during the construction phase of the project to prevent environmental pollution that may occur:

- C532 – Control of Water Pollution from Construction, Guidance for Consultants and Contractors [17];
- C741 - Environmental Good Practice on Site (4th edition) [18];
- Guidelines on The Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads [19];
- All works will be undertaken in accordance with the Inland Fisheries Ireland (IFI) '*Requirements for the Protection of Fisheries Habitat during Construction and Development'* [20];
- Inland Fisheries Ireland (IFI) 'Requirements for the Protection of Fisheries Habitat during Construction and Development' [20]; and,
- The recommendations included within the National Roads Authority (NRA) Guidelines for the Crossing of Watercourses [21].

Hours of Work

Hours of working on the site and staging area will be between 07.00 and 19.00 Monday to Friday and 08.00 to 14.00 on Saturday. This excludes public holidays, emergency work provisions and other working periods which would be agreed in writing with the consenting authority.

3.5 Operational Procedures

During the operational phase, the Proposed Development will be operated, maintained and managed by EirGrid/ESBN personnel.

Operational lighting will be directed onto required areas and light spill will be minimised by the use of beam deflectors. Lighting will not be used such that there is light spill on to surrounding habitat which could be used by important species.

3.6 Landscaping

Landscape mitigation measures have been proposed in order to enhance existing vegetation patterns and to screen the Proposed Development where possible. The landscape mitigation measures are indicated in the '*Landscape Mitigation Plan with Proposed Vegetation Removal'* for the Proposed Development which have been submitted as part of the overall application.

It is proposed that a number of new hedgerows will be introduced along the boundaries and across the Proposed Development. The proposed planting is also to alleviate some of the

adverse effects on the landscape character and visual amenity due to the proposed vegetation removal of an estimated 30m of hedgerows to facilitate the Proposed Development.

3.7 Decommissioning

The lifespan of the Proposed Development is not defined but it is anticipated that it will be maintained, and periodic upgrading will be undertaken over a long lifetime to meet future demand and upgrade in technology. If the Proposed Development is no longer required over the long-term, then full decommissioning in accordance with prevailing best practice will be undertaken.

4 IDENTIFICATION OF EUROPEAN SITES

In accordance with the European Commission Methodological Guidance [4] A list of European sites that can be potentially affected by the Proposed Development has been compiled. Guidance for Planning Authorities prepared by the Department of Environment Heritage and Local Government. [5] states that defining the likely zone of impact for the screening and the approach used will depend on the nature, size, location and the likely significant effects of the project. The key variables determining whether or not a particular European site is likely to be significantly affected by a project are:

- The physical distance from the project to the European site;
- The presence of impact pathways;
- The sensitivities of the ecological receptors; and,
- The potential for in-combination effects.

All SPAs and SACs within 15km have been considered to assess their ecological pathways and functional links. As acknowledged in the OPR guidelines [1], few projects have a zone of influence this large, however the identification of European sites within 15km has become widely accepted as the starting point for the screening process. For this reason, all SPAs and SACs in 15km have been identified for consideration as part of the screening.

There are three European sites located within 15km of the Site - these are identified in Figure 4-1 and Table 4-1.

Figure 4-1: Site Location and European Sites within 15km

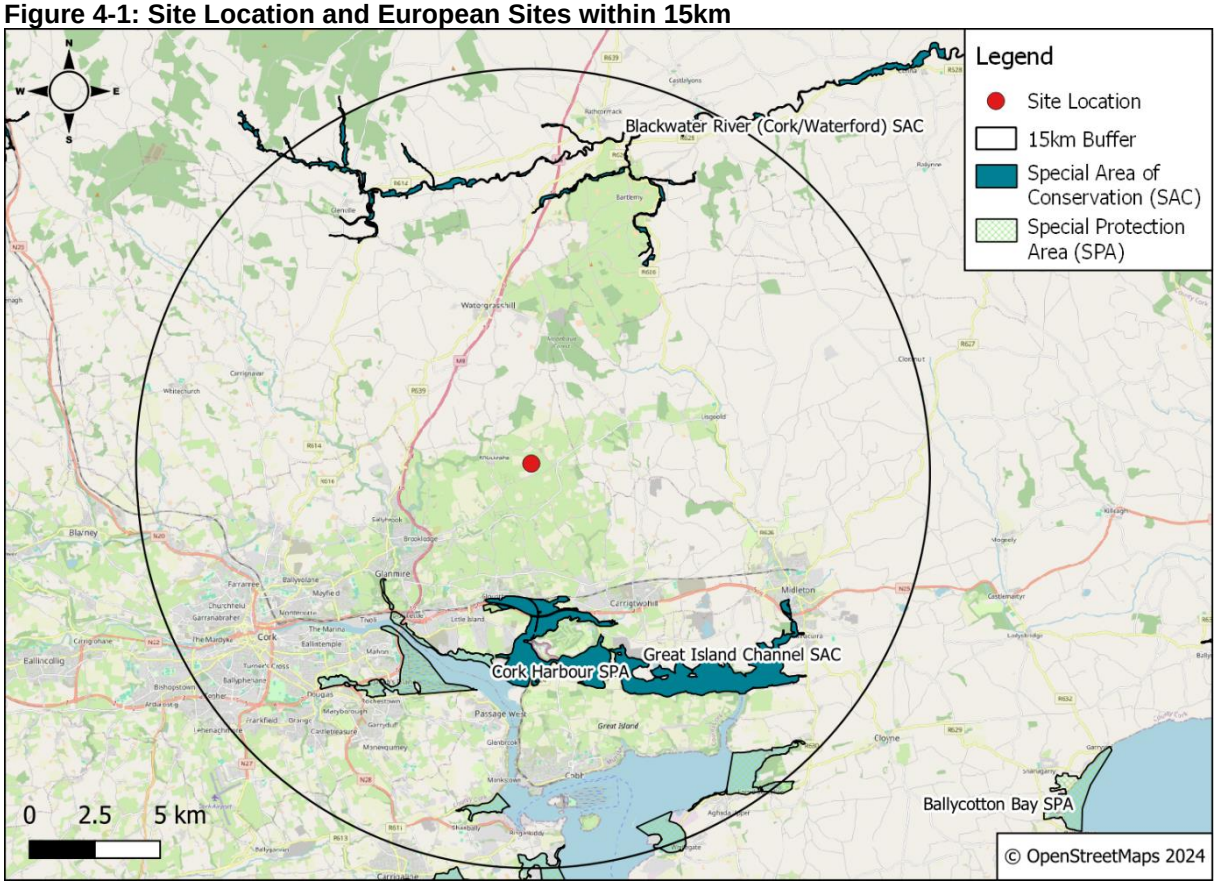


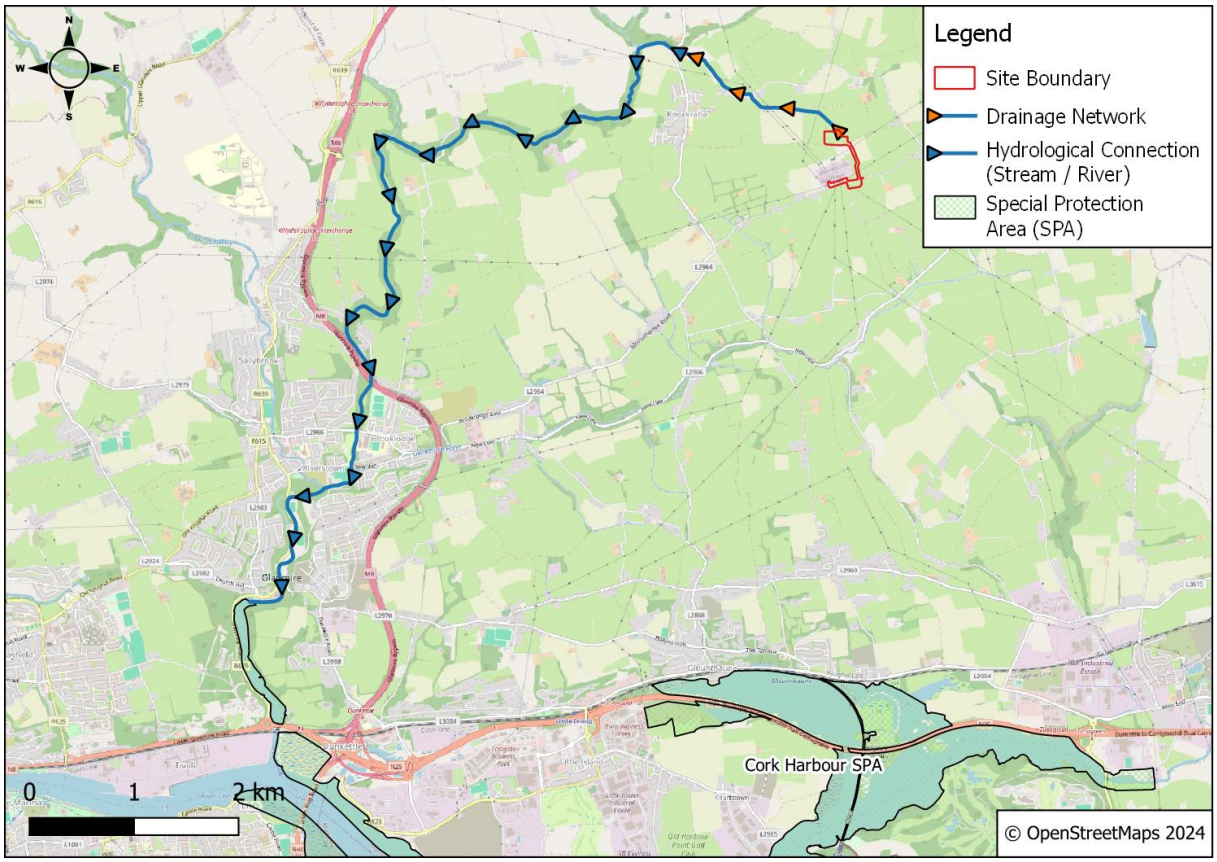
Table 4-1: European Designated Sites within 15km of the Site

Site Name	Code	Distance (km)	Direction from the Site
Special Areas of Conservation (SAC)			
Great Island Channel SAC	001058	4.7km	S
Blackwater River (Cork/Waterford) SAC	002170	8.6km	NE
Special Protection Area (SPA)			
Cork Harbour SPA	004030	4.7km	S

4.1 Hydrological Connection

A potential hydrological connection was identified between the Site and Cork Harbour SPA, ca. 7.1km downstream, via an onsite drainage ditch network, which is potentially hydrologically linked to the Ballingohig stream (ca. 7.1km downstream), Butlerstown River and Glashahoy [L.Mahon] river as described in Section 3.2 see Figure 4-2.

Figure 4-2: Hydrological Connection between the Site and the Cork Harbour SPA



4.2 Identification of European Sites within ZoI

The Zone of Influence (ZoI) comprises the area in which the Proposed Development may potentially affect the conservation objectives (or qualifying interests) of a European site. The definition of ZoI for the proposed works evaluated multiple factors as outlined in Section 2.1 and discussed below. Please note that the extent of ZoI differs for different environmental aspects, e.g. air, water, etc.

Habitat Loss / Degradation

The Site is not located in or directly adjacent to any European Site. No designated habitats were identified within the Site. The Site is located within an agricultural area.

No impacts associated with designated habitat loss / degradation will occur as a result of the Proposed Development given the distance separating the Site from the Great Island Channel SAC and the Blackwater River (Cork/Waterford) SAC.

The Site is hydrologically linked to the Cork Harbour SPA via the onsite drainage ditch, the Ballingohig stream. Potential impacts associated with deterioration in water quality are considered further below.

Water Quality Impairment

Potential water quality impacts would typically be associated with the release of sediment and other pollutants to surface water during the construction phase of the Proposed Development. Therefore, the ZoI would be considered to include the receiving waterbodies adjacent to and downstream of the Site during the construction phase and operational phase.

No hydrological connection was identified between the Site and the Blackwater River (Cork/Waterford) SAC and the Great Island Channel SAC. Therefore, no impacts associated with water quality impairment as a result of the Proposed Development will occur on these European sites, given the lack of impact pathways.

As outline in section 3.2, a potential hydrological connection was identified between the Site and Cork Harbour SPA via the drainage ditch network onsite, which drains into the Ballingohig stream. This stream discharges into the Butlerstown River before draining into the Glashaboy [L.Mahon] river and Cork Harbour SPA. Please refer to Figure 4-2.

However, it is considered highly unlikely that any suspended solids arising from these works would reach the Ballingohig stream based on:

- The nature of the works, which comprise of minimal and temporary ground disturbance;
- All construction activities of the Proposed Development will be undertaken a notable distance from the Ballingohig stream (ca. 1.6km northwest at its closest point); and,
- No development will be undertaken in the immediate vicinity of the Ballingohig stream, therefore providing for vegetative filtration of any silt/sediment surface water runoff.

Furthermore, due to the distance from the Site to the Cork Harbour SPA, and the combined dilution factor from the additional tributaries discharging into the river network, it is considered highly unlikely any water quality impacts will arise from the Proposed Development. Any pollutants which may enter the drainage ditch network will, over the distance of ca. 7.1km to the SPA, be diluted to such an extent that no significant impacts could occur.

Nonetheless, as a precaution, potential impacts associated with water quality impairment on Cork Harbour SPA will be given further consideration.

Air Quality Impairment

According to the Institute of Air Quality Management (IAQM) Guidelines, the potential adverse effects from dust arising from construction to ecological receptors occurs within 50m of a construction site. [22]. This is a temporary nuisance impact only.

All European Sites are located >4.7km from the Site, and therefore does not require a detailed dust assessment. It is not considered that the Proposed Development will result in any significant effects on any other European Site as a result of construction dust.

Noise / Disturbance

Noise from construction activity has the potential to disturb the resting, foraging, and commuting of qualifying species of European sites. As there will be no piling or in-river works required for the Proposed Development, there is no potential for underwater noise impacts beyond the immediate vicinity of the Site.

However, it is proposed that a section of the drainage ditch onsite will be culverted. However, it is not considered that these works will have any potential noise impacts on qualifying species of the European sites, given the distance separating the drainage ditch network from any European Site. Furthermore, the onsite drainage ditch is not considered suitable for any resting, foraging or commuting species of European sites.

Individual species will provoke different behavioural responses to disturbances at different distances from the source of the disturbance.

- Transport Infrastructure Ireland (formally the National Roads Authority) has produced a series of best practice planning and construction guidelines for the treatment of certain protected mammal species (i.e. otter), which indicate that disturbance to terrestrial mammals would not extend beyond 150m [23]; and,
- Studies have noted that different types of disturbance stimuli are characterised by different avifaunal reactions. However, in general, a distance of 300m can be used to represent the maximum likely disturbance distance for waterfowl [24].

The ZoI for noise/disturbance is therefore established as the Site with a 300m buffer.

Therefore, no impacts associated with noise or disturbance will occur as a result of the Proposed Development, and all European sites have been scoped out for further consideration in relation to potential noise impacts.

Identification of European Sites

The Site is not located within or directly adjacent to any European sites, however, the boundaries of three are located within 15km from the Site.

Given the localised nature and short duration of the construction works, the distance separating the Site from the Great Island Channel SAC and the Blackwater River (Cork / Waterford), and the intervening lands separating the Site from these European sites and the lack of impact pathways, it is considered that the Proposed Development will not result in adverse effects to these European sites and they have therefore been screened out from further consideration.

The following European site listed in Table 4-2 has been screened in for further consideration to assess potential adverse effects resulting from the Proposed Development.

Table 4-2: European Designated Sites within ZoI

Site Name	Code	Distance at the closest point and source-pathway-receptor link
Cork Harbour SPA	004030	The Site is located 4.7km north of the Cork Harbour SPA, see Figure 4-2. Given the distance and the intervening lands separating the Site from the Cork Harbour SPA, it is considered unlikely that any impacts will occur as a result of the Proposed Development. However, the site walkover identified a hydrological connection between the Site and the Cork Harbour SPA. Therefore, as a precautionary approach, potential impacts associated with impacts to the water quality of foraging areas of designated species will be taken forward for further consideration.

The screening assessment for individual designated species for Cork Harbour SPA and the potential for them to be adversely affected by the Proposed Development are presented in Section 6 below.

4.3 Cork Harbour SPA (Site Code: 004030)

Cork Harbour is a large, sheltered bay system, with several river estuaries - principally those of the Rivers Lee, Douglas, Owenboy and Owennacurra. The SPA site comprises most of the main intertidal areas of Cork Harbour, including all of the North Channel, the Douglas River Estuary, inner Lough Mahon, Monkstown Creek, Lough Beg, the Owenboy River Estuary, Whitegate Bay, Ringabella Creek and the Rostellan and Poulnabibe inlets.

The site is a SPA under the E.U. Birds Directive, of special conservation interest for a number of species including Little Grebe, Great Crested Grebe, Cormorant, Grey Heron, Shelduck, Wigeon, Teal, Mallard, Pintail and Shoveler (Refer to Table 4-3). The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

Cork Harbour is of major ornithological significance, being of international importance both for the total numbers of wintering birds (i.e. > 20,000) and also for its populations of Black-tailed Godwit and Redshank. In addition, it supports nationally important wintering populations of 22 species, as well as a nationally important breeding colony of Common Tern.

Cork Harbour is also a Ramsar Convention site, part of Cork Harbour SPA, and is a Wildfowl Sanctuary.

Table 4-3: Qualifying Annex I Species of Birds for Cork Harbour SPA

Species Name	Scientific Name	Code
Little Grebe	*Tachybaptus ruficollis*	A004
Great Crested Grebe	*Podiceps cristatus*	A005
Cormorant	*Phalacrocoraax carbo*	A017
Grey Heron	*Ardea cinerea*	A028
Shelduck	*Tandorna tadorna*	A048
Wigeon	*Anas penelope*	A050
Teal	*Anas crecca*	A052
Pintail	*Anas acuta*	A054
Shoveler	*Anas clypeata*	A056
Red-breasted Merganser	*Mergus serrator*	A069
Oystercatcher	*Haematopus ostralegus*	A130
Golden Plover	*Pluvialis apricaria*	A140
Grey Plover	*Pluvialis squatarola*	A141
Lapwing	*Vanellus vanellus*	A142
Dunlin	*Calidris alpine*	A149

Species Name	Scientific Name	Code
Black-tailed Godwit	*Limosa limosa*	A156
Bar-tailed Godwit	*Limosa lapponica*	A157
Curlew	*Numenius arquata*	A160
Redshank	*Tringa totanus*	A162
Black-headed Gull	*Chroicocephalus ridibundus*	A179
Common Gull	*Larus canus*	A182
Lesser Black-backed Gull	*Larus fuscus*	A183
Common Tern	*Sterna hirundo*	A193
Wetland and Waterbirds		A999

4.4 Conservation Objectives

European and national legislation places a collective obligation on Ireland and its citizens to maintain a favourable conservation status at candidate and designated Natura 2000 Sites. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

According to the Habitats Directive, favourable conservation status of a habitat is achieved when:

- Its natural range, and the area it covers within that range, is stable or increasing;
- The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future; and,
- The conservation status of its typical species is favourable, as defined below.

The favourable conservation status of a species is achieved when:

- Population data on the species concerned indicate that it is maintaining itself;
- The natural range of the species is neither being reduced or likely to be reduced for the foreseeable future; and,
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Conservation objectives for all identified Natura 2000 SPA Sites are as follows:

- To maintain the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA;
- Long term population trend stable or increasing; and,
- No significant decrease in the range, timing or intensity of use of areas by listed species, other than that occurring from natural patterns of variation.

The full reports for the conservation objectives for the Cork Harbour SPA[1] and can be found on the NPWS website [10].

[1] https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004030.pdf

5 STUDY RESULTS

5.1 Desk Based Study Results

Table 5-1 provides a summary of records of legally protected or otherwise notable species protected under the Cork Harbour SPA that occur within 2km of the Site. [13]. CIEEM's guidelines recommend that consideration be given to the biodiversity conservation value of the species that occur within this zone of influence (as appropriate) [3].

The NBDC holds no records for designated bird species under the Cork Harbour SPA within a 2km grid square of the Site within the last 10 years. [13].

Table 5-1: NBDC Records for Species Designated for the Cork Harbour within 2km of the Site (W77T, W77Z, W77Y, W77U)

Common Name	*Scientific Name*	Date of Last Record *	Designation
Herring Gull	*Larus argentatus*	24/05/2020	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List

*Note that only species recorded within the past 10 years were included in this table. The parameter of 10 years was chosen to allow for habitat adaption and modification, it is considered that any records over 10 years old are not representative of the current distribution of species populations.

5.2 Field Based Study Results

5.2.1 Habitat Assessment

The following section provides details of the field-based assessment that was undertaken for the Site on 20th May 2024. A description of the habitats and features of ecological significance are outlined below and illustrated in Figure 5-1.

Improved Agricultural Grassland (GA1)

The Site is comprised of six improved agricultural fields that, at the time of the Site visit, were being used for the production of fodder production and/or the grazing of livestock. Evidence of organic manure was evident in the southern field on the surface of the soil.

These fields were generally poor in species and dominated by perennial ryegrass (*Lolium perenne)*. However, other species noted within these fields included dandelion (*Taraxacum officinale)*, bitter dock (*Rumex obtusifolius)*, white clover (*Trifolium repens)*, nettle (*Urtica dioica)* and mouse-ear chickweed (*Cerastium fontanum).*

Hedgerows (WL1)

Hedgerows are a key feature of the Site, along with the treelines. The quality of the hedgerows varies from well-structured and diverse to patchy and sparse. Some of hedgerows/treelines are accompanied by drainage ditches.

Hedgerows are a key feature of the Site and provide the principal field boundaries. The hedgerows bounded the agricultural fields to the west and south with little fragmentation. The quality of the hedgerows was species-rich and well-structured throughout the Site.

These linear features contained occasional trees and were often occurring on raised earth banks. The composition of the hedgerows predominantly comprised of hawthorn (*Crataegus monogyna*), honeysuckle (*Lonicera periclymenum*), gorse (*Ulex europaeus)*, alder (*Alnus glutinosa),* pedunculate oak (*Quercus robur), ivy (Hedera helix)* and goat willow (*Salix caprea)*.

The understorey of these hedgerows was also heavily vegetated, containing species such as soft shield fern (*Polystichum setiferum),* bramble (*Rubus fruticosus*), nettle, foxglove (*Digitalis purpurea)*, cow parsnip (*Heracleum sphondylium)*, creeping buttercup (*Ranunculus repens)*,

wood avens (*Geum hederacea*), ground ivy (*Glechoma hederacea*), cleavers (*Galium aparine*), creeping thistle (*Cirsium arvense*), bindweed (*Convolvulus arvensis)*, gorse (*Ulex europaeus*), bracken (*Pteridium aquilinum*), willowherb species (*Epilobium spp*.), elder (*Sambucus nigra*), blackberry (*Rubus fruticosus*), common rush (*Juncus effusus*), mouse-ear chickweed, sweet violet (*Viola odorata*), and yellow iris (*Iris pseudacorus*).

Treeline (WL2)

Two rows of treelines separate the Knockraha 220kV Substation from the L6989 local road. These treelines are a mix of native and non-native species, some of which are in poor condition due to the proximity of the road and maintenance works associated with the Knockrahah 220kV Substation. These treelines were made up of hawthorn, Scott's pine (*Pinus abies)*, elder and spruce species (*Picea spp.).*

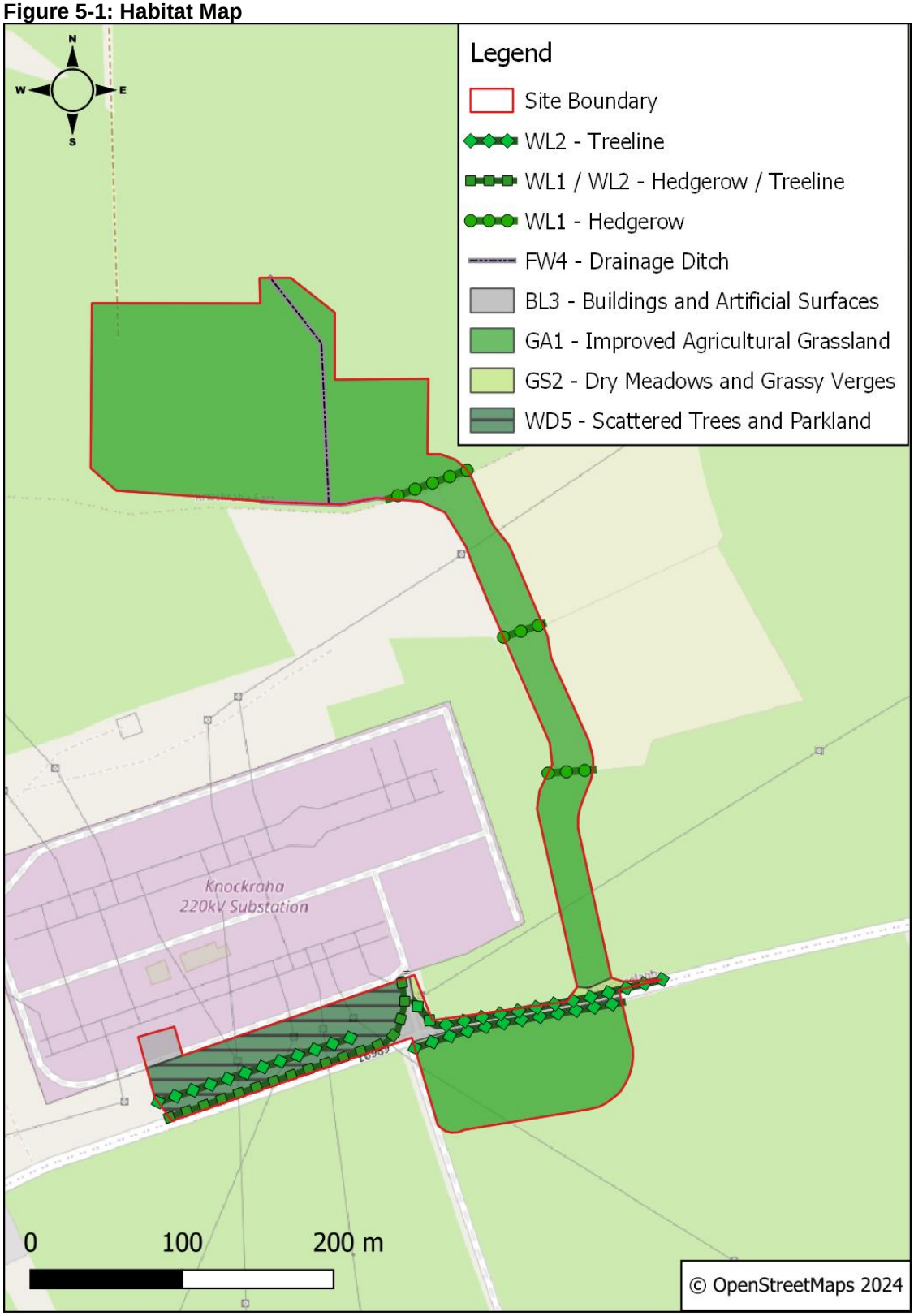
Drainage Ditch (FW4)

The drainage ditch network onsite contained both sections of wet and dry/damp drainage ditches, shown in Figure 5-1 below. The drainage network onsite drained in a northern direction. These ditches were fenced off from livestock and are likely to be modified occasionally due to agricultural practices/maintenance.

The dry/damp drainage ditch onsite contained no aquatic vegetation and had mainly terrestrial flora within it, including gorse, soft-shield fern, bramble, perennial ryegrass, creeping buttercup, daisy (*Bellis perennis)*, hawthorn, grey willow (*Salix cinerea)*, ivy, nettle, bird's eye speedwell (*Veronica chamaedrys*), bracken and goat willow.

The wet drainage ditch onsite was covered with both aquatic and terrestrial vegetation, including marsh woundwort (*Stachys palustris*), marsh thistle (*Cirsium palustre*), horseweed (*Erigeron canadensis*), watercress (*Nasturtium officinale*), common rush, lords and ladies (*Arum maculatum*), nettle, spear thistle (*Cirsium vulgare*), daisy, creeping buttercup and perennial ryegrass.

Figure 5-1: Habitat Map



5.2.1.1 Invasive Species

No invasive species were noted during the Site walkover.

6 STAGE 1 SCREENING: IDENTIFICATION OF POTENTIAL SIGNIFICANT IMPACTS

6.1 Potential Significant Impacts

The potential for significant effects on the Cork Harbour SPA was considered further in this section. The key output of this stage of the assessment is the identification of likely significant effects of the Proposed Development alone and in combination with other plans and projects on relevant European sites without the implementation of mitigation measures.

A number of factors were examined at this stage and dismissed due to the very low risk associated with them. Table 6-1 presents further details and rationale of the screening assessment undertaken for each of the European sites identified as having the potential to be significantly affected by the Proposed Development in light of their site conservation objectives and best scientific knowledge.

Table 6-1: Screening Assessment: Annex II Species for the Cork Harbour SPA

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rationale	Screening Conclusion
Little Grebe	The NBDC does not hold records for Little Grebe within 2km of the Site [25]. Little Grebe have a preference for nesting mostly on floating plant material hidden in dense vegetation at the margins of shallow, freshwater rivers, streams, loughs and ponds. In the winter, this bird species is typically found in coastal habitats. [26]. The habitats onsite are not considered to be suitable for this species. Additionally, this species was not identified during the Site walkover. However, it is considered likely the little grebe may utilise habitats downstream of the site for foraging and nesting purposes.	• Impairment to water quality; and, • Indirect impacts on food supplies.	The Site is not considered suitable or a site of importance for this species based on the onsite habitats and the agricultural practices/management of the Site. However, given the potential hydrological connection from the Site via onsite drainage ditches to the Cork Harbour SPA, there is potential for indirect impacts to occur as a result of potential pollution events during the construction phase through impairment of water quality within the Cork Harbour SPA. However, given the distance separating the Site from the SPA it is considered highly unlikely that any potential pollutants could reach the SPA due to the fact that pollutants will either be diluted within the watercourse, or pollutants, such as sediment, will settle to the bottom of the watercourse. In addition, there will be no direct discharge into any watercourses during the construction and operational phases of the Proposed Development. Nonetheless, should potential pollutants from the construction works enter the onsite drainage ditch and flow downstream, this could lead to a deterioration of water quality, which could indirectly affect the food supply and foraging habitat or designated species that utilise the wider catchment. Therefore, mitigation measures will be incorporated into the works to protect the water quality.	**Screened In**
Great Crested Grebe	The NBDC does not hold records for Great Crested Grebe within 2km of the Site [25]. Great Crested Grebe have a preference for breeding on large, shallow eutrophic loughs, but will	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rationale	Screening Conclusion
	also nest in aquatic vegetation within open waters [27]. In winter this species is typically found in coastal habitats [27]. The habitats onsite are not considered to be suitable for this species. Additionally, this species was not identified during the Site walkover. However, it is considered likely the great crested grebe may utilise habitats downstream of the Site for foraging and nesting purposes.			
Cormorant	The NBDC does not hold records for Cormorant within 2km of the Site [25]. This species is known to breed in colonies around the Irish coastline. However, some birds have been noted nesting inland in tree-colonies [28]. In addition, cormorants are known to winter at sea, although this species has been observed wintering inland in Ireland. [28]. The habitats onsite are not considered to be suitable for this species. Additionally, this species was not identified during the Site walkover. However, it is considered likely the cormorant may utilise habitats downstream of the Site for foraging and nesting purposes.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**
Grey Heron	The NBDC does not hold records for Grey Heron within 2km of the Site [25]. Grey heron are known to nest in large trees, sometimes with multiple birds in the same tree. [29]. Also, grey herons are typically found wintering in the same areas they utilised for breeding purposes. [29].	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rationale	Screening Conclusion
	The habitats onsite are not considered to be suitable for this species. Additionally, this species was not identified during the Site walkover. However, it is considered likely the grey heron may utilise habitats downstream of the Site for foraging and nesting purposes.			
Shelduck	The NBDC does not hold records for Shelduck within 2km of the Site [25]. This species typically breeds in open areas associated with the Irish shoreline, large lakes and rivers. [30]. Similarly, Shelduck are known to winter in estuaries and along tidal mudflats. [30]. The habitats onsite are not considered to be suitable for this species. Additionally, this species was not identified during the Site walkover. However, it is considered likely the shelduck may utilise habitats downstream of the Site for foraging and nesting purposes.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**
Wigeon	The NBDC does not hold records for Wigeon within 2km of the Site [25]. Wigeon is a wintering species that migrates from the Icelandic region to utilise the coastal marshes, lagoons, estuaries, bays, inland wetlands, lakes, rivers and turloughs. [31]. The habitats onsite are not considered to be suitable for this species. Additionally, this species was not identified during the Site walkover. However, it is considered likely the wigeon may utilise habitats downstream of the Site for foraging and nesting purposes.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rationale	Screening Conclusion
Teal	The NBDC does not hold records for Teal within 2km of the Site [25]. Small numbers of this species breed in Ireland, within thick cover in small freshwater lakes and upland streams. [32]. The majority of teal migrate to Ireland in the winter to wetland areas with large reedbeds, which can include coastal lagoons, estuaries, marshes, or inland lakes, ponds and turloughs. [32]. The habitats onsite are not considered to be suitable for this species. Additionally, this species was not identified during the Site walkover. However, it is considered likely the teal may utilise habitats downstream of the Site for foraging and nesting purposes.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**
Pintail	The NBDC does not hold records for Pintail within 2km of the Site [25]. This species migrates to Ireland to winter in brackish lagoons, estuaries and large inland lakes. This species is known to form large flocks of birds. [33]. The habitats onsite are not considered to be suitable for this species. Additionally, this species was not identified during the Site walkover. However, it is considered likely the pintail may utilise habitats downstream of the Site for foraging and nesting purposes.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**
Shoveler	The NBDC does not hold records for Shoveler within 2km of the Site [25].	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rationale	Screening Conclusion
	This species is known to breed in Ireland around the Lough Neagh and the Shannon basin. [34] Neither of which are located within close proximity to the Site. Shoveler are known to winter in eutrophic waters that are rich in plankton. However, they can also occur on inland lakes and callows. [34]. The habitats onsite are not considered to be suitable for this species. Additionally, this species was not identified during the Site walkover. However, it is considered likely the shoveler may utilise habitats downstream of the Site for foraging and nesting purposes.			
Red-breasted Merganser	The NBDC does not hold records for Red-breasted Merganser within 2km of the Site [25]. This species is known to nest in sheltered lakes and rivers, typically in the west and north of Ireland, and winters exclusively in brackish and marine waters. [35]. The habitats onsite are not considered to be suitable for this species. Additionally, this species was not identified during the Site walkover. However, it is likely that the red-breasted merganser may use habitats downstream of the Site for foraging and nesting purposes.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**
Oystercatcher	The NBDC does not hold records for Oystercatcher within 2km of the Site [25]. This species breeds predominantly on the Irish coastline within beaches, dunes, salt marshes and rocky shores. However, it has been noted nesting on large inland lakes. Oystercatchers are also	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rationale	Screening Conclusion
	known to winter in coastal habitats, preferably on sandy coasts [36]. The habitats onsite are not considered to be suitable for this species. Additionally, this species was not identified during the Site walkover. However, it is considered likely the oystercatcher may utilise habitats downstream of the Site for foraging and nesting purposes.			
Golden Plover	The NBDC does not hold records for Golden Plover within 2km of the Site [25]. Golden Plover are known to breed in heather moors, blanket bogs and acidic grasslands, predominantly in the west/northwest of Ireland. [37]. This species typically winters in harvest fields, stubbles, mown grass, close-grazed pastures, fallows and other open farmland, including flood lands [37]. The onsite habitats are not suitable for breeding golden plover and this species was not identified during the Site walkover. However, this species may utilise the Site during the winter months. Given the abundance of similar habitat within the wider vicinity of the Site, the loss of this habitat is not considered to be significant and the Site is not considered to be a site of importance for this species.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**
Grey Plover	The NBDC does not hold records for Grey Plover within 2km of the Site [25]. This species breeds in the high artic regions of Russia and North America, and winters within coastal areas in Ireland. [38].	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rationale	Screening Conclusion
	The habitats onsite are not considered to be suitable for this species. Additionally, this species was not identified during the Site walkover. However, it is considered likely the grey plover may utilise habitats downstream of the site for foraging and nesting purposes.			
Lapwing	The NBDC does not hold records for Lapwing within 2km of the Site [25]. Lapwing are known to breed in open farmland and winter in large flocks in predominantly wetland, pasture and rough land. [39]. The Site is not considered suitable for breeding Lapwing given the intensive agricultural management of the Site and the Site is not considered of importance to this species. No Lapwing were identified during the Site walkover. Given the abundance of similar habitat within the wider vicinity of the Site, the loss of this habitat is not considered to be significant and the Site is not considered to be a site of importance for this species.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**
Dunlin	The NBDC does not hold records for Dunlin within 2km of the Site [25]. Dunlin breed in sparse low vegetation and have shown a preference for machair habitats and typically winter along coastal areas, specifically mudflats and estuaries. [40]. The habitats onsite are not considered to be suitable for this species. Additionally, this species was not identified during the Site walkover.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rationale	Screening Conclusion
	However, it is considered likely the dunlin may utilise habitats downstream of the site for foraging and nesting purposes.			
Black-tailed Godwit	The NBDC does not hold records for Black-tailed Godwit within 2km of the Site [25]. This species breeds in lowland wet grassland and marshes, but predominantly in Iceland. In the winter, this species prefers estuarine coasts but can also be found in grasslands and river deltas. [41]. The Site is not considered suitable for Black-tailed Godwit and this species was not identified during the onsite wintering bird surveys.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**
Bar-tailed Godwit	The NBDC does not hold records for Bar-tailed Godwit within 2km of the Site [25]. This species breeds in northern Europe, Norway and Finland, and winters entirely along Irish coastlines, predominantly in sandy estuaries. [42]. The Site is not considered suitable for Bar-tailed Godwit and this species was not identified during the onsite wintering bird surveys.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**
Curlew	The NBDC holds records of Curlew within 2km of the Site [25]. This species is not a common breeding bird, given the decline in the breeding population. However, the habitats utilised for breeding by this ground-nesting bird include rough pastures, meadows and heather [43]. The wintering population of curlew is supplemented by Scottish and Scandinavian birds	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rationale	Screening Conclusion
	that typically winter in wetland habitats, both coastal and inland [43]. The Site is not considered suitable for Curlew and this species was not identified during the onsite wintering bird surveys.			
Redshank	The NBDC holds no records of Redshank within 2km of the Site. [25]. Redshanks are a ground nesting bird that prefer to nest in grassy tussocks in wet marshy areas. However, this species has been noted occasionally nesting in heather. Redshank prefer to winter in mudflats, estuaries and inlets; however, small numbers have been noted in lakes and rivers. [44]. The habitats onsite are not considered to be suitable for this species. Additionally, this species was not identified during the Site walkover. However, it is considered likely the redshank may utilise habitats downstream of the Site for foraging and nesting purposes.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**
Black-headed Gull	The NBDC holds records of Black-headed Gull within 2km of the Site. This species typically nests in large colonies on the coasts and inland in wetland areas such as bogs, marshes, and manmade lakes [45]. However, it should be noted that inland breeding populations have declined dramatically due to predation. [45]. The largest inland colonies are located in Galway, Monaghan and Mayo. This species is known to winter in both coastal and inland areas. [45].	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rationale	Screening Conclusion
	The habitats onsite are not considered to be suitable for this species. Additionally, this species was not identified during the Site walkover. However, it is considered likely the black-headed gulls may utilise habitats downstream of the Site for foraging and nesting purposes.			
Common Gull	The NBDC does not hold any records for Common Gull within 2km of the Site [25]. The Common gull breeds in colonies predominantly along the coastline. Inland breeding can occur on islands in lakes, although these populations have declined due to predation. [46]. Common gulls utilise a range of wintering habitats, including coastal areas, heather moorlands, meadowlands and urban areas. [46]. The habitats onsite are not considered to be suitable for this species. Additionally, this species was not identified during the Site walkover. However, it is considered likely the common gulls may utilise habitats downstream of the Site for foraging and nesting purposes.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**
Lesser Black-backed Gull	The NBDC does not hold any records for Lesser Black-backed Gull within 2km of the Site [25]. This ground-nesting species typically breeds in colonies, often with other gull species. Most colonies are on the coastline; however, inland colonies have been recorded in Co. Mayo and Co. Donegal. [47]. The habitats utilised by lesser black-backed gulls include offshore islands, islands in lakes, sand dunes and coastal cliffs. This species winters both inland and in coastal habitats. [47].	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rationale	Screening Conclusion
	The habitats onsite are not considered to be suitable for this species. Additionally, this species was not identified during the Site walkover. However, it is considered likely the lesser black-backed gulls may utilise habitats downstream of the Site for foraging and nesting purposes..			
Common Tern	The NBDC does not hold records for Common Tern within 2km of the Site [25]. This ground-nesting species breeds in colonies along the Irish coastline, and colonies have been recorded in Co. Dublin, Co. Wexford and Co. Galway. [48]. It should be noted that some birds have been noted breeding on islets in freshwater lakes in Co. Galway and Co. Mayo. This species also winters in the west and South Africa [48]. The habitats onsite are not considered to be suitable for this species. Additionally, this species was not identified during the Site walkover. However, it is considered likely the common terns may utilise habitats downstream of the Site for foraging and nesting purposes.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**
Wetlands and Waterbirds	It should be noted that the NBDC holds records for herring gulls within 2km of the Site [25]. The habitats onsite are not considered to be suitable for wetland and waterbird species. Additionally, no wetland or waterbird species were identified during the Site walkover. However, it is considered likely these may utilise habitats downstream of the Site for foraging and nesting purposes.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**

6.2 Stage 1 – Analysis of 'In-Combination' Effects

The Habitats Directive requires competent authorities to make an appropriate assessment of any plan or project which is likely to have a significant effect alone or in combination with other plans and projects.

A review of Cork County Council [11] did not identify any current or previous granted plans or projects in the immediate vicinity that are considered likely in-combination with the Proposed Development to result in significant impacts on Cork Harbour SPA.

However, the following planning applications listed in Table 6-2 have previously been assessed by Cork County Council within the planning system, all of which are located within the vicinity of the Site.

Table 6-2: Active Planning Applications within the vicinity of the Site

Application Ref	Decision	Development Description	Appropriate Assessment
CCC Planning Ref: 23/5992	Request for Further Information issued 27/11/2023. Decision due 29/05/2024	*'A ten year planning permission for an energy storage facility comprising; 1) energy storage containers installed on concrete plinths; 2) electrical inverters and transformers; 3) underground electrical and communications cabling; 4) the upgrade of an existing agricultural access point from the L6989; 5) on-site access track; 6) security fencing and security gates; 7) pole-mounted security cameras; 8) all associated and ancillary site development, landscaping and reinstatement works. The operational lifetime of the proposed development is 35-years. This planning application is accompanied by an Appropriate Assessment Screening report.'*	Stage 1 Appropriate Assessment was submitted and concluded, "*based on the best available scientific information, the proposed development does not pose a risk of significant effects on the conservation objectives or integrity of any Natura 2000 site and that the proposed development does not require progression to a Stage 2 Appropriate Assessment"*
CCC Planning Ref: 22/4488	Granted – 05/10/2022	*'Permission for a synchronous compensator (electricity grid stabilization) development within the townland of Killeena, near Knockraha, Co.Cork within a site area of approximately 0.8 hectares. Planning permission is sought for; (1) a High Inertia Synchronous Compensator (HISC) compound consisting of the following; 1 no. High Inertia Synchronous Compensator (HISC) building enclosed within a steel clad framed, housed structure (12.1m height with a total area of 504 sq.m); electrical container area consisting of 8 no. electrical equipment containers, 4 no. external cooler units; 1 auxiliary and start-up Static Frequency Converter (SFC) transformer; 1 generator circuit breaker, 1 emergency diesel generator and 1 associated diesel storage tank. (2) a High Voltage (HV) compound*	Stage 1 Appropriate Assessment was submitted and concluded: "A*s there is no hydrological linkage between the site and any European site, the nearest of which lies 4.7km to the south, there are no envisaged impacts and consequently no Natura Impact Statement (NIS) was required and/or conducted."*

Application Ref	Decision	Development Description	Appropriate Assessment
		consisting of a main transformer and high voltage equipment. (3) a Gas Insulated Switchgear (GIS) building compound consisting of the following; high voltage Gas Insulated Switchgear (GIS) housed structure (13.5m height with a total area of 558 sq.m); (4) upgrade to the existing site entrance onto the L6989, internal access tracks, fencing, landscaping and drainage. Planning permission is sought for a period of 10 years.'	
CCC Planning Ref: 17/5370	Granted: 21/11/2017	*Construction, operation and decommissioning of photovoltaic solar farm comprising photovoltaic panels on ground-mounted frames within a site of up to 48.4ha, to include inverter stations, 1 no. DNO substation, customer substation, switcher substations, field transformers, auxiliary transformers, GRP cabinets, monitoring house, single-storey storage shed, battery containers, transformer containers, WC, fencing, temporary construction compound, access tracks, CCTV cameras, landscaping and all associated ancillary development works.*	Stage 1 Appropriate Assessment was submitted and concluded: "*It is concluded that there are no significant impacts for any Natura 2000 site from the Development, and therefore a NIS is not required."* Additionally, the Senior Planners Report concluded that: "*There is no hydrological connection between the site and nearby Natura sites. The nearest site is* *over 5km away. An Appropriate Assessment Screening Report is submitted. It concludes that* *there is no potential for significant effects on Natura sites. This conclusion is accepted*."
CCC Planning Ref: 23/4564	Granted – 13/03/2024	*Amendment of previous permission Reg. Ref: 17/5370 and ABP- 300434-17, which includes a enlarged site boundary, for alterations to a permitted solar farm to provide an additional area of 7.8ha to the south comprising photovoltaic panels on ground-mounted frames, MV/inverter stations, fencing, access tracks, CCTV cameras, a weather station, landscaping and all associated ancillary development works. The development also includes a 2.25km cable route to the south to provide a link to a future substation and all associated ancillary development works. The application also seeks to amend Condition 3 of permission granted under Reg. Ref:17/5370 and ABP Ref: ABP-300434-17 to increase the lifespan of the permitted solar farm from 25 to 35 years.*	Stage 1 Appropriate Assessment was submitted and concluded: "*In conclusion, activities associated with the Proposed Development either alone, or in combination with other projects or land uses, will not have any direct or indirect significant effects on the conservation objectives of an Natura 2000 European Designated sites."* Additionally, the Primary Planner's Report concluded that: "*…The conclusion of the AA Screening Report submitted is accepted".*

It is therefore considered that the Proposed Development is unlikely to have any significant in-combination contribution to possible significant effects on Cork Harbour SPA, the Great Island Channel SAC or the Blackwater River (Cork/Waterford) SAC.

This statement is supported by:

I. The distances and intervening lands separating the Site from European sites;

II. The dilution factor between the Site and European sites; and,

III. The localised nature of the Proposed Development

However, as identified in Section 6.1, a number of qualifying features require further consideration and appropriate mitigation measures to ensure that the Proposed Development alone will not lead to in-combination effects with any proposed future developments.

6.3 Stage 1 – AA Screening Conclusion

A detailed assessment of the layout and nature of the Proposed Development, the construction methods to be employed, and the overall activities that will occur at the Site during construction and operation has been carried out, and the potential for significant effects on European sites and qualifying features of interest within the zone of influence of the Site has been examined in detail.

Two designated sites, the Great Island Channel SAC and the Blackwater River (Cork/Waterford) SAC, were screened out, given the distances separating the Site from these European sites and the lack of impact pathways. It could be objectively concluded that the Proposed Development will not, either alone or in combination with other plans or projects, be likely to have significant effects on those sites.

Due to the hydrological connection between Cork Harbour SPA and the Site, via the onsite drainage network and Ballingohig stream, Butlerstown River and Glashahoy [L.Mahon] river, Cork Harbour SPA was taken forward for further detailed consideration, Stage 2 appropriate assessment. Using professional experience, guidance and judgment, the following factors have been taken into account in identifying potential significant effects on the identified European site:

- Distance from any European Site;
- Qualifying interests;
- Special conservation interests;
- Conservation objectives;
- The nature of the onsite habitats; and,
- The location of the Site.

The screening process has examined the potential for the Proposed Development cause to significant effects on European sites and the qualifying features of interest as per the screening determination in Section 4.

Based on the above factors and taking a precautionary approach, the screening exercise has identified the following designated habitats and species as potential receptors of significant likely effects as a result of the Proposed Development in the absence of appropriate mitigation:

<u>Species</u>

- Little Grebe
- Great Crested Grebe
- Cormorant
- Grey Heron
- Shelduck
- Wigeon

- Teal
- Pintail
- Shoveler
- Red-breasted Merganser
- Oystercatcher
- Golden Plover
- Grey Plover
- Lapwing
- Dunlin
- Black-tailed Godwit
- Bar-tailed Godwit
- Curlew
- Redshank
- Black-headed Gull
- Common Gull
- Lesser Black-backed Gull
- Common Tern
- Wetland and Waterbirds

These species have been brought forward for further consideration due to the potential for adverse effects from the Proposed Development in the absence of appropriate mitigation measures. Therefore, progression to Stage 2 of the Appropriate Assessment process is required.

Section 7 below further addresses potential issues arising from the Proposed Development and the mitigation measures required to negate any potential significant likely effects on this European Site.

7 STAGE 2 NIS

7.1 Assessment of Potential Significant Effects

This section provides recommendations for measures that will mitigate against any adverse effects on the integrity of the identified European site as a result of the Proposed Development. The following effects, with the potential to adversely affect the conservation objectives of the Cork Harbour SPA, were considered:

- Potential impairment of water quality during the construction phase.

The screening exercise did not identify any other factors that will result in any likely significant effects.

7.2 Potential Impairment of Water Quality during Construction

7.2.1 Reduction & Prevention of Suspended Solids and Contaminant Pollution

As outlined in section 3.2, the Site is hydrologically linked to the Cork Harbour SPA via the onsite drainage network and the and Ballingohig stream, Butlerstown river and Glashahoy [L.Mahon] river.

Therefore, should run off of potential pollutants from the construction works enter the drainage network, this could adversely impact the water quality downstream, subsequently indirectly impacting the food supply chain for species for which the Cork Harbour SPA is designated.

Potential pollutants resulting from the proposed works include suspended solids, cementitious materials, silt, and hydrocarbon leaks or spills. It is considered highly unlikely that the construction works will have any adverse effect on this SPA based on:

- The localised nature of the proposed works;
- There will be no direct discharges to any EPA watercourse;
- There will be no direct discharges to the drainage ditches onsite;
- There will be no direct discharges to surface water during the construction or operational phase of the Proposed Development;
- The catchment area that drains into the Bulterstown river and Glashahoy [L.Mahon] river and subsequently the Cork Harbour SPA;
- The fact that any potential pollutants entering the drainage network and watercourse network would be subject to considerable dilution before reaching Cork Harbour SPA;
- The distance separating the Site from all European sites; and,
- All works will comply with all relevant legislation and best practices to reduce potential impacts of the works on the environment.

Nonetheless, given that sections of the onsite drainage ditch will be culverted and diverted, and as a precautionary principle, the mitigation measures below will be put in place to ensure that water quality will be protected within the vicinity of the Site and further downstream. The measures that will be implemented to remove the risk of potential contamination and emergency procedures to be implemented in the event of an accidental release or spill of potentially contaminating substances are outlined below.

These procedures will be communicated to all relevant site staff. The following best practice guidelines will be followed, which are based on Inland Fisheries Ireland. [49] and National Roads Authority (NRA), now known as the Transport Infrastructure Ireland (TII), [50] guidance documents:

- Construction stage works will be undertaken in accordance with an approved CEMP;
- All materials shall be stored at the temporary compound and transported to the works zone immediately prior to construction;
- Before any ground works are undertaken, double silt fencing will be placed upslope of the watercourse channel along the 15m buffer zone boundary;
- The Contractor shall ensure that sediment barriers (i.e., silt fences/silt traps) are checked daily and regularly maintained during the construction phase;
- To avoid excessive silt runoff, site clearance works will not be undertaken during very wet conditions;
- Where minor field drains and watercourses are crossed with underground ducts, the release of sediment over baseline conditions will be prevented through the implementation of best-practice construction methodologies. The watercourse/minor field drain crossing works will only be carried out in dry weather periods;
- Weather conditions will be considered when planning construction activities to minimise the risk of runoff from the Site;
- There will be no storage of material/equipment or overnight parking of machinery inside the 15m buffer zone to the watercourse;
- If dewatering is required as part of the proposed works, e.g. in trenches for underground cabling or in wet areas, water must be treated prior to discharge;
- Earthworks haulage will be along predetermined routes within the Development and any deliveries to site will be along existing national, regional, and local routes for importation and exportation of materials.
- Haulage with the Development will be along internal haul roads/access tracks, where practicable.
- Where compaction occurs due to truck movements and other construction activities on unfinished surfaces, remediation works will be undertaken to reinstate the ground to its original condition. Where practicable, compaction of any soil or subsoil which is to remain in situ along the sites will be avoided;
- The contractor shall ensure that all personnel working on site are trained in pollution incident control response. A regular review of weather forecasts of heavy rainfall is required, with the Contractor required to prepare a contingency plan for before and after such events;
- The contractor will carry out visual examinations of the drainage ditch from the proposed works during the construction phase to ensure that sediment is not above baseline conditions. In the unlikely event of water quality concerns, the Environmental Manager will be consulted; and,
- Excavations will only remain open for limited time periods to reduce groundwater and surface water ingress and water containing silt will be passed through a settlement tank or adequate filtration system prior to discharge.

Oil pollution is known to cause significant damage to aquatic communities and loss of bulk stored oil or oil from construction vehicles is likely to have an adverse impact, the severity of which would depend on the volumes of oil involved. Minor leaks have the potential to have negligible impacts, whereas larger leaks and spills could have a significant negative short-term adverse impacts if not controlled. However, these impacts are highly unlikely to occur due to the small scale of the Proposed Development and the best practice measures will be

employed to reduce these potential impacts to an absolute minimum. The proposed measures to remove the risk of potential contamination and emergency procedures to be implemented in the event of an accidental release or spill of potentially contaminating substances are outlined below:

- Only emergency breakdown maintenance will be carried out onsite;
- Emergency procedures and spillage kits will be available, and construction staff will be familiar with emergency procedures;
- Appropriate containment facilities will be provided to ensure that any spills from vehicles are contained and removed off-site. Adequate stocks of absorbent materials, such as sand or commercially available spill kits, shall be available;
- Any chemical/oils to be stored onsite will be placed within a bund on an area of hardstanding to ensure there is no seepage of pollutants into groundwater or surface water;
- All bunds will have the capacity of the largest tank volume plus 10%, at a minimum, with additional capacity to hold 30mm of rainfall;
- All drainage from bund areas will be directed to secure containment prior to suitable disposal;
- Refuelling of construction vehicles and the addition of hydraulic oils or lubricants to vehicles, will take place in designated impermeable refuelling areas isolated from surface water drains;;
- The Appointed Contactor will put in place a specific, step-by-step refuelling procedure, which will be communicated to all relevant employees onsite;
- Chemicals will be stored within a storage container with an accompanying Control of Substances Hazardous to Health ("COSHH") Datasheet in accordance with health and safety regulations. All chemicals will be stored in designated bunded areas at least 15m away from watercourses;
- Vehicle or equipment maintenance work will be carried out in a designated area on the Site. In the event that refuelling is required outside this area a spill tray will be employed during the refuelling operation;
- Before any works commencing, all construction equipment will be checked to ensure that they are mechanically sound to avoid leaks of oil, fuel, hydraulic fluids and grease;
- The Contractor shall ensure that all personnel working onsite are trained in pollution incident control response and will be appropriately trained in the use of spill kits;
- Any sediments impacted by contamination will be excavated and stored in appropriate sealed containers for disposal offsite in accordance with all relevant waste management legislation;
- A regular review of weather forecasts of heavy rainfall is required;
- No storage of hydrocarbons or any polluting chemicals will occur within 10m of watercourses or surface water features;
- Design and installation of fuel bowsers to be in accordance with best practice guidelines;
- Drip trays will be located under all static plant;
- Cabins, containers, workshops, plant, materials storage and storage tanks shall not be located within 10m of any watercourse;

- Fuel and oil stores including tanks and drums, will be regularly inspected for leaks and signs of damage; and,
- Only designated trained operators will be authorised to refuel the plant onsite.

Poured concrete will be utilised for ancillary infrastructure associated with the Proposed Development. However, as mentioned above, concrete will be pre-cast, where possible, to reduce the need for concrete pouring. The following measures will be implemented to protect water quality during concrete pours:

- Ready-mixed concrete will be brought to the site by truck. A suitable risk assessment for wet concreting will be completed prior to works being carried out which will include measures to prevent discharge of alkaline wastewaters or contaminated water (for example storm water) to the underlying subsoil and groundwater;
- The pouring of concrete will take place within a designated area protected (for example by a geosynthetic material) to prevent concrete runoff into the soil/groundwater media;
- Any use of concrete in proximity to watercourses will be carefully controlled to avoid spillage. No onsite batching should occur. Washout from mixing will be carried out only in a designated contained impermeable area;
- Wash down and washout of concrete transporting vehicles will take place at an appropriate designated area (offsite) and direct discharge of wash water to ground or surface waters will be strictly prohibited. Alternatively, where washout takes place onsite, it will be carried out in a designated, carefully managed onsite washout area;
- Wastewater from washing of concrete lorry chutes will be directed into a concrete washout container, lined with an impermeable membrane. The container should be of good condition, should not overflow or leak and should be easily accessible to vehicles. The containers must be checked and emptied at a frequency equivalent to the volume of concrete being used and no runoff should leave the washout location. The area must be clearly marked and must be located away from storm drain inlets, open drainage facilities, water courses and ditches;
- Concrete or potential concrete-contaminated water run-off will not be allowed to enter any watercourses;
- The production, transport and placement of all cementitious materials will be strictly planned and supervised;
- All concrete pours will be carried out in dry weather;
- Shutters will be designed to prevent failure;
- Chemicals used will be biodegradable where possible;
- Any spillages will be cleaned up immediately and disposed of correctly;
- Where possible, concrete skips, pumps and machine buckets will be prevented from slewing over water when placing concrete;
- No washing of plant or equipment will be permitted adjacent to the river;
- and,
- Surplus concrete will be returned to the batch plant after completion of a pour.

7.2.2 Diversion / Culverting of the Drainage Ditch

As the drainage ditch onsite connects to a wider watercourse network, the drainage ditch following design and mitigation measures will be implemented to prevent any adverse impacts on water quality and subsequently indirectly impact food supply chains downstream. These mitigation measures include:

- The contractor shall establish contact with IFI before works commence, and all works shall be carried out according to their approved design and method statement;
- The contractor appointed shall ensure that all personnel working onsite are trained in pollution incident control response;
- The new channel shall be constructed in a way to minimise suspended solids releases when the drainage ditch is rerouted;
- There will be no steep embankments;
- The width and gradient of the diverted section will match the current drainage ditch;
- Timing of these works will be agreed with IFI and a suitably qualified ecologist;
- A suitably qualified ecologist will be present onsite during the diversion works;
- Following completion of the diversion and culverting of the drainage ditch, a 10m buffer will be provided on either side of the drainage ditch and the diverted drainage ditch to prevent any egress from construction works;
- Silt fencing will be erected to provide suitable protection to the drainage ditch throughout the lifecycle of the works; and,
- No surface water or foul water will be discharged into the drainage ditch.

Therefore, it can be concluded that the construction works and works associated with the diversion and culverting of the drainage ditch will not have an adverse effect on water quality downstream and, subsequently, the species of Cork Harbour SPA and the wider river network downstream.

7.2.3 Operational Phase

The Proposed Development will result in a change of land-use from agricultural grassland to a substation development. Standard design measures including oil interceptor and a soakaway attenuation system are included as part of the design. Throughout the operational phase of the Proposed Development, monitoring and maintenance will be undertaken to ensure these are functionating effectively. Significant maintenance works during the operational life of the facility are not envisaged.

Therefore, it is considered that there will be no risks to water quality during the operational phase of the Proposed Development. It can, therefore, be concluded that the operational activity at the proposed substation site will not have any adverse effects on either the surface or groundwater quality of the watercourses in the vicinity of the proposed development or on the protected European sites and their designated conservation interests located downstream.

7.3 Stage 2 - Analysis of 'In-Combination' Effects

Based on the mitigation measures as described in Section 7.2, the Proposed Development alone will not have any direct or indirect adverse effects on the integrity of any European Sites.

Following a review of the Cork County Council Planning Files [11], and the Department of Housing, Local Government and Heritage's planning portal – the National Planning Application Database as listed in Table 6-2, no current or previously granted plans or projects were identified in the immediate vicinity that are considered to have the potential to have any in-

combination with the Proposed Development to result in significant impacts on the integrity of European Sites.

Therefore, the Proposed Development is unlikely to have any significant combined contribution to possible significant effects on Cork Harbour SPA.

This statement is supported by:

I. The distances and intervening lands separating the Site from European sites;

II. The dilution factor between the Site and European sites; and,

III. The localised nature of the Proposed Development

V. The mitigation measures that will be put in place; and,

VI. The best practice guidelines that will be implemented during the construction and operational phase of the proposed development.

Taking the above into account and given the fact that the aforementioned projects will not result in any adverse effects to European Designated Sites, it can be concluded that the proposed development will not result in any in-combination contribution to adverse effects on the integrity of any European Sites.

8 NIS CONCLUSIONS AND STATEMENT

A detailed assessment of the layout and nature of the Proposed Development, the construction methods to be employed and the overall activities that will occur at the Site during both the construction and operational phases has been carried out and the potential for significant effects on European sites and qualifying features of interest within the zone of influence of the Site has been examined in detail.

As detailed in Section 6, the Stage 1 AA Screening conclusion states that the boundaries of two designated sites, Great Island Channel SAC and Blackwater River SAC, were screened out. It can be concluded that the Proposed Development will not, either alone or in combination with other plans or projects, be likely to have significant effects on these European sites.

However, a hydrological connection was identified between Cork Harbour and the Site, via the onsite drainage network and the wider watercourse network, which forms part of Cork Harbour SPA. Therefore, Cork Harbour SPA European site was taken forward for further detailed consideration.

Avoidance, design requirements and mitigation measures are detailed within this NIS, which will ensure that any impacts on the Cork Harbour SPA or any other European site, having regard to their conservation objectives, will be avoided during all phases of the Proposed Development, such that there will be no adverse effects on the integrity of any European sites. Following an examination, analysis and evaluation of the relevant information, including the nature of the predicted impacts from the Proposed Development and all associated works, it has been objectively concluded that with the implementation of the proposed mitigation measures, the Proposed Development will not, either alone or in combination with other plans or projects, adversely affect the integrity or conservation status of any of the qualifying interests of the Cork Harbour SPA or any other European site in light of best scientific knowledge. No reasonable scientific doubt exists in relation to this conclusion.

Accordingly, progression to Stage 3 of the Appropriate Assessment process (i.e. Assessment of Alternatives Solutions) is not considered necessary.

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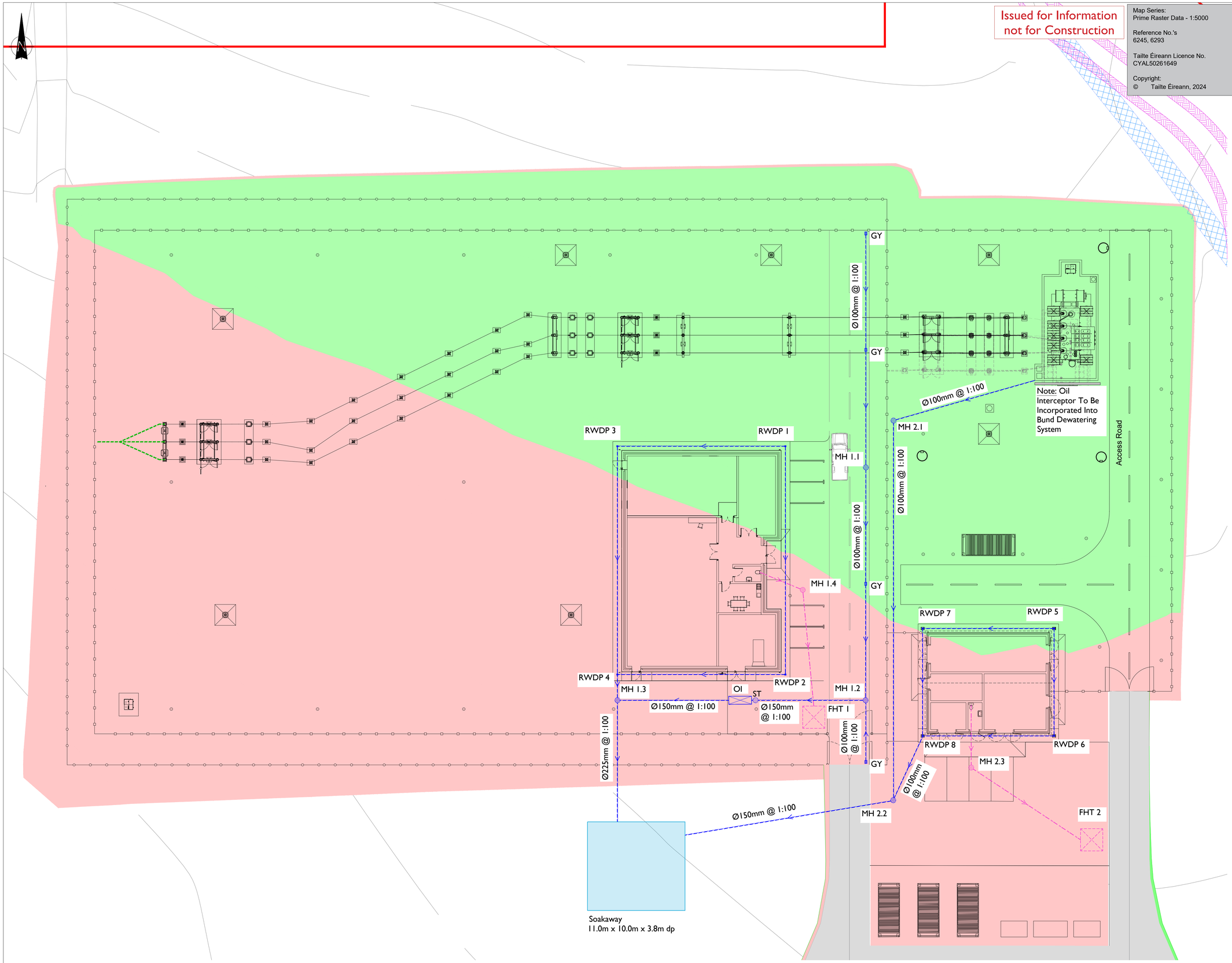
APPENDICES

APPENDIX A

ISO A1 594mm x 841mm

Issued for Information not for Construction



Drainage Layout Plan

Scale: 1:200

Project Management Initials: Designer: BM Checked: KC Approved: GH

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PROJECT

Ballyvatta Solar Farm 110kV Grid Connection

CLIENT

Ballyvatta Solar Farm Limited

CONSULTANTS

NOTES: -

- This drawing is to be read in conjuction with relevant drawings, specifications and reports
- Dimensions are in millimetres, unless noted otherwise
- Drawings are not to be scaled, use figured dimensions only
- Local datum: Malin Head

LEGEND: -

Soakaway shown thus	
Manhole shown thus	
Oil Interceptor shown thus	OI
Silt Trap shown thus	ST
Foul Water Holding Tank Shown thus	FHT
Gully shown thus	GY
Rainwater Down Pipe shown thus	RWDP
Foul Sewer shown thus	
Storm Water shown thus	
Land Drain Area to be diverted shown thus	
Proposed Area of diversion shown thus	
Cut Volume shown thus	
Fill Volume shown thus	

ISSUE/REVISION

I/R	DATE	DESCRIPTION
N1	04.06.24	Issued for Information

PROJECT NUMBER

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SHEET TITLE

Drainage Layout Plan

SHEET NUMBER

051033-DR-330