

Natura Impact Statement

ADSIL Drogheda IE Licence

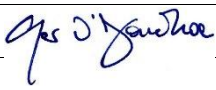
Prepared by: Moore Group – Environmental Services

7 March 2023



On behalf of ADSIL Drogheda

Project Proponent	ADSIL Drogheda
Project	ADSIL Drogheda IE Licence
Title	Natura Impact Statement ADSIL Drogheda IE Licence

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Abbreviations

AA	Appropriate Assessment
CEWMP	Construction Environmental and Waste Management Plan
EEC	European Economic Community
EPA	Environmental Protection Agency
EU	European Union
GIS	Geographical Information System
IEL	Industrial Emissions Licence
NHA	Natural Heritage Area
NIS	Natura Impact Statement
NPWS	National Parks and Wildlife Service
OSI	Ordnance Survey Ireland
pNHA	proposed Natural Heritage Area
SAC	Special Area of Conservation
SPA	Special Protection Area
SuDS	Sustainable Drainage System

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1. Introduction

1.1. General Introduction

This Natura Impact Statement (NIS) has been prepared by Moore Group – Environmental Services on behalf of ADSIL Drogheda. This NIS report contains information to assist the competent authority (Environmental Protection Agency) in carrying out an Appropriate Assessment (AA) for the purposes of Article 6(3) of the Habitats Directive and section 177V of the Planning and Development Act 2000, as amended, (the “Planning Acts”) in respect of the operation of the ADSIL Drogheda Facility under an IE Licence (EPA Reg. No.: P1181-01) (hereafter referred to as the Project) on European sites, to ascertain whether or not the Project would adversely affect European site integrity.

This NIS informs the AA process in the determination of any adverse effects on the integrity of European sites, having regard to their conservation objectives and in light of best scientific knowledge. It is necessary that the Project complies with Article 6(3) of the Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (as amended) (referred to as the Habitats Directive). For the purposes of the Project, this is transposed into Irish Law by Part XAB of the Planning and Development Act 2000 as amended¹. The focus of the assessment is on objectively assessing by reference to the evidence as to whether the Project will adversely affect the integrity of the European sites in light of their conservation objectives.

1.2. Legislative Background - The Habitats and Birds Directives

Articles 6(3) and 6(4) of the Habitats Directive are transposed into Irish Law inter alia by the Part XAB of the Planning Acts (section 177U and 177V) governing the requirement to carry out AA screening and appropriate assessment, where required, per Section 1.1 above.

The Habitats Directive is the main legislative instrument for the protection and conservation of biodiversity in the European Union (EU). Under Article 3 of the Habitats Directive, Member States are obliged to designate Special Areas of Conservation (SACs) which contain habitats or species considered important for protection and conservation in a EU context.

The Birds Directive (Council Directive 2009/147/EC on the conservation of wild birds), transposed into Irish law by the Habitats Regulations 2011, as amended, and the Wildlife Act 1976, as amended, is

¹The European Communities (Birds and Natural Habitats) Regulations, 2011 (S.I. 477) as amended (referred to as the Habitats Regulations) transposes the Habitats Directive for the purposes of proposed projects subject to legislation other than the Planning and Development Act 2000, as amended.

concerned with the long-term protection and management of all wild bird species and their habitats in the EU. Among other things, the Birds Directive requires that Special Protection Areas (SPAs) be established to protect migratory species and species which are rare, vulnerable, in danger of extinction, or otherwise require special attention.

SACs designated under the Habitats Directive and SPAs, designated under the Birds Directive, form a pan-European network of protected sites known as Natura 2000. The Habitats Directive sets out a unified system for the protection and management of SACs and SPAs. These sites are also referred to in Irish legislation as 'European sites'.

Articles 6(3) and 6(4) of the Habitats Directive set out the requirement for an assessment of proposed plans and projects likely to have a significant effect on Natura 2000 sites.

Article 6(3) establishes the requirement to screen all plans and projects and to carry out an appropriate assessment if required (Appropriate Assessment (AA)). Article 6(4) establishes requirements in cases of imperative reasons of overriding public interest:

Article 6(3): *"Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subjected to an 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 implications 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."*

These obligations in relation to AA have been implemented in Ireland under Part XAB of the Planning and Development Act 2000, as amended, and in particular Section 177U and Section 177V thereof.

Section 177T(1)(b) and (2) state as follows with regard to a Natura Impact Statement:

"(b) A Natura impact statement means a statement, for the purposes of Article 6 of the Habitats Directive, of the implications of a proposed project, on its own or in combination with other plans or projects, for one or more than one European site, in view of the conservation objectives of the site or sites."

"(2) Without prejudice to the generality of subsection (1), a Natura impact report or a Natura impact statement, as the case may be, shall include a report of a scientific examination of evidence and data, carried out by competent persons to identify and classify any implications for one or more than one European site in view of the conservation objectives of the site or sites."

1.3. Methodology

The Commission's methodological guidance (EC, 2002, 2018, 2021 see Section 1.4 below) promotes a four-stage process to complete the AA and outlines the issues and tests at each stage. An important aspect of the process is that the outcome at each successive stage determines whether a further stage in the process is required.

Stages 1 and 2 deal with the main requirements for assessment under Article 6(3). Stage 3 may be part of Article 6(3) or may be a necessary precursor to Stage 4. Stage 4 is the main derogation step of Article 6(4).

Stage 1 Screening: This stage examines the likely effects of a project either alone or in combination with other projects upon a Natura 2000 site and considers whether it can be objectively concluded that these effects will not be significant. In order to screen out a project, it must be excluded, on the basis of objective information, that the proposed project, individually or in combination with other plans or projects, will have a significant effect on a European site.

Stage 2 Appropriate Assessment: In this stage, there is a consideration of the impact of the project with a view to ascertain whether there will be any adverse effect on the integrity of the Natura 2000 site either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Additionally, where there are predicted impacts, an assessment of the potential mitigation of those impacts is considered.

Stage 3 Assessment of Alternative Solutions: This stage examines alternative ways of implementing the project that, where possible, avoid any adverse impacts on the integrity of the Natura 2000 site.

Stage 4 Assessment where no alternative solutions exist and where adverse impacts remain: Where imperative reasons of overriding public interest (IROPI) exist, an assessment to consider whether compensatory measures will or will not effectively offset the damage to the sites will be necessary.

1.4. Guidance

The NIS has been compiled in accordance with guidance contained in the following documents:

- Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities. (Department of Environment, Heritage and Local Government, 2010 rev.)(soon to be superseded by EC Guidance in prep.).
- Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities. Circular NPWS 1/10 & PSSP 2/10.

- Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitat's Directive 92/43/EEC (EC, 2018).
- Guidance document on the strict protection of animal species of Community interest under the Habitats Directive (EC, 2021).
- Assessment of plans and projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC (EC, 2021).
- Office of the Planning Regulator (OPR) Practice Note PN01 Appropriate Assessment Screening for Development Management (OPR, 2021).

1.5. Data Sources

Sources of information that were used to collect data on the Natura 2000 network of sites, and the environment within which they are located, are listed below:

- The following mapping and Geographical Information Systems (GIS) data sources, as required:
 - National Parks & Wildlife (NPWS) protected site boundary data;
 - Ordnance Survey of Ireland (OSI) mapping and aerial photography;
 - OSI/Environmental Protection Agency (EPA) rivers and streams, and catchments;
 - Open Street Maps;
 - Digital Elevation Model over Europe (EU-DEM);
 - Google Earth and Bing aerial photography 1995-2023;
- Online data available on Natura 2000 sites as held by the National Parks and Wildlife Service (NPWS) from www.npws.ie including:
 - Natura 2000 - Standard Data Form;
 - Conservation Objectives;
 - Site Synopses;
- National Biodiversity Data Centre records;
 - Online database of rare, threatened and protected species;
 - Publicly accessible biodiversity datasets.
- Status of EU Protected Habitats in Ireland. (National Parks & Wildlife Service, 2019); and
- Relevant Development Plans in neighbouring areas;
 - Louth County Development Plan 2021-2027

1.6. Statement of Authority

This report was compiled by Ger O'Donohoe B.Sc. Applied Aquatic Sciences (ATU Galway, 1993) & M.Sc. Environmental Sciences (TCD, 1999) who has 30 years' experience in environmental impact assessment

and has completed numerous reports for AA Screening and Natura Impact Statements in terrestrial and aquatic habitats.

Technical data was supplied by AWN Consultants and Clifton Scannell Emerson Associates Consulting Engineers for the Project.

1.7. Description of the Project

The Project refers to the existing permitted ADSIL facility in respect of a licence application from Amazon Data Services Ireland Limited for an installation located at ADSIL Drogheda, Drogheda IDA Business and Technology Park, Donore Road, Drogheda, Meath, A92 VX98 in respects of Regulation 10(2)(b)(ii) of the EPA (Industrial Emissions) (Licensing) Regulations 2013 as amended.

The Project site is connected to the existing wastewater infrastructure for the treatment of wastewater.

The Project site includes new surface water drainage. In accordance with Sustainable Drainage System (SuDS) design principles the new drainage includes attenuation, swales, French drains, permeable paving, hydrocarbon interceptors and a hydrodynamic solid separator, prior to discharge to the Local Authority surface water drainage network via the IDA surface water drainage system. Prior to the site stormwater network entering the attenuation basin, the stormwater passes through hydrocarbon interceptors, and hydrodynamic solid separator to ensure that the quality of the stormwater discharge is controlled. The fuel unloading bay contains drainage channels that direct stormwaters to the site network via hydrocarbon interceptor.

The closest sensitive ecological area is the River Boyne And River Blackwater SAC (Site Code 002299) which is located c.1.1km north of the subject site. Dispersion modelling of NO_x emissions from the installation at this distance is not required as there is no potential for significant impacts to vegetation as a result of emissions from the installation at such a distance. Emissions from the back-up generators on site peak at the site boundary and fall off rapidly with increasing distance from the installation.

Mains water is used on site for both domestic purposes (offices and kitchens) and for data hall cooling at ambient temperatures above a set point. No treatment chemicals are added to the cooling water. Prior to the cooling process water is sanitised using ultraviolet disinfection. When water is used for cooling, it is recirculated in a closed loop system. Cooling water has conductivity values of between 1,200-1,500 µS/cm and is automatically discharged when a conductivity of 1,500 µS/cm is reached. Cooling water is discharged at ambient temperature.

Figure 1 shows the Project location and Figure 2 shows a detailed view of the Project boundary on recent aerial photography. Figure 3 presents a plan of the Project.

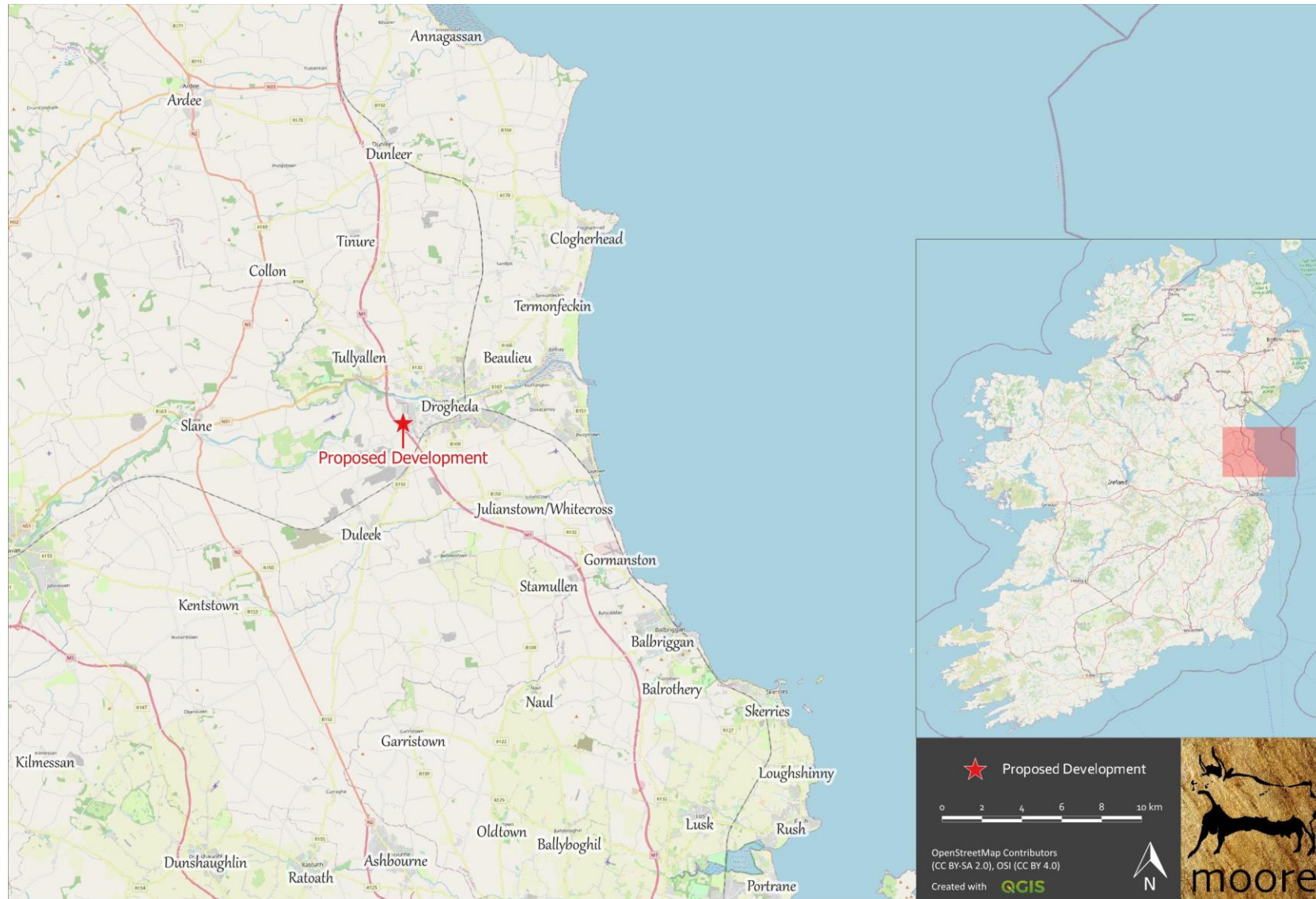


Figure 1. Showing the Project location at Drogheda, Co. Louth.

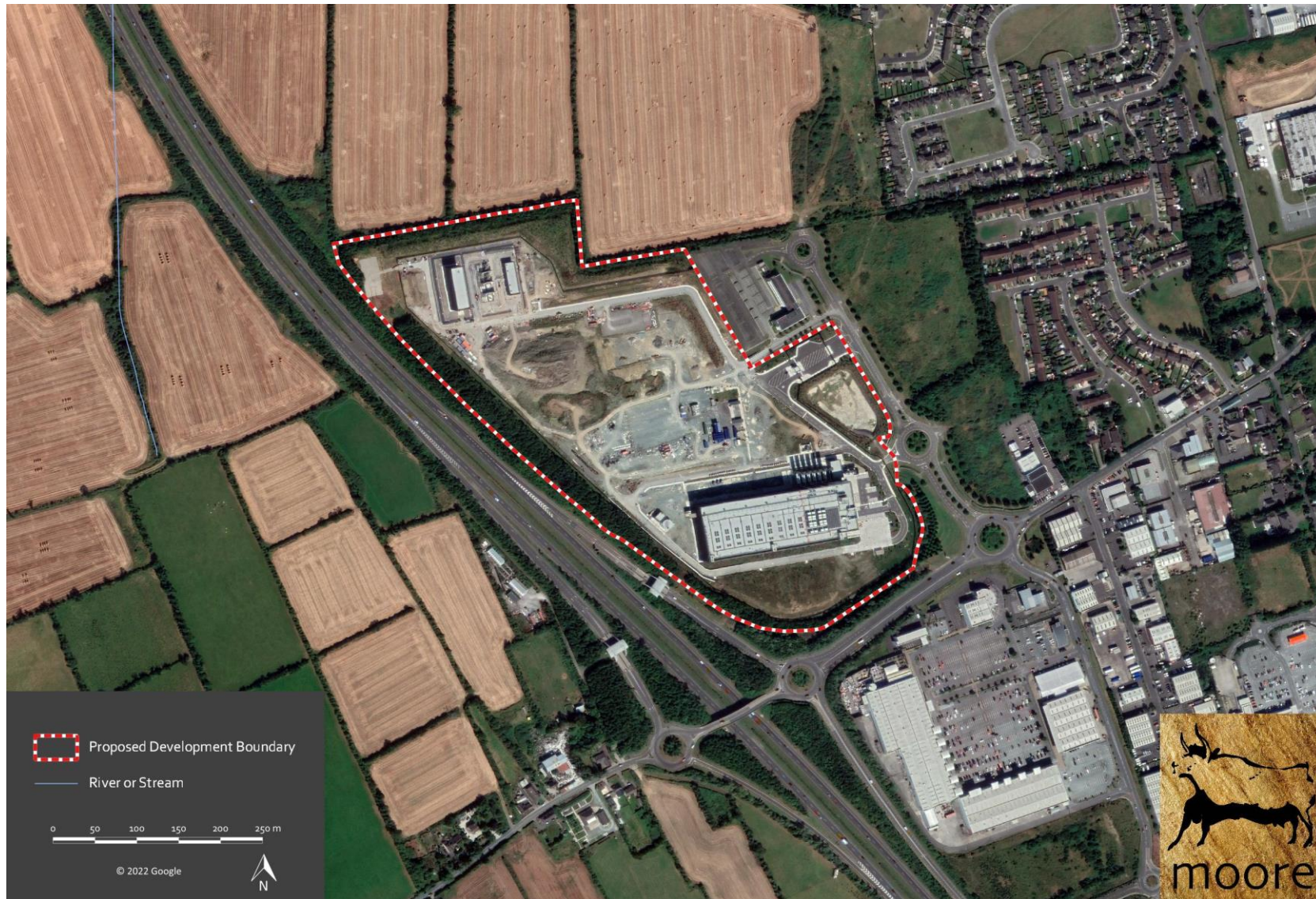


Figure 2. Showing the Project boundary on recent aerial photography (August 2022).

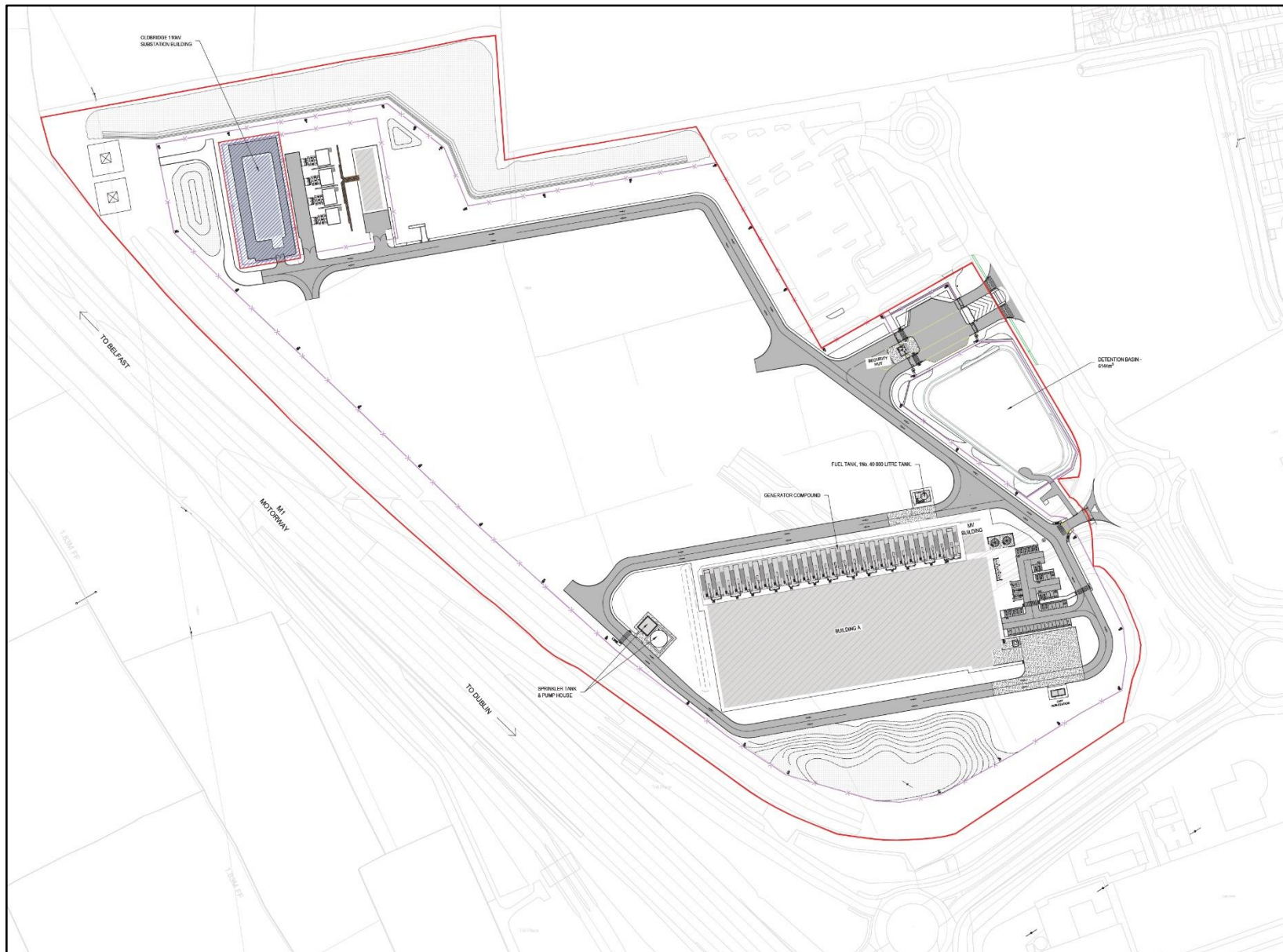


Figure 3. Layout of the Project to which the IEL applies.

2. Stage 1 – Screening for AA

The potential for source pathway receptor connectivity is firstly identified through GIS interrogation and detailed information is then provided on sites with connectivity. European sites that are located within a potential Zone of Influence of the Project are listed in Table 1 and presented in Figures 4 and 5, below. Spatial boundary data on the Natura 2000 network was extracted from the NPWS website (www.npws.ie) on 14 December 2022. This data was interrogated using GIS analysis to provide mapping, distances, locations and pathways to all sites of conservation concern including pNHAs, NHA and European sites.

Table 1 European Sites located within the potential Zone of Influence² of the Project.

Site Code	Site name	Distance (km) ³
001957	Boyne Coast and Estuary SAC	5.16
002299	River Boyne and River Blackwater SAC	0.98
004080	Boyne Estuary SPA	3.97
004232	River Boyne and River Blackwater SPA	1.28

The nearest European sites to the Project are associated with the River Boyne and include the River Boyne and River Blackwater SAC (Site Code 002299), which is located c.980m to the north and the River Boyne and River Blackwater SPA (Site Code 004232), which is located approximately 1.3km to the northwest.

Waste water is directed to municipal sewerage and treated appropriately. Surface water is collected on site, attenuated and passed through settlement and interception before being discharged to municipal drainage in Drogheda. There is therefore a pathway to the River Boyne in Drogheda.

The River Boyne and River Blackwater SPA is designated solely for Kingfisher and located upstream of the Mary McAleese Bridge on the M1 Motorway. It is considered outside the Zone of Influence of treated dilute surface water and may be excluded at the screening stage.

Based on the separation distance from the facility to the nearest ecologically sensitive area and European site it is highly unlikely that noise arising from the facility under any scenario would have any impact on these sites. Therefore, the noise impact on ecologically sensitive area has been scoped out of any further assessment.

² All European sites potentially connected irrespective of the nature or scale of the Project.

³ Distances indicated are the closest geographical distance between the Project and the European site boundary, as made available by the NPWS.

The closest sensitive ecological area is the River Boyne And River Blackwater SAC (Site Code 002299) which is located c.1.1km north of the subject site. Dispersion modelling of NO_x emissions from the installation at this distance is not required as there is no potential for significant impacts to vegetation as a result of emissions from the installation at such a distance⁴. Emissions from the back-up generators on site peak at the site boundary and fall off rapidly with increasing distance from the installation. Downstream of Drogheda, the waters of the River Boyne enter the River Boyne Estuary with its associated European sites, the Boyne Coast and Estuary SAC (Site Code 001957) and the Boyne Estuary SPA (Site Code 004080).

There is an indirect pathway to the River Boyne via treated surface water drainage and potential effects on the Boyne Coast and Estuary SAC (001957); the River Boyne and River Blackwater SAC (002299) and the Boyne Estuary SPA (004080) cannot be excluded.

Given the connectivity to the River Boyne, Estuary and Coast, these sites are considered further herein.

A screening for Appropriate Assessment was undertaken by the EPA on 9 September 2022 in respect of the IE Licence Application (EPA Reg. No.: P1181-01), the EPA determined that an Appropriate Assessment of the Project is required. The Project proponent was required by the EPA to submit a Natura Impact Statement in respect of the IE Licence Application (EPA Reg. No.: P1181-01), as defined in Regulation 2(1) of the European Communities (Birds and Natural Habitats) Regulations 2011 as amended.

Details of the qualifying interests of Boyne Coast and Estuary SAC (001957); the River Boyne and River Blackwater SAC (002299) and the Boyne Estuary SPA (004080) are listed in Table 2 below, and Site Synopses are available from the NPWS website (www.npws.ie). The Qis and SCIs of the European sites may be re-confirmed by the competent authority prior to completing the assessment under Article 6(3) of the Habitats Directive.

⁴ Attachment-7-1-3-2-Air Emissions Impact Assessment ADSIL Drogheda Business & Technology Park, Co. Louth submitted with the IE licence application.

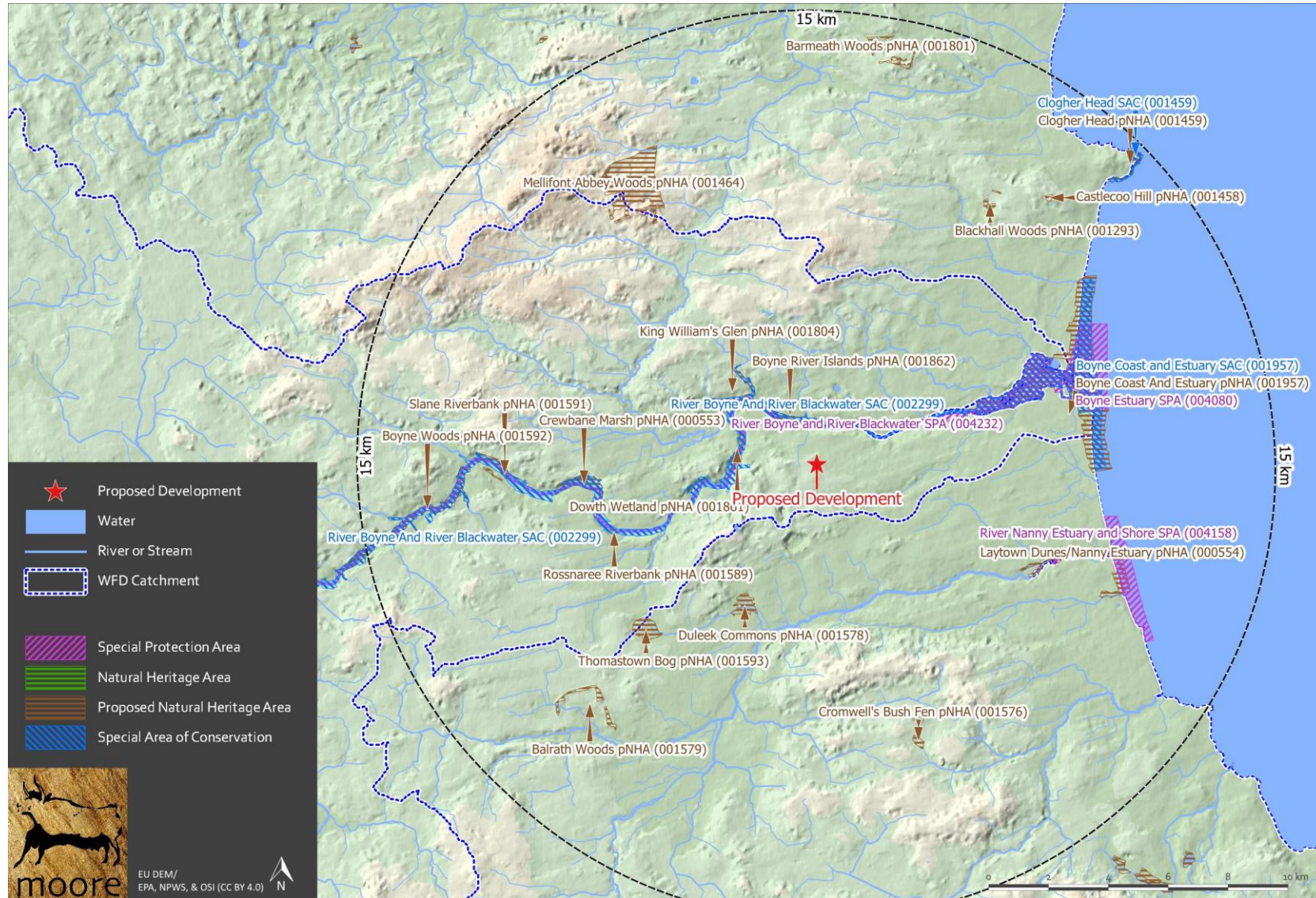


Figure 4. Showing European sites and NHAs/pNHAs in the wider potential zone of influence of the Project.



Figure 5. Detailed view of European sites in the nearer potential zone of influence of the Project.

Table 2 Qualifying Interests and Conservation Objectives (QIs potentially affected are highlighted in green text).

Boyne Coast and Estuary SAC (001957)			
Qualifying Interests	Key environmental conditions supporting site integrity	Conservation Objective	Potential Effects
1130 Estuaries	Surface and marine water dependent. Low sensitivity to hydrological changes. Aquaculture, fishing and pollution.	To maintain favourable conservation condition.	Waste water is directed to municipal sewerage and treated appropriately. Surface water is collected on site, attenuated and passed through settlement and interception before being discharged to municipal drainage in Drogheda. There is therefore a pathway to the River Boyne in Drogheda. In the absence of measures to control the potential contamination of surface water, potential effects on these coastal habitats cannot be excluded.
1140 Mudflats and sandflats not covered by seawater at low tide	Surface and marine water dependent. Low sensitivity to hydrological changes. Aquaculture, fishing and pollution.	To maintain favourable conservation condition.	Waste water is directed to municipal sewerage and treated appropriately. Surface water is collected on site, attenuated and passed through settlement and interception before being discharged to municipal drainage in Drogheda. There is therefore a pathway to the River Boyne in Drogheda. In the absence of mitigation measures to control the potential contamination of surface water, potential effects on these coastal habitats cannot be excluded.
1310 <i>Salicornia</i> and other annuals colonizing mud and sand	Surface and marine water dependent. Low sensitivity to hydrological changes. Aquaculture, fishing and pollution.	To restore favourable conservation condition.	Waste water is directed to municipal sewerage and treated appropriately. Surface water is collected on site, attenuated and passed through settlement and interception before being discharged to municipal drainage in Drogheda. There is therefore a pathway to the River Boyne in Drogheda. In the absence of mitigation measures to control the potential contamination of surface water, potential effects on these coastal habitats cannot be excluded.
1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>)	Marine and groundwater dependent. Sensitivity to hydrological change. Changes in salinity and tidal regime. Overgrazing, erosion and accretion	To maintain favourable conservation condition.	Waste water is directed to municipal sewerage and treated appropriately. Surface water is collected on site, attenuated and passed through settlement and interception before being discharged to municipal drainage in Drogheda. There is therefore a pathway to the River Boyne in Drogheda. In the absence of mitigation measures to control the potential contamination of surface water, potential effects on these coastal habitats cannot be excluded.
1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>)	Marine and groundwater dependent. Sensitivity to hydrological change. Changes in	The status of Mediterranean salt meadows (<i>Juncetalia maritimi</i>) as a qualifying Annex I	Waste water is directed to municipal sewerage and treated appropriately. Surface water is collected on site, attenuated and passed through settlement and interception before being discharged to municipal drainage in Drogheda.

	salinity and tidal regime. Overgrazing, erosion and accretion	habitat for the Boyne Coast and Estuary SAC is currently under review.	There is therefore a pathway to the River Boyne in Drogheda. In the absence of mitigation measures to control the potential contamination of surface water, potential effects on these coastal habitats cannot be excluded.
2110 Embryonic shifting dunes	Marine and groundwater dependent. Sensitivity to hydrological change. Changes in salinity and tidal regime. Overgrazing, erosion and accretion	To restore favourable conservation condition.	Waste water is directed to municipal sewerage and treated appropriately. Surface water is collected on site, attenuated and passed through settlement and interception before being discharged to municipal drainage in Drogheda. There is therefore a pathway to the River Boyne in Drogheda. In the absence of mitigation measures to control the potential contamination of surface water, potential effects on these coastal habitats cannot be excluded.
2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ('white dunes')	Marine and groundwater dependent. Sensitivity to hydrological change. Changes in salinity and tidal regime. Overgrazing, erosion and accretion	To restore favourable conservation condition.	Waste water is directed to municipal sewerage and treated appropriately. Surface water is collected on site, attenuated and passed through settlement and interception before being discharged to municipal drainage in Drogheda. There is therefore a pathway to the River Boyne in Drogheda. In the absence of mitigation measures to control the potential contamination of surface water, potential effects on these coastal habitats cannot be excluded.
2130 *Fixed coastal dunes with herbaceous vegetation ('grey dunes')	Marine and groundwater dependent. Sensitivity to hydrological change. Changes in salinity and tidal regime. Overgrazing, erosion and accretion	To restore favourable conservation condition.	Waste water is directed to municipal sewerage and treated appropriately. Surface water is collected on site, attenuated and passed through settlement and interception before being discharged to municipal drainage in Drogheda. There is therefore a pathway to the River Boyne in Drogheda. In the absence of mitigation measures to control the potential contamination of surface water, potential effects on these coastal habitats cannot be excluded.
River Boyne and River Blackwater SAC (002299)			
Qualifying Interests	Key environmental conditions supporting site integrity	Conservation Objectives	Potential Effects
1099 River Lamprey (<i>Petromyzon fluviatilis</i>)	Surface water dependent Highly sensitive to hydrological change.	To restore favourable conservation condition.	In the absence of mitigation measures to control the potential contamination of surface water, potential effects on River Lamprey cannot be excluded.
1106 Salmon (<i>Salmo salar</i>) (only in fresh water)	Surface water dependent Highly sensitive to hydrological change	To restore favourable conservation condition.	In the absence of mitigation measures to control the potential contamination of surface water, potential effects on Salmon cannot be excluded.
1355 Otter (<i>Lutra lutra</i>)	Prey availability. Water Quality. Riparian vegetation for breeding sites.	To maintain favourable conservation condition.	Records from the NBDC show that otters have been recorded at several location along the River Boyne in Drogheda. There will be no direct effects on otters and no barriers to movement.

	Unhindered passage along waterways.		In the absence of mitigation measures to control the potential contamination of surface water, potential effects on Otters in the River Boyne cannot be excluded.
7230 Alkaline fens	High water table. Ground surface water supply. Calcium-rich conditions.	To maintain favourable conservation condition.	This habitat does not occur in the zone of influence of the Project and located at a distance of removal that it will not be affected.
91E0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>)*	Changes in management. Changes in nutrient or base status. Introduction of alien species.	To maintain favourable conservation condition.	This habitat does not occur in the zone of influence of the Project and located at a distance of removal that it will not be affected.
Boyne Estuary SPA (004080)			
Special Conservation Interests/QIs	Key environmental conditions supporting site integrity	Conservation Objectives	Potential Effects
Wetlands & Waterbirds	Highly sensitive to hydrological changes and loss of wetland habitat. Sensitive to disturbance.	To maintain favourable conservation condition of birds listed and wetland habitats.	There will be no direct effects on birds of conservation concern. In the absence of mitigation measures to control the potential contamination of surface water from contaminated surface water runoff such as chemical pollution or from elevated suspended solids, potential effects on birds in the Boyne Estuary cannot be excluded.

In the absence of mitigation measures, the potential effects on downstream European sites is uncertain.

Thus, Stage 2 AA is required for the following European sites:

- Boyne Coast and Estuary SAC (001957);
- River Boyne and River Blackwater SAC (002299) and
- Boyne Estuary SPA (004080)

This NIS has been prepared for the Project, to inform the Stage 2 AA and is presented as follows.

3. Stage 2 – AA

This stage considers whether the Project, alone or in combination with other projects or plans, will have adverse effects on the integrity of a European site, and includes any mitigation measures necessary to avoid, reduce or offset negative effects. The Stage 2 AA comprises a scientific examination of the plan / project and the relevant European site; to identify and characterise any possible implications for the site in view of the site's conservation objectives, structure and function; taking account of in

combination effects. This NIS provides the competent authority (Environmental Protection Agency) with the information necessary to undertake the AA.

3.1. Description of European Sites Potentially Affected

Potential effects on the following European sites have been identified:

3.1.1. Boyne Coast and Estuary SAC [001957]

Excerpts from the NPWS Site Synopsis of the Boyne Coast and Estuary SAC (Version date 9.2.2016) are provided as follows:

Boyne Coast and Estuary SAC is a coastal site which includes most of the tidal sections of the River Boyne, intertidal sand- and mudflats, saltmarshes, marginal grassland, and the stretch of coast from Bettystown to Termonfeckin that includes the Mornington and Baltray sand dune systems.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[1130] Estuaries

[1140] Tidal Mudflats and Sandflats

[1210] Annual vegetation of drift lines

[1310] *Salicornia* Mud

[1330] Atlantic Salt Meadows

[2110] Embryonic Shifting Dunes

[2120] Marram Dunes (White Dunes)

[2130] Fixed Dunes (Grey Dunes)*

The site is of considerable conservation interest as a coastal complex that supports good examples of eight habitats that are listed on Annex I of the E.U. Habitats Directive, including one which is listed with priority status, and for the important bird populations that it supports.

3.1.2. River Boyne and River Blackwater SAC [002299]

Excerpts from the NPWS Site Synopsis of the River Boyne and River Blackwater SAC (Version date 6.1.2014) are provided as follows:

This site comprises the freshwater element of the River Boyne as far as the Boyne Aqueduct, the Blackwater as far as Lough Ramor and the Boyne tributaries including the Deel, Stoneyford and Tremblestown Rivers. These riverine stretches drain a considerable area of Meath and Westmeath, and smaller areas of Cavan and Louth. The underlying geology is Carboniferous Limestone for the most part, with areas of Upper, Lower and Middle well represented. In the vicinity of Kells Silurian Quartzite is

present while close to Trim are Carboniferous Shales and Sandstones. There are many large towns adjacent to but not within the site, including Slane, Navan, Kells, Trim, Athboy and Ballivor.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[7230] Alkaline Fens

[91E0] Alluvial Forests*

[1099] River Lamprey (*Lampetra fluviatilis*)

[1106] Atlantic Salmon (*Salmo salar*)

[1355] Otter (*Lutra lutra*)

The Boyne and its tributaries form one of Ireland's premier game fisheries and the area offers a wide range of angling, from fishing for spring salmon and grilse to seatrout fishing and extensive brown trout fishing. Atlantic Salmon (*Salmo salar*) use the tributaries and headwaters as spawning grounds. Although this species is still fished commercially in Ireland, it is considered to be endangered or locally threatened elsewhere in Europe and is listed on Annex II of the Habitats Directive. Atlantic Salmon run the Boyne almost every month of the year. The Boyne is most important as it represents an eastern river which holds large three-sea-winter fish from 20-30 lb. These fish generally arrive in February, with smaller spring fish (10 lb) arriving in April/May. The grilse come in July, water permitting. The river gets a further run of fish in late August and this run would appear to last well after the fishing season. The salmon fishing season lasts from 1st March to 30th September.

This site is also important for the populations of two other species listed on Annex II of the E.U. Habitats Directive which it supports, namely River Lamprey (*Lampetra fluviatilis*), which is present in the lower reaches of the Boyne River, and Otter (*Lutra lutra*), which can be found throughout the site.

The site supports populations of several species listed on Annex II of the E.U. Habitats Directive, and habitats listed on Annex I of this Directive, as well as examples of other important habitat types. Although the wet woodland areas appear small there are few similar examples of this type of alluvial wet woodland remaining in the country, particularly in the north-east. The semi-natural habitats, particularly the strips of woodland which extend along the river banks, and the marsh and wet grasslands, increase the overall habitat diversity and add to the ecological value of the site, as does the presence of a range of Red Data Book plant and animal species and the presence of nationally rare plant species.

3.1.3. Boyne Estuary SPA [004080]

Excerpts from the NPWS Site Synopsis of the Boyne Estuary SPA (Version date 30.5.2015) are provided as follows:

This moderately-sized coastal site is situated west of Drogheda on the border of Counties Louth and Meath. The site comprises most of the estuary of the Boyne River, a substantial river which drains a large catchment. Apart from one section which is over 1 km wide, its width is mostly less than 500 m. The river channel, which is navigable and dredged, is defined by training walls, these being breached in places. Intertidal flats occur along the sides of the channelled river. The sediments vary from fine muds in the sheltered areas to sandy muds or sands towards the river mouth. The linear stretches of intertidal flats to the north and south of the river mouth are mainly composed of sand. One or more species of Eelgrass (*Zostera* spp.) occur in the estuary. Parts of the intertidal areas are fringed by salt marshes, most of which are of the Atlantic type, and dominated by Sea-purslane (*Halimione portulacoides*). Other species present include Common Saltmarsh-grass (*Puccinellia maritima*), Sea Plantain (*Plantago maritima*), Lax-flowered Sea-lavender (*Limonium humile*) and Glasswort (*Salicornia* spp.). Common Cord-grass (*Spartina anglica*) occurs frequently on the flats and salt marshes.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Shelduck, Oystercatcher, Golden Plover, Grey Plover, Lapwing, Knot, Sanderling, Black-tailed Godwit, Redshank, Turnstone and Little Tern. 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.

The Boyne Estuary is the second most important estuary for wintering birds on the Louth-Meath coastline.

The site is of considerable ornithological importance for wintering waterfowl, with Black-tailed Godwit occurring in internationally important numbers and nine other species having populations of national importance. Of particular significance is that three species that regularly occur, Golden Plover, Bar-tailed Godwit and Little Tern are listed on Annex I of the E.U. Birds Directive. Part of the Boyne Estuary SPA is a Wildfowl Sanctuary.

3.2. Description of the Existing Environment

The following is an overview of the main habitat types present in the Project site. Fieldwork was undertaken by the author over prior to development and during phased development on 5 February and 17 April 2019, on 3 September 2020 and on 3 March 2021. Habitats are classified under the Fossitt codes (Fossitt, 2000).

3.2.1. Habitats & Flora

The site in question comprises the site of the permitted ADSIL Facility which comprises Buildings and artificial surfaces (BL3) clearly visible in aerial photography from August 2022 adapted from Google Earth in Figure 2 above.

3.2.2. Invasive Species

There are no records of Third Schedule⁵ invasive species within in the Project area during fieldwork.

3.2.3. Fauna

Lamprey

The River Boyne is noted for River Lamprey (*Petromyzon fluviatilis*)(O'Connor, W., 2006⁶). This survey has confirmed that significant populations of river/brook lampreys occur throughout the River Boyne catchment. It is likely that populations in the lower reaches of the river include *Lampetra fluviatilis* populations while *Lampetra planeri* is likely to be the dominant species in more up-river areas. Sea lampreys were not confirmed during the survey quoted survey.

Salmonids

The River Boyne upstream at the confluence of the Mattock River at Oldbridge is registered as a Salmonid Water under the Salmonid Regulations (S.I. 293 / 1988). Salmonid waters are included within the Register as areas protected for water dependent species and habitats. The protected areas for Salmonid species are comprised of the 34 Salmonid rivers, tributaries and lakes listed in the Salmonid Regulations (S.I. 293 / 1988). The main concern for salmonids with regard to the Project is with regard to water quality in the river.

Otters

Otters are well known to occur in the River Boyne both upstream and downstream of Drogheda. There are several records for otter sightings from the National Biodiversity Data Centre database from further upstream and also downstream of Drogheda in the estuarine environment of the River Boyne.

Birds

⁵ The European Communities (Birds and Natural Habitats) Regulations 2011 contain provisions to address the problem of invasive species. These are listed in the Third Schedule of the Regulations.

⁶O'Connor W. (2006) A survey of juvenile lamprey populations in the Boyne Catchment. Irish Wildlife Manuals, No. 24 National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.

No rare or Annex 1 bird species have been recorded in the NBDC database for a site specific polygon in which the Project is located. The permitted facility covers much of the site and there are no available habitats for the annexed species for which the Boyne Estuary SPA is designated.

3.3. Conservation Objectives of European Sites

The Qualifying interests and Special Conservation Interests of the European sites considered in the assessment have been addressed in Table 2 in the Screening Stage herein and the majority of qualifying habitats and species of conservation concern have been screened out with the exception of those habitats and species associated with the receiving aquatic environment in the River Boyne, Estuary and Coast. As such only those remaining habitats and species are considered in further detail in the following sections.

3.3.1. Boyne Coast and Estuary SAC [001957]

Specific Conservation Objectives and Target Notes are set by the NPWS (Version 1. 31 October 2012) for the Boyne Coast and Estuary SAC (001957) are as follows:

1130 Estuaries

To maintain the favourable conservation condition of Estuaries in Boyne Coast and Estuary SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes. See map 3	Habitat area was estimated as 403ha using OSi data and the defined Transitional Water Body area under the Water Framework Directive
Community distribution	Hectares	Conserve the following community types in a natural condition: Intertidal estuarine mud and fine sand with <i>Hediste diversicolor</i> and <i>Corophium volutator</i> community; and Subtidal fine sand dominated by polychaetes community. See map 5	Habitat structure was elucidated from intertidal and subtidal surveys undertaken in 2010 (ASU, 2011; EcoServe, 2011)

1140 Mudflats and sandflats not covered by seawater at low tide

To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in Boyne Coast and Estuary SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes. See map 4	Habitat area was estimated using OSI data as 403ha
Community distribution	Hectares	Conserve the following community types in a natural condition: Intertidal estuarine mud and fine sand with <i>Hediste diversicolor</i> and <i>Corophium volutator</i> community; and Fine sand dominated by bivalves community complex. See map	Habitat structure was elucidated from an intertidal survey undertaken in 2010 (ASU, 2011). See marine supporting document for further details

1310 Salicornia and other annuals colonizing mud and sand

To restore the favourable conservation condition of *Salicornia* and other annuals colonizing mud and sand in Boyne Coast and Estuary SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-sites mapped: Baltray- 2.91ha, Mornington- 1.14ha. See map 6	Based on data from Saltmarsh Monitoring Project (McCorry and Ryle, 2009). Habitat mapped at two sub-sites surveyed, giving a total estimated area of 4.05ha. NB further unsurveyed areas maybe present within the site. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline or change in habitat distribution, subject to natural processes. See map 6 for known distribution	Based on data from McCorry and Ryle (2009). <i>Salicornia</i> is an annual species, so its distribution can vary significantly from year to year. At Baltray, saltmarsh is expanding in infilled intertidal zone. Large area of Mornington saltmarsh was reclaimed in the past. See coastal habitats supporting document for further details
Physical structure: sediment supply	Presence/ absence of physical barriers	Maintain/restore natural circulation of sediments and organic matter, without any physical obstructions	Based on data from McCorry and Ryle (2009). Sediment supply is particularly important for this pioneer saltmarsh community, as the distribution of this habitat depends on accretion rates. Sediment supply to saltmarshes at Baltray and Mornington is likely to be affected by the construction of navigation walls and dredging of the main channel. See coastal habitats supporting document for further details
Physical structure: creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession	Based on data from McCorry and Ryle (2009). Creeks deliver sediment throughout saltmarsh system. At Baltray and Mornington the structure is modified by drainage channels. See coastal habitats supporting document for further details
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime	This pioneer saltmarsh community requires regular tidal inundation. See coastal habitats supporting document for further details
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	Based on data from McCorry and Ryle (2009). At Baltray and Mornington there are zonations within the saltmarsh habitats as well as transitions to adjacent sand dune systems. See coastal habitats supporting document for further details
Vegetation structure: vegetation height	Centimeters	Maintain structural variation within sward	Based on data from McCorry and Ryle (2009). At Baltray and Mornington grazing is absent and sward height is variable. See coastal habitats supporting document for further details

1310 Salicornia and other annuals colonizing mud and sand

To restore the favourable conservation condition of *Salicornia* and other annuals colonizing mud and sand in Boyne Coast and Estuary SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Vegetation structure: vegetation cover	Percentage cover at a representative sample of monitoring stops	Maintain more than 90% of area outside creeks vegetated	Based on data from McCorry and Ryle (2009). See coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover	Maintain the presence of species-poor communities with typical species listed in the Saltmarsh Monitoring Project (McCorry and Ryle, 2009)	Based on data from McCorry & Ryle (2009). See coastal habitats supporting document for further details
Vegetation structure: negative indicator species- <i>Spartina anglica</i>	Hectares	No significant expansion of common cordgrass (<i>Spartina anglica</i>), with an annual spread of less than 1%	Based on data from McCorry & Ryle (2009). <i>Spartina</i> is well established at this site. Swards of <i>Spartina</i> are widespread at Baltray and there has been significant expansion of <i>Spartina</i> at Mornington since 2000. See coastal habitats supporting document for further details

1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)

To maintain the favourable conservation condition of Atlantic salt meadows (*Glauco-Puccinellietalia*) in Boyne Coast and Estuary SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-sites mapped: Baltray- 17.67ha, Mornington- 8.76ha. See map 6	Based on data from the Saltmarsh Monitoring Project (McCorry and Ryle, 2009). Habitat mapped at two sub-sites surveyed, giving a total estimated area of 26.43ha. NB further unsurveyed areas maybe present within the site. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline or change in habitat distribution, subject to natural processes. See map 6 for known distribution	Based on data from McCorry and Ryle (2009). At Baltray there has been some extensive recent development of ASM. At Mornington the saltmarsh may have been more extensive in the past. See coastal habitats supporting document for further details
Physical structure: sediment supply	Presence/ absence of physical barriers	Maintain natural circulation of sediments and organic matter, without any physical obstructions	Based on data from McCorry and Ryle (2009). At Baltray and Mornington saltmarsh development likely to be affected by the construction of navigation walls in the past and dredging of the main channel. See coastal habitats supporting document for further details
Physical structure: creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession	Based on data from McCorry and Ryle (2009). Creek and pan structures are well-developed in some parts of Baltray and Mornington but modified in other areas by drainage channels. See coastal habitats supporting document for further details
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime	See coastal habitats supporting document for further details
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	Based on data from McCorry and Ryle (2009). At Baltray and Mornington there are zonations within the saltmarsh habitats as well as transitions to adjacent sand dune systems. See coastal habitats supporting document for further details
Vegetation structure: vegetation height	Centimeters	Maintain structural variation within sward	Based on data from McCorry and Ryle (2009). The saltmarshes at Baltray and Mornington are ungrazed by livestock and the sward height is quite variable. See coastal habitats supporting document for further details
Vegetation structure: vegetation cover	Percentage cover at a representative sample of monitoring stops	Maintain more than 90% of area outside creeks vegetated	See coastal habitats supporting document for further details

1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)

To maintain the favourable conservation condition of Atlantic salt meadows (*Glauco-Puccinellietalia*) in Boyne Coast and Estuary SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Vegetation composition: typical species and sub-communities	Percentage cover at a representative sample of monitoring stops	Maintain range of sub-communities with typical species listed in Saltmarsh Monitoring Project (McCorry and Ryle, 2009)	See coastal habitats supporting document for further details
Vegetation structure: negative indicator species - <i>Spartina anglica</i>	Hectares	No significant expansion of common cordgrass (<i>Spartina anglica</i>), with an annual spread of less than 1%	Based on data from McCorry and Ryle (2009). <i>Spartina</i> is well established at this site. Swards of <i>Spartina</i> are widespread at Baltray and there has been significant expansion of <i>Spartina</i> at Mornington since 2000. See coastal habitats supporting document for further details

1410 Mediterranean salt meadows (*Juncetalia maritim*)

The status of Mediterranean salt meadows (*Juncetalia maritim*) as a qualifying Annex I habitat for Boyne Coast and Estuary SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this habitat.

2110 Embryonic shifting dunes

To restore the favourable conservation condition of Embryonic shifting dunes in Boyne Coast and Estuary SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-sites mapped: Baltray- 2.52ha, Mornington- 0.67ha. See map 7	Based on data from the Coastal Monitoring Project (Ryle et al., 2009). Habitat is very difficult to measure in view of its dynamic nature and was recorded at both sub-sites, giving a total estimated area of 3.18ha. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline or change in habitat distribution, subject to natural processes. See map 7 for known distribution	Based on data from Ryle et al. (2009). See coastal habitats supporting document for further details
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions	Based on data from Ryle et al. (2009). Dunes are naturally dynamic systems that require continuous supply and circulation of sand. The training wall at the mouth of the Boyne Estuary has led to an accumulation of sand at Mornington and enhanced the development of dunes at the northern section. The dunes are accreting at the southern end of Baltray, with wide areas of embryonic dune and strandine fronting mobile and fixed dunes. See coastal habitats supporting document for further details
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	Based on data from Ryle et al. (2009). Both sand dune systems at Baltray and Mornington occur adjacent to extensive estuarine saltmarshes. See coastal habitats supporting document for further details
Vegetation composition: plant health of foredune grasses	Percentage cover	More than 95% of sand couch (<i>Elytrigia juncea</i>) and/or lyme-grass (<i>Leymus arenarius</i>) should be healthy (i.e. green plant parts above ground and flowering heads present)	Based on data from Ryle et al. (2009). See coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover	Maintain the presence of species-poor communities with typical species: sand couch (<i>Elytrigia juncea</i>) and/or lyme-grass (<i>Leymus arenarius</i>)	Based on data from Ryle et al. (2009). See coastal habitats supporting document for further details

2110 Embryonic shifting dunes

To restore the favourable conservation condition of Embryonic shifting dunes in Boyne Coast and Estuary SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Vegetation composition: negative indicator species	Percentage cover	Negative indicator species (including non-natives) to represent less than 5% cover	Based on data from Ryle et al. (2009). Negative indicators include non-native species, species indicative of changes in nutrient status and species not considered characteristic of the habitat. Sea buckthorn (<i>Hippophae rhamnoides</i>) should be absent or effectively controlled. See coastal habitats supporting document for further details

2120 Shifting dunes along the shoreline with *Ammophila arenaria* ('white dunes')

To restore the favourable conservation condition of Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) in Boyne Coast and Estuary SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes including erosion and succession. For sub-sites mapped: Baltray- 2.97ha, Mornington- 1.99ha. See map 7	Habitat was mapped during the Coastal Monitoring Project (Ryle et al. 2009). Habitat was recorded at both sub-sites, giving a total estimated area of 4.97ha. Habitat is very difficult to measure in view of its dynamic nature. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline or change in habitat distribution, subject to natural processes. See map 7 for known distribution	Based on data from Ryle et al. (2009). Shifting dunes were recorded at both Baltray and Mornington sub-sites. See coastal habitats supporting document for further details
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions	Dunes are naturally dynamic systems that require continuous supply and circulation of sand. Marram (<i>Ammophila arenaria</i>) reproduces vegetatively and requires constant accretion of fresh sand to maintain active growth encouraging further accretion. The training wall at the mouth of the Boyne Estuary has led to an accumulation of sand at Mornington and enhanced the development of dunes at the northern section. The dunes are accreting at the southern end of Baltray, with wide areas of embryonic dune and strandine fronting mobile and fixed dunes. See coastal habitats supporting document for further details
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	Based on data from Gaynor (2008) and Ryle et al. (2009). Both sand dune systems at Baltray and Mornington occur adjacent to extensive estuarine saltmarshes. See coastal habitats supporting document for further details
Vegetation composition: plant health of dune grasses	Percentage cover	More than 95% of marram (<i>Ammophila arenaria</i>) and/or lyme-grass (<i>Leymus arenarius</i>) should be healthy (i.e. green plant parts above ground and flowering heads present)	Based on data from Ryle et al. (2009). See coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain the presence of species-poor communities dominated by marram (<i>Ammophila arenaria</i>) and/or lyme-grass (<i>Leymus arenarius</i>)	Based on data from Ryle et al. (2009). See coastal habitats supporting document for further details

2120 Shifting dunes along the shoreline with *Ammophila arenaria* ('white dunes')

To restore the favourable conservation condition of Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) in Boyne Coast and Estuary SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Vegetation composition: negative indicator species	Percentage cover	Negative indicator species (including non-natives) to represent less than 5% cover	Based on data from Ryle et al. (2009). Negative indicators include non-native species, species indicative of changes in nutrient status and species not considered characteristic of the habitat. Sea buckthorn (<i>Hippophae rhamnoides</i>) should be absent or effectively controlled. Ragwort (<i>Senecio jacobaea</i>) was recorded from Mobile dunes at both Baltray and Mornington. See coastal habitats supporting document for further details

2130 *Fixed coastal dunes with herbaceous vegetation ('grey dunes')

To restore the favourable conservation condition of Fixed coastal dunes with herbaceous vegetation (grey dunes) in Boyne Coast and Estuary SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area increasing, subject to natural processes including erosion and succession. For sub-sites mapped: Baltray-26.41ha; Mornington-20.46ha. See map 7	Based on data from the Coastal Monitoring Project (Ryle et al., 2009). Habitat was recorded at both sub-sites, giving a total estimated area of 46.87ha. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline or change in habitat distribution, subject to natural processes. See map 7 for known distribution	Based on data from the Coastal Monitoring Project (Ryle et al., 2009). Fixed dunes recorded at both Baltray and Mornington. See coastal habitats supporting document for further details
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers.	Maintain the natural circulation of sediment and organic matter, without any physical obstructions	Based on data from the Coastal Monitoring Project (Ryle et al., 2009). The training wall at the mouth of the Boyne Estuary has led to an accumulation of sand at Mornington and enhanced the development of dunes at the northern section. The dunes are accreting at the southern end of Baltray, with wide areas of embryonic dune and strandine fronting mobile and fixed dunes. See coastal habitats supporting document for further details
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	Based on data from Ryle et al. (2009). Both sand dune systems at Baltray and Mornington occur adjacent to extensive estuarine saltmarshes. See coastal habitats supporting document for further details
Vegetation structure: bare ground	Percentage cover	Bare ground should not exceed 10% of fixed dune habitat, subject to natural processes	Based on data from Gaynor (2008) and Ryle et al. (2009). The estimated area of bare sand at Mornington currently accounts for greater than 10% of the fixed dune habitat. See coastal habitats supporting document for further details
Vegetation composition: sward height	Centimeters	Maintain structural variation within sward	Based on data from Gaynor (2008) and Ryle et al. (2009). See coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover at a representative sample of monitoring stops	Maintain range of sub-communities with typical species listed in Ryle et al. (2009)	Based on data from Gaynor (2008) and Ryle et al. (2009). The locally rare species viper's bugloss (<i>Echium vulgare</i>) was recorded in the fixed dunes at Baltray. Mornington is the most northerly known site in Ireland for wild clary (<i>Salvia verbenaca</i>). See coastal habitats supporting document for further details

2130 *Fixed coastal dunes with herbaceous vegetation ('grey dunes')

To restore the favourable conservation condition of Fixed coastal dunes with herbaceous vegetation (grey dunes) in Boyne Coast and Estuary SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Vegetation composition: negative indicator species	Percentage cover	Negative indicator species (including non-natives) to represent less than 5% cover	Based on data from Ryle et al. (2009). Negative indicators include non-native species, species indicative of changes in nutrient status and species not considered characteristic of the habitat. Sea buckthorn (<i>Hippophae rhamnoides</i>) should be absent or effectively controlled. At both Baltray and Mornington, creeping thistle (<i>Cirsium arvense</i>), ragwort (<i>Senecio jacobaea</i>) and common nettle (<i>Urtica dioica</i>) were recorded in fixed dunes. See coastal habitats supporting document for further details
Vegetation composition: scrub/trees	Percentage cover	No more than 5% cover or under control	Based on data from Ryle et al. (2009). See coastal habitats supporting document for further details

3.3.2. River Boyne and River Blackwater SAC [002299]

Specific Conservation Objectives and Target Notes are set by the NPWS (Version 1. 3 December 2021) for the River Boyne and River Blackwater SAC (002299) for River lamprey, Salmon and Otter are as follows:

1099 River Lamprey *Lampetra fluviatilis*

To restore the favourable conservation condition of River Lamprey (*Lampetra fluviatilis*) in River Boyne and River Blackwater SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Distribution	Percentage of river accessible	Restore access to all water courses down to first order streams	Artificial barriers can block or impede the passage of upstream migrating lamprey, thereby restricting access to spawning areas (Gargan et al., 2011; Rooney et al., 2015). There are a number of weirs along the lower sections of the Boyne main channel, the most substantial of these are located at Slane and downstream of Navan at Blackcastle. Efforts to trap adult river lamprey were undertaken at four locations throughout the catchment during November 2014 to April 2015. This was augmented in April 2015 by an extensive fyke-netting survey (n=26 sites). No adult river lamprey were encountered, with the only record to date being a dead individual from the River Boyne at Slane in late March 2015 (Gallagher et al., 2016). On the Boyne main channel, there is ideal spawning habitat both upstream and downstream of the weir at Blackcastle but spawning has not been observed at these locations to date
Distribution of larvae	Number of positive sites in 2nd order channels (and greater), downstream of spawning areas	Not less than 50% of sample sites with suitable habitat positive for larval brook/river lamprey	It is not possible to distinguish between larval brook and river lamprey in the field and they are therefore considered together in assessing conservation status. A survey of the Boyne catchment in 2015 recorded n=583 <i>Lampetra</i> spp. larvae from n=102 sites (Gallagher et al., 2016). As stated, the weirs in the lower main stem are a significant impediment to river lamprey passage and, for this reason, these larvae are considered to be mainly, if not all, brook lamprey. To achieve favourable condition <i>Lampetra</i> spp. should, as a minimum, be present in not less than 50% of all sampling sites surveyed with suitable habitat present within the natural range (JNCC, 2015). <i>Lampetra</i> spp. larvae were recorded from 72% of sites indicating a pass for this target. Distribution remained similar to a 2005 survey (O'Connor, 2006) although larvae continued to be absent from the Boycetown and Skane Rivers, as well as the upper reaches of the Kells Blackwater system
Population structure of larvae	Number of age/size classes	At least three age/size classes of larval brook/river lamprey present	The target of at least three age/size classes is based on guidance from JNCC (2015). Larvae typically range from 10-150mm in length and this corresponds to up to six age classes. A broad range of size classes (12-153mm), including young-of-year larvae, was recorded from the 2015 Boyne catchment-wide survey indicating a pass for this target. However, given the issue of artificial barriers on the River Boyne, it is likely that this value pertains to brook lamprey, as previously stated
Larval lamprey density in fine sediment	Larval lamprey/m ²	Mean density of brook/river larval lamprey in sites with suitable habitat more than 5/m ²	A target mean density of more than 5/m ² larvae in sites with suitable habitat is required to achieve favourable condition (JNCC, 2015). In the Boyne survey a mean density of 6/m ² <i>Lampetra</i> spp. larvae (n=583) was obtained. A number of tributaries did not achieve a pass for this target, including the Athboy/Tremblestown, Boycetown, Deel, Skane and Stonyford Rivers. Again, the overall mean density value is most likely indicative of the status of brook lamprey in the Boyne catchment
Extent and distribution of spawning nursery habitat	m ² and occurrence	No decline in extent and distribution of spawning and nursery beds	This target is based on spawning and nursery bed mapping during targeted larval lamprey monitoring surveys. River lamprey spawn in clean gravels in flowing water where they excavate shallow nests. While coarse substrate is required for spawning, the close proximity of nursery areas comprising mainly sand/silt are necessary for the development of larvae. The 2015 Boyne survey recorded adequate spawning and nursery habitat availability within the catchment (Gallagher et al., 2016). However, the sequence of weirs in the lower main channel of the Boyne represents a significant impediment to upstream passage. In addition, this lower section of river is in a degraded hydromorphological state with impounding and, therefore, poor habitat availability for spawning

1106 Salmon *Salmo salar*

To restore the favourable conservation condition of Atlantic Salmon (*Salmo salar*) in River Boyne and River Blackwater SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Distribution: extent of anadromy	Percentage of river accessible	100% of river channels down to second order accessible from estuary	Artificial barriers block salmon's upstream migration, thereby limiting species to lower stretches and restricting access to spawning areas. There are multiple barriers to fish migration in the Boyne system
Adult spawning fish	Number	Conservation limit (CL) for each system consistently exceeded	A conservation limit (CL) is defined by the North Atlantic Salmon Conservation Organisation (NASCO) as "the spawning stock level that produces long-term average maximum sustainable yield as derived from the adult to adult stock and recruitment relationship". The target is based on the Technical Expert Group on Salmon's (TEGOS) annual model output of CL attainment levels. See Gargan et al. (2021) for further details. Stock estimates are either derived from direct counts of adults (rod catch, fish counter) or indirectly by fry abundance counts. The Boyne is significantly below its CL
Salmon fry abundance	Number of fry/5 minutes electrofishing	Maintain or exceed 0+ fry mean catchment-wide abundance threshold value. Currently set at 17 salmon fry/5 minutes sampling	Target is threshold value for rivers currently exceeding their conservation limit (CL)
Out-migrating smolt abundance	Number	No significant decline	Smolt abundance can be negatively affected by a number of impacts such as estuarine pollution, predation and sea lice (<i>Lepeophtheirus salmonis</i>)
Number and distribution of redds	Number and occurrence	No decline in number and distribution of spawning redds due to anthropogenic causes	Salmon spawn in clean gravels. There is restricted habitat for salmon in the Boyne and habitat rehabilitation programmes have been undertaken in sections of the catchment
Water quality	EPA Q value	At least Q4 at all sites sampled by EPA	Q values based on triennial water quality surveys carried out by the Environmental Protection Agency (EPA)

1355 Otter *Lutra lutra*

To maintain the favourable conservation condition of Otter (*Lutra lutra*) in River Boyne and River Blackwater SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Distribution	Percentage positive survey sites	No significant decline	Measure based on standard otter survey technique. Favourable Conservation Status (FCS) target, based on 1980/81 survey findings, is 88% in SACs. Current range is estimated at 93.6% (Reid et al., 2013)
Extent of terrestrial habitat	Hectares	No significant decline. Area mapped and calculated as 447.6ha along river banks/ lake shoreline/around ponds	No field survey. Areas mapped to include 10m terrestrial buffer, identified as critical for otters (NPWS, 2007), along rivers and around water bodies
Extent of freshwater (river) habitat	Kilometres	No significant decline. Length mapped and calculated as 263.3km	No field survey. River length calculated on the basis that otters will utilise freshwater habitats from estuary to headwaters (Chapman and Chapman, 1982)
Extent of freshwater (lake) habitat	Hectares	No significant decline. Area mapped and calculated as 31.6ha	No field survey. Area mapped based on evidence that otters tend to forage within 80m of the shoreline (NPWS, 2007)
Couching sites and holts	Number	No significant decline	Otters need lying up areas throughout their territory where they are secure from disturbance (Kruuk and Moorhouse, 1991; Kruuk, 2006)
Fish biomass available	Kilograms	No significant decline	Broad diet that varies locally and seasonally, but dominated by fish, in particular salmonids, eels and sticklebacks in freshwater (Bailey and Rochford, 2006; Reid et al., 2013)
Barriers to connectivity	Number	No significant increase	Otters will regularly commute across stretches of open water up to 500m, e.g. between the mainland and an island; between two islands; across an estuary (De Jongh and O'Neill, 2010). It is important that such commuting routes are not obstructed

3.3.3. Boyne Estuary SPA [004080]

Generic Conservation Objectives are set by the NPWS (Version 1. 26 February 2013) for the Boyne Estuary SPA (004080) as follows:

To maintain the favourable conservation condition of the [bird species listed] as Special Conservation Interests for the 3.3.3. Boyne Estuary SPA, which is defined by the following targets:

Population trend; Percentage change - Long term population trend stable or increasing.

Distribution; Range, timing and intensity of use of areas - No significant decrease in the range, timing or intensity of use of areas by great northern diver, other than that occurring from natural patterns of variation.

Specific Conservation Objectives are set out for the following species:

A195 Little Tern *Sterna albifrons*

To maintain the favourable conservation condition of Little Tern in Boyne Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Breeding population abundance: apparently occupied nests (AONs)	Number	No significant decline	Measure based on standard tern survey methods (see Walsh et al., 1995). Mitchell et al. (2004) provides summary population information for Louth. The Seabird Monitoring Programme (SMP) also provides background data (JNCC, 2013). In 2010, 43 breeding pairs were recorded at this colony (Reilly, 2010)
Productivity rate: fledged young per breeding pair	Mean number	No significant decline	Measure based on standard tern survey methods (see Walsh et al., 1995). For 2010, an estimated productivity rate of 2.2 fledged birds per breeding pair was reported (Reilly, 2010)
Distribution: breeding colonies	Number; location; area (Hectares)	No significant decline	Little tern nest in well-camouflaged shallow scrapes on sand and shingle beaches, spits or inshore islets (Mitchell et al., 2004). For a description of the area used by the colony in 2010, see Reilly (2010)
Prey biomass available	Kilogrammes	No significant decline	Key prey items: Mainly small, often juvenile, fish; invertebrates, especially crustaceans and insects. Key habitats: Very shallow water, advancing or receding tidelines, brackish lagoons and saltmarsh creeks, sand-banks close to the coast. Foraging range: Max 11km, mean max 6.94km, mean 4.14km (BirdLife International Seabird Database (Birdlife International, 2013))
Barriers to connectivity	Number; location; shape; area (hectares)	No significant increase	Seabird species can make extensive use of the marine waters adjacent to their breeding colonies. Foraging range: Max 11km, mean max 6.94km, mean 4.14km (BirdLife International Seabird Database (Birdlife International, 2013))
Disturbance at the breeding site	Level of impact	Human activities should occur at levels that do not adversely affect the breeding little tern population	Little tern nest in well-camouflaged shallow scrapes on sand and shingle beaches, spits or inshore islets (Mitchell et al., 2004)

A999 Wetlands

To maintain the favourable conservation condition of the wetland habitat in Boyne Estuary SPA as a resource for the regularly-occurring migratory waterbirds that utilise it. This is defined by the following attribute and target:

Attribute	Measure	Target	Notes
Habitat area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 594ha, other than that occurring from natural patterns of variation	The wetland habitat area was estimated as 594ha using OSI data and relevant orthophotographs. For further information see part three of the conservation objectives supporting document

3.4. Consideration of Effects to European Sites

3.4.1. Habitats Directive Annex I Habitats

The Project site is located c. 980 m from the River Boyne and there are no Annexed habitats under the footprint of the Project.

The main channel of the River Boyne upstream at the Oldbridge (Obelisk Br) sampling point returned a Q4 value for the most recent sampling period, 2020, indicating Good water quality status.

A worst-case scenario may arise were the Project results in a significant detrimental change in water quality in the River Boyne either alone or in combination with other projects or plans as a result of pollution. The effect would have to be considered in terms of changes in water quality which would significantly affect the habitats or food sources for which the River Boyne or Boyne Estuary and Coast European Sites species are designated including Estuaries, Mudflats and Sandflats, Salicornia habitats, Salt meadows and Dune Systems.

3.4.2. Birds Directive Annex I Birds

There will be no direct effects on any Annex I Birds Directive Birds roosting or nesting places and so the main concern is with regard to disturbance effects and indirect effects on water quality. Indirect effects in the form of a pollution event could affect mortality or reduce feeding potential.

3.4.3. Habitats Directive Annex II Species

River Lamprey [1099]

There will be no direct effect on Lamprey species and potential effects are indirectly related to water quality and food sources.

Atlantic Salmon [1106]

There will be no direct effect on salmonids and potential effects are indirectly related to water quality and food sources.

Elevated suspended solids may be harmful to salmonids resulting in reduced oxygenation of surface waters due to settlement and the formation of deposits on the riverbed which in turn can give rise to septic and offensive conditions. Elevated suspended solids can clog salmonid gills and potentially cause mortality. Chemical pollution can result in fish mortality.

Otter [1355]

There will be no direct effects on otter holts or resting places. Indirect effects in the form of a pollution event.

3.4.4. Ecological Network Supporting Natura 2000 Sites

A concurrent analysis of the proposed Natural Heritage Areas and designated Natural Heritage Areas in terms of their role in supporting the species using Natura 2000 sites was undertaken. These supporting roles mainly relate to mobile fauna such as mammals and birds which may use pNHAs and NHAs as ecological corridors or “stepping stones” between Natura 2000 sites.

Article 10 of the Habitats Directive places a high degree of importance on such non-Natura 2000 areas as features that connect the Natura 2000 network. Features such as ponds, woodlands and important hedgerows were taken into account during the project design and preparation of the AA screening report and NIS.

There is an indirect pathway via municipal drainage to the River Boyne and downstream to the Boyne Coast and Estuary pNHA. However, it is considered under the higher status as a European site. There are no other areas of supporting habitats that would be affected by the Project.

3.5. Consideration of Effects on European Sites without Mitigation

3.5.1. Direct Effects

There are no annexed habitats located under the footprint of the Project. There will be no direct effects on annexed habitats or species.

In the absence of mitigation measures during operation to control potential pollution of surface water, the potential effect on the downstream aquatic habitats of the Boyne Coast and Estuary SAC (001957); the River Boyne and River Blackwater SAC (002299) and the Boyne Estuary SPA (004080) is uncertain.

3.5.2. Indirect Effects

The potential for adverse effects is considered whereby the Project would result in a significant detrimental change in water quality either alone or in combination with other projects or plans as a result of indirect pollution of surface water. The effect would have to be considered in terms of changes in water quality which would affect the habitats or species for which the on the Boyne Coast and Estuary SAC (001957); the River Boyne and River Blackwater SAC (002299) and the Boyne Estuary SPA (004080) are designated.

Consideration of effects on Surface Water

Any discharge of contaminated surface water either from an event of sustained elevated suspended solids or a chemical pollution could have a negative moderate effect on the immediate receiving environment of the River Boyne.

Any deterioration of water quality from the established Good quality status of the River Boyne and 'At Risk' status⁷ of the Boyne Estuary could potentially have a negative indeterminable effect on either food sources in aquatic habitats or on aquatic based species.

In the absence of mitigation potential indirect negative effects on River lamprey could be negative and indeterminable.

In the absence of mitigation potential indirect negative effects on Salmon could be negative and indeterminable.

A worst-case scenario may be considered where a pollution event would indirectly affect otters of food availability to otters.

Consideration of effects on Annexed Birds

There will be no direct effects on birds of conservation concern and so indirect effects in the form of a pollution event could affect mortality or reduce feeding potential.

3.6. Consideration of Effects on European Sites with Mitigation

The Project site includes new surface water drainage. In accordance with Sustainable Drainage System (SuDS) design principles the new drainage includes attenuation, swales, French drains, permeable

⁷ Transitional Water Quality 2018-2020 IE_EA_010_0100 EPA Maps accessed 9 December 2022

paving, hydrocarbon interceptors and a hydrodynamic solid separator, prior to discharge to the Local Authority surface water drainage network via the IDA surface water drainage system. Prior to the site stormwater network entering the attenuation basin, the stormwater passes through hydrocarbon interceptors, and hydrodynamic solid separator to ensure that the quality of the stormwater discharge is controlled. The fuel unloading bay contains drainage channels that direct stormwaters to the site network via hydrocarbon interceptor.

Mains water is used on site for both domestic purposes (offices and kitchens) and for data hall cooling at ambient temperatures above a set point. No treatment chemicals are added to the cooling water. Prior to the cooling process water is sanitised using ultraviolet disinfection. When water is used for cooling, it is recirculated in a closed loop system.

Cooling water has conductivity values of between 1,200-1,500 $\mu\text{S}/\text{cm}$ and control systems are installed to automatically discharge this cooling water when a conductivity of 1,500 $\mu\text{S}/\text{cm}$ is reached. Cooling water is discharged at ambient temperature. The evaporative cooling water is discharged to storm water network.

The anti-legionella flush cycle drains the supply pipework of stagnant water (automatic control system) when the evaporative cooling system has not been enabled for 7 Days. Once activated, the cycle opens the fill and drain valves simultaneously for 3 minutes. The water flushes through air handling units and to the cooling system drain ultimately discharging to the storm water sewer for all buildings on the campus. The system is gravity drained to ensure no pockets of water remain within the system.

With reference to Technical Note: Stormwater Impact Assessment; Donore Road, Drogheda, Co. Meath prepared by AWN Consulting (included with the IE License as unsolicited information) the Operators Waters Team has estimated that 241 m^3 is the maximum flow that could be expected within a day at peak weather conditions, based on conservative assumptions. The cooling water discharge volume is estimated based on the cooling systems operating at 3 cycles of concentration of the mains water supply, per mains water quality analyses carried out on-site by the Operators Water Team.

In order to assess the impact of the evaporative cooling water discharge from the Installation on the receiving water course (River Boyne), a conservative numerical analysis has been undertaken, based on the existing assimilative capacity of the surface water body⁸. This has been assessed for two hydrological conditions: dry weather (95%ile) and mean condition (50%ile).

The assessment is conservative as considers that all of the evaporative cooling water discharge (at maximum discharge flow) is discharged directly to the River Boyne. In reality, the installation

⁸ AWN Consulting 2023 Technical Note: Stormwater Impact Assessment; Donore Road, Drogheda, Co. Meath. (included with the IE License as unsolicited information)

evaporative cooling water will discharge from the site at SW1 (discharge point) to the existing IDA stormwater network to the east of the Site. The IDA network(s) eventually discharge to the River Boyne (c. 1.0 km hydrologically downgradient).

The parameters assessed in the assimilative capacity study were based on available EPA water quality data (for the closest monitoring stations which was located 2 km upgradient of the stormwater discharge point) which is used to determine the water body status as well as the characteristics of the evaporative cooling water discharge.

The effect of the evaporative cooling water discharge is considered to be temporary and not significant (i.e., an effect which causes noticeable changes in the character of the environment but without noticeable consequences) in terms of assimilative capacity of the river. The evaporative cooling water discharge will not result in exceedances in the statutory threshold values (as set out in Table 2.2 of the Technical Note: Stormwater Impact Assessment) for the parameters (chloride, alkalinity) in the River Boyne. The assimilative capacity of the River Boyne is sufficient to ensure that exceedances of these parameters do not occur under dry weather and mean flow conditions.

For the water quality parameters of interest, based on the objectives for achieving good status in the river (Ammonia, Orthophosphate as P and BOD), the evaporative cooling water discharge will provide dilution and as a result slightly increases the assimilative capacity in the River Boyne; the resultant capacity is adequate to achieve/ maintain the current 'Good' status of the river. It should be noted that the River Boyne currently does have existing assimilative capacity for these parameters (i.e., Ammonia as N, BOD and Orthophosphate as P) and is already at good status.

In conclusion, based on the above assessment, the discharge of evaporative cooling water from the Installation is not anticipated to have a noticeable impact on the River Boyne.

The successful employment of these industry standard features under and Industrial Emissions Licence removes the potential for effects on the European sites considered in this assessment.

3.7. Assessment of In-Combination Effects

The EU Commission services' interpretation document 'Managing Natura 2000 sites', makes clear that the phrase 'in combination with other plans or projects' in Article 3(3) refers to cumulative effects caused by the projects or plans that are currently under consideration together with the effects of any existing or Projects or plans. When impacts are assessed in combination in this way, it can be established whether or not there may be, overall, an impact which may have significant effects on a Natura 2000 site or which may adversely affect the integrity of a site.

As part of the AA, in addition to the proposed works, other relevant projects and plans in the region must also be considered at this stage. This step aims to identify at this early stage any possible

significant in-combination or cumulative effects / impacts of the Project with other such plans and projects on European sites.

A review of the National Planning Application Database was undertaken. The database was queried for developments granted planning permission within 200m of the Project within the last three years, these sites were then reviewed for relevant developments in the vicinity of the Project where it is located within the environs of European sites, see Table 3.

Table 3 Planning applications granted permission in the vicinity of the Project.

Planning Ref.	Description of development	Comments
19237	Permission to construct a single storey 24m ² extension to the east of the dwelling, to demolish a section of the existing dining room wall and to create a 1550mm opening into the proposed 20m ² family room with a 4m ² WC and utility room.	No potential for in-combination effects given the employment of onsite surface water management measures.
19362	Permission for new single storey extension (44sqm) to side of existing motor showroom at existing premises.	No potential for in-combination effects given the employment of onsite surface water management measures.
19680	Retention permission sought for detached domestic garage to rear of dwelling and all associated site works.	No potential for in-combination effects given the employment of onsite surface water management measures.
19724	Retention & Permission for development on a site of approximately 0.3549 hectares, which currently accommodates a Maxol Service Station, and unit 9 (a garden centre).	No potential for in-combination effects given the employment of onsite surface water management measures.
19741	Retention permission sought for detached playroom located to the rear of existing dwelling and all associated site works.	No potential for in-combination effects given the employment of onsite surface water management measures.
2041	Permission for a porch and ramp to front of existing dwelling	No potential for in-combination effects given the employment of onsite surface water management measures.
20460	Permission for development that consists of the internal modification to existing offices, waiting area, toilets and canteen and construction of new waiting/reception area, toilets, store, at ground floor level and new first floor mezzanine extension	No potential for in-combination effects given the employment of onsite surface water management measures.
20954	Permission for development to consist of the change of use from a butcher shop to a worship centre/community centre and include internal/external alterations to same, and for the partial demolition of the building and the construction of an extension	No potential for in-combination effects given the employment of onsite surface water management measures.
201066	Permission for a new 2 storey extension to the side of the existing 2 storey dwelling house and associated site works	No potential for in-combination effects given the employment of onsite surface water management measures.
201165	Permission for 28 residential units at 3 stories consisting of 14 no. 3 bed duplex units over 14 no. 2 bed ground floor apartments.	No potential for in-combination effects given the employment of onsite surface water management measures.
211057	Permission for development that will consist of the vertical sub-division of the property and change of use of the ground floor to a warehouse with ancillary trade counters (for the sale of building related products principally to trade).	No potential for in-combination effects given the employment of onsite surface water management measures.
211112	Permission for a single storey extension to the rear of the property to give a larger kitchen/living/dining area at ground floor. The roof	No potential for in-combination effects given the employment

Planning Ref.	Description of development	Comments
	of the proposed extension is proposed as SUDS sedum roof finish, thus creating no additional rain run-off.	of onsite surface water management measures.
211113	Permission for a two storey extension to the rear of the property to give a larger kitchen/living/dining area at ground floor and a larger master bedroom with dressing room and en-suite at first floor.	No potential for in-combination effects given the employment of onsite surface water management measures.

Given the inclusion of Surface Water Management, the Project will have no significant effects on European sites, therefore in-combination effects can be ruled out.

4. Natura Impact Statement & Conclusion

This NIS has reviewed the predicted effects arising from the Project and found that with the implementation of management measures specifically with regard to surface water during the operation of the permitted facility under an Industrial Emissions Licence, significant effects on the Boyne Coast and Estuary SAC (001957); the River Boyne and River Blackwater SAC (002299) and the Boyne Estuary SPA (004080) can be ruled out.

It is the conclusion of this NIS, on the basis of the best scientific knowledge available, and subject to the implementation of the mitigation measures set out under Section 3.6, that the possibility of any adverse effects on the integrity of the European Sites considered in this NIS, or on the integrity of any other European Site (having regard to their conservation objectives), arising from the Project, either alone or in combination with other plans or projects, can be excluded beyond a reasonable scientific doubt.

A final determination will be made by the competent authority in this regard.

5. References

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