

Report in Support of Appropriate
Assessment (AA) Screening & Natura
Impact Statement (NIS)

Proposed Residential Development,
Former St. Ann's Hydropathic Establishment,
St. Ann's Hill,
Kilnamucky, Tower,
Blarney, Cork

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Project	Report in Support of Appropriate Assessment (AA) Screening & Natura Impact Statement (NIS) for Proposed Residential Development, Former St. Ann's Hydropathic Establishment, St. Ann's Hill, Kilnamucky, Tower, Blarney, Cork	
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1. Introduction

1.1 Background

The information in this report has been compiled by DixonBrosnan Environmental Consultants, on behalf of the applicant. It provides information on and assesses the potential for a proposed development Former St. Ann's Hydropathic Establishment, St. Ann's Hill, Kilnamucky, Tower, Blarney, Cork, to impact on any Natura 2000 sites within its zone of influence. The information in this report forms part of and should be read in conjunction with the planning application documentation being submitted to the planning authority in connection with the proposed development.

The Birds Directive (2009/147/EC) and the Habitats Directive (92/42/EEC) put an obligation on EU Member States to establish the Natura 2000 network of sites of highest biodiversity importance for rare and threatened habitats and species across the EU. In Ireland, the Natura 2000 network of European sites comprises Special Areas of Conservation (SACs, including candidate SACs) and Special Protection Areas (SPAs, including proposed SPAs). SACs are selected for the conservation of Annex I habitats (including priority types which are in danger of disappearance) and Annex II species (other than birds). SPAs are selected for the conservation of Annex I birds and other regularly occurring migratory birds and their habitats. The annexed habitats and species for which each site is selected correspond to the qualifying interests of the sites and from these the conservation objectives of the site are derived. The Birds and Habitats Directives set out various procedures and obligations in relation to nature conservation management in Member States in general, and of the Natura 2000 sites and their habitats and species in particular. A key protection mechanism is the requirement to consider the possible nature conservation implications of any plan or project on the Natura 2000 site network before any decision is made to allow that plan or project to proceed. Not only is every new plan or project captured by this requirement but each plan or project, when being considered for approval at any stage, must take into consideration the possible effects it may have in combination with other plans and projects when going through the process known as Appropriate Assessment (AA).

The obligation to undertake Appropriate Assessment (AA) derives from Article 6(3) and 6(4) of the Habitats Directive, and both involve a number of steps and tests that need to be applied in sequential order. Article 6(3) is concerned with the strict protection of sites, while Article 6(4) is the procedure for allowing derogation from this strict protection in certain restricted circumstances. As set out in Section 177U of the Planning and Development Act 2000 as amended, a screening for appropriate assessment of an application for consent for the proposed development must be carried out by the competent authority to assess, in view of best scientific knowledge, if the proposed development, individually or in combination with another plan or project is likely to have a significant effect on any European site. Each step in the assessment process precedes and provides a basis for other steps. The results at each step must be documented and recorded carefully so there is full traceability and transparency of the decisions made.

1.2 Aim of Report

The purpose of this report is to inform the AA process as required under the Habitats Directive (92/43/EEC) in instances where a plan or project may give rise to significant impacts on a

Natura 2000 site. This report aims to inform the Appropriate Assessment process in determining whether the development, both alone and in combination with other plans or projects, are likely to have a significant impact on the Natura 2000 sites in the study area, in the context of their conservation objectives and specifically on the habitats and species for which the sites have been designated.

- *Managing Natura 2000 Sites: The Provision of Article 6 of the Habitats Directive 92/43/EEC* (European Commission (EC), 2018);
- *Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodical Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (European Commission (EC), 2001);
- *Guidance Document on Article 6(4) of the Habitats Directive 92/43/EEC* (European Commission, (EC) 2007);
- *Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities* (Department of Environment, Heritage and Local Government, 2010 revision);
- *Appropriate Assessment under Article 6 of the Habitats Directive; Guidance for Planning Authorities. Circular NPW 1/10 and PSSP 2/10* (Department of Environment, Heritage and Local Government, 2010);
- *Guidelines for Good Practice Appropriate Assessment of Plans under Article 6(3) Habitats Directive* (International Workshop on Assessment of Plans under the Habitats Directive, 2011);
- *Commission notice Guidance document on wind energy developments and EU nature legislation*, (EC 2020);
- *Communication from the Commission on the precautionary principle. European Commission* (2000)
- *Assessment of plans & projects in relation to N2K sites – Methodological Guidance* (EC 2021);
- *Guidance document on the strict protection of animal species of Community interest under the Habitats Directive* (EC 2021).

1.3 Authors of Report

This report was prepared by Sorchá Sheehy PhD (Ecology/ornithology) and Carl Dixon MSc (Ecological Monitoring).

Sorchá Sheehy PhD (ecology/ornithology) is an ecologist and ornithologist who has worked for 15 years in environmental consultancy. She has worked on Screening/NISs for a range of small and large-scale projects with expertise in assessing impacts on birds.

Sorchá's PhD research focused on bird behaviour at airports, where she studied bird avoidance behaviour and collision risk to aircraft. Her research involved field observations,

post-mortem analysis and radar surveys. Sorcha has worked on bird collision risk assessments at airports throughout Ireland including Dublin airport, Cork airport, Shannon airport and Kerry airport.

During her consultancy work Sorcha carried out field-based surveys and environmental reports including NIS, AA screening and EIARs. Notable projects include the Arklow Bank Wind Park, Indaver Ireland Waste Management Facility at Ringaskiddy, Irving Oil Whitegate Refinery (IOWR), Shannon LNG and Greenlink Interconnector.

Carl Dixon holds an Honours Degree (BSc) in Ecology and a Masters (MSc) in Ecological Monitoring from UCC. He is a senior ecologist who has over 25 years' experience in ecological assessment. Prior to setting up DixonBrosnan Environmental Consultants in 2000, Carl set up and ran Core Environmental Services which included REPS planning for landowners and ecological assessments.

Carl has particular experience in freshwater ecology including electrofishing fish stock assessments and water quality assessments. He also has considerable experience in habitat mapping and mammal ecology including survey work and reporting in relation to badgers and bats. Other competencies include surveys for invasive species and bird surveys.

Carl has extensive experience with regards to EIAR and NIS mitigation and impact assessment. He has particular experience in large-scale industrial developments with extensive experience in complex assessments as part of multi-disciplinary teams. Such projects include gas pipelines, incinerators, electrical cable routes, oil refineries and quarries.

2. Regulatory Context and Appropriate Assessment Procedure

2.1 Regulatory Context

The Habitats Directive (Council Directive 92/43/EEC on the *Conservation of Natural Habitats and of Wild Fauna and Flora*) aims to maintain or restore the favourable conservation status of habitats and species of community interest across Europe. The requirements of these directives are transposed into Irish law through the European Communities (Birds and Natural Habitats Regulations; S.I. No. 477 of 2011).

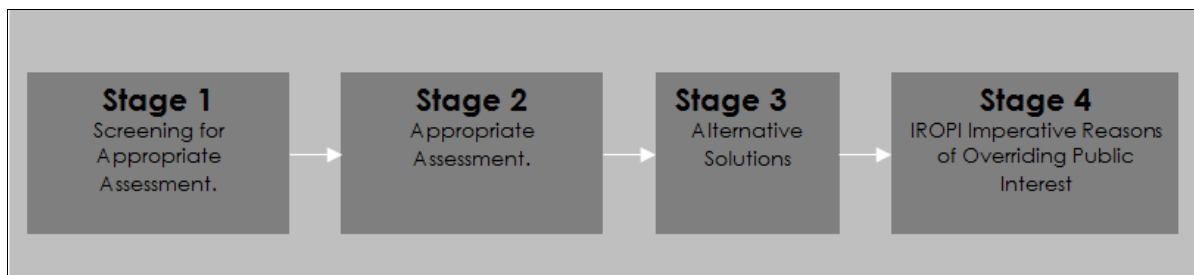
Under the Directive a network of sites of nature conservation importance have been identified by each Member State as containing specified habitats or species requiring to be maintained or returned to favourable conservation status. In Ireland the network consists of SACs and SPAs, and also candidate sites, which form the Natura 2000 network.

Article 6(3) of Council Directive 92/43/EEC of 21 May 1992 on the *Conservation of Natural Habitats and of Wild Fauna and Flora* (as amended) (hereafter 'the Habitats Directive') requires that, any plan or project not directly connected with or necessary to the management of a designated site, but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. A competent authority (e.g. the EPA or Local Authority) can only agree to a plan or project after having determined that it will not adversely affect the integrity of the site concerned.

The possibility of a significant effect on a designated or “European” site has generated the need for an appropriate assessment to be carried out by the competent authority for the purposes of Article 6(3). A Stage Two Appropriate Assessment is required if it cannot be excluded, on the basis of objective information, that the proposed development, individually or in combination with other plans or projects, will have a significant effect on a European site. The first (Screening) Stage for appropriate assessment operates merely to determine whether a (Stage Two) Appropriate Assessment must be undertaken on the implications of the plan or project for the conservation objectives of relevant European sites.

2.2 Appropriate Assessment Procedure

The assessment requirements of Article 6(3) establish a stage-by-stage approach. This assessment follows the stages outlined in the 2001 European Commission publications “Assessment of plans and projects significantly affecting Natura 2000 sites: methodological guidance on the provisions of Articles 6(3) and 6(4) of the Habitats Directive 92/43/EEC” (2001) and Managing Natura 2000 Sites: the provisions of Article 6 of the ‘Habitats’ Directive 92/43/EEC (Draft) Office for Official Publications of the European Communities, Luxembourg (EC, 2015);



The stages are as follows:

Stage One: Screening — the process which identifies any appreciable impacts upon a Natura 2000 site of a project or plan, either alone or in combination with other projects or plans, and considers whether these impacts are likely to be significant;

Stage Two: Appropriate assessment — the consideration of the impact on the integrity of the Natura 2000 site of the project or plan, 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 adverse impacts, an assessment of the potential mitigation of those impacts;

Stage Three: Assessment of alternative solutions: The process which examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the Natura 2000 site. It is confirmed that no reliance is placed by the developer on Stage Three in the context of this application for development consent;

Stage Four: Assessment where no alternative solutions exist and where adverse impacts remain — an assessment of compensatory measures where, in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the project or plan should proceed (it is important to note that this guidance does not deal with the assessment of imperative reasons of overriding public interest). Again, for the avoidance of doubt, it is

confirmed that no reliance is placed by the developer on Stage Four in the context of this application for development consent.

It is the responsibility of the competent authority to make a decision on whether or not the proposed development should be approved, taking into consideration any potential impact upon any Natura 2000 site within its zone of influence.

3. Receiving Environment

3.1 Existing site

The proposed development site at Tower, Blarney, Co. Cork is located approximately 12km northwest of Cork City centre and is accessed via the regional route R617 to the south (**Figure 1**). The site formerly held the St. Ann's Hydropathic Establishment and remains of the old hydropathic facility and associated out-buildings remain on site. The facility, built in 1843 and closed in 1952, today it comprises of the severely degraded ruins of the former hydro baths, estate and parkland.

The residential areas associated with Tower village are located to the south of the site. Lands to the north of the site are largely rural and agricultural. The River Shournagh runs along the eastern boundary of the site. A permitted development (for 5 houses) is currently under construction at the southeast of the site.

Natural ground levels within the site range from 29.06mOD along the south-eastern quadrant of the site to 74.5mOD along the north-western quadrant.

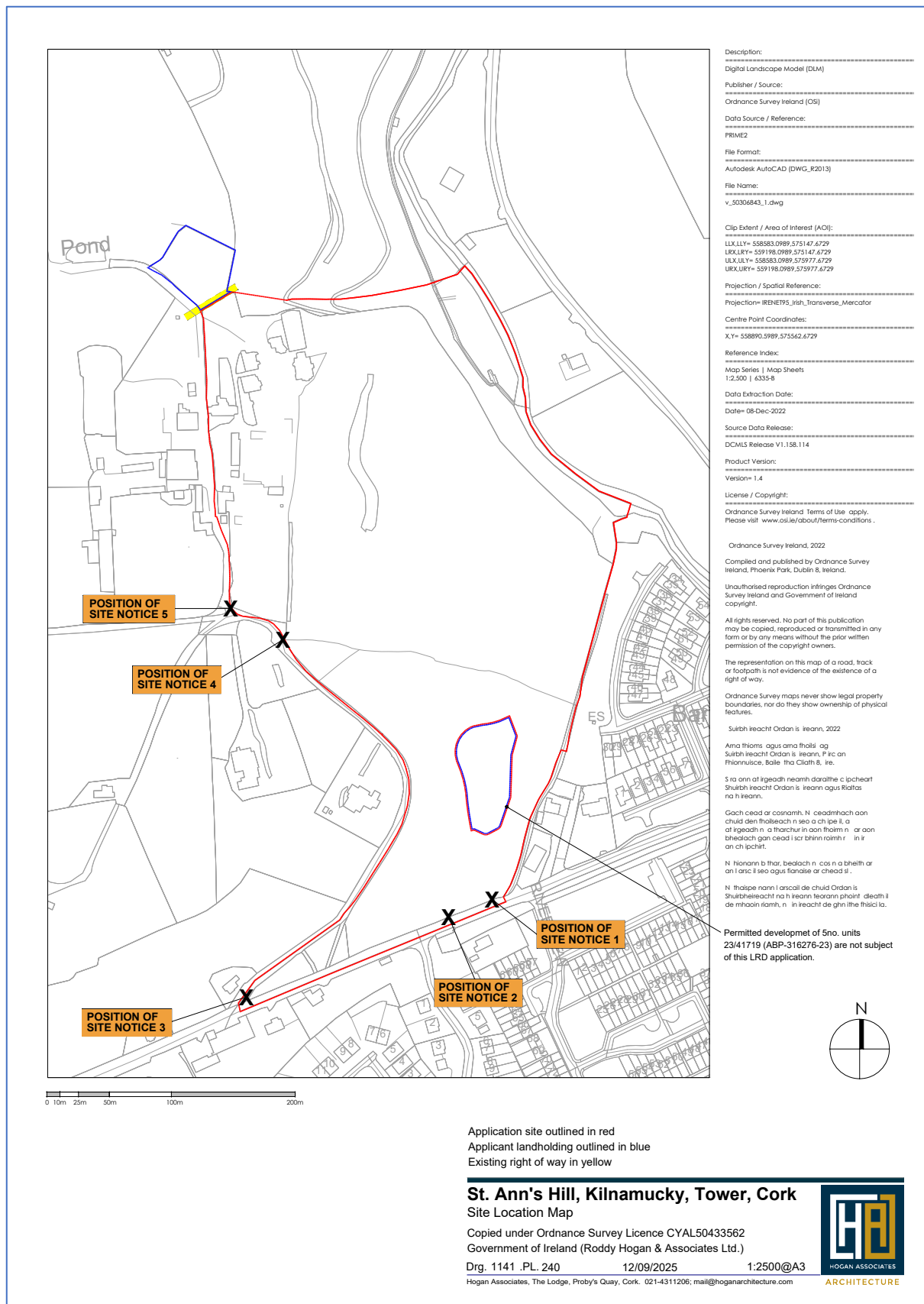


Figure 1. Site location | Source Horgan Lynch



Figure 2. Site layout | Source Horgan Lynch 3.2 Proposed Development

3.2. Proposed Development

OMD(C) Ltd. intend to apply for a Planning Permission for a Large-Scale Residential Development (LRD) of 100 no. residential units comprising 63 no. dwelling houses, 23 no. apartment units and 14 no. apartment/duplex units, a creche facility and all ancillary site development works at lands associated with the Former St. Ann's Hydropathic Establishment, St. Ann's Hill, Kilnamucky, Tower, Blarney, Cork.

The proposed development consists of

- a. The partial demolition, conservation and refurbishment of the remains of the former St. Ann's Hydropathic Establishment which is a Protected Structure (Reference PS1168), to facilitate integration into a proposed two storey apartment building containing 16 no. apartment units (8 no. 1 bedroom and 8 no. 2 bedroom) and an adjacent two storey mixed-use building, providing a creche at ground floor and 2 no. 2 bedroom apartments at first floor.
- b. The partial demolition, conservation and refurbishment of the remains of former stable buildings to facilitate integration into 6 no. terrace units (1 no. 4 bedroom, 3 no. 3 bedroom and 2 no. 2 bedroom).
- c. The refurbishment and change of use of a former Coach House to 1 no. 3 bedroom detached dwelling house.
- d. The construction of a two storey apartment building accommodating 5 no. apartment units (2 no. 2 bedroom and 3 no. 1 bedroom)
- e. The construction of a 2-3 storey apartment/duplex building accommodating 14 no. units (7 no. 2 bedroom and 7 no. 1 bedroom).
- f. The proposed development also provides for the construction of an additional 56 no. detached, semi-detached and terraced dwelling houses comprising 15 no. 4 bedroom, 17 no. 3 bedroom and 24 no. 2 bedroom units.
- g. The proposed development also includes the restoration of the former Clock Tower structure and parkland which served the former St. Ann's Hydropathic Establishment.
- h. Access to the proposed development will be provided via an existing vehicular entrance and internal road from the R617 permitted by Cork County Council Planning Reference 18/7111 (An Bord Pleanála Reference 305373-19) as amended by Cork City Council Planning Reference 23/41719 (An Bord Pleanála Reference 316276-23).
- i. Ancillary site development works include the provision of bicycle and bin storage facilities.

An overview of the proposed development site layout is shown in **Figure 2**.

3.3 Surface water

There is an existing surface water network flowing in a north-easterly direction along the R617 south of the site. This is currently situated adjacent to the proposed site entrance of the

proposed development. No existing services were identified on the proposed development site.

The main hydrological features adjacent to the proposed development are the River Shournagh and a drainage ditch situated along the eastern boundary of the site location (see drainage ditch FW4 in **Section 4.9.1**). A drainage ditch flows through the proposed development in an easterly direction towards its confluence with the drainage ditch. Flows from this drainage ditch downstream via culverts and ultimately discharges into the River Shournagh south of Blarney Wastewater Treatment Plant.

Three ultimate discharge locations have been identified within the proposed development site. These locations are identified along the existing unnamed natural streams i.e. through the centre of the site and along the eastern boundary. A portion of surface water runoff generated from hardstanding locations will be percolated to ground via SuDs prior to attenuation and ultimate discharge. Three attenuation tanks have been design to limit runoff to Q1-year runoff rate. These are situated in low-lying areas adjacent to existing watercourse. Total attenuation storage of 1231m³ is provided.

The total developable site area (redline boundary) has been calculated as 1.498 Hectares. The greenfield runoff rate has been estimated initially using the HR Wallingford Greenfield estimation tool. The online tool calculated a Qbar of 5.08l/s. In addition, this value was also verified by calculating greenfield runoff rate using 'the institute of Hydrology in their report 124 "Flood estimation for small catchments"'.

Surface water layouts are included in **Appendix 2**.

3.4 Foul Drainage

The following is the proposed strategy for the discharge of foul effluent, generated by the proposed development, comprising 100 No. dwellinghouses and creche. The foul sewer network shall be collected by means of 150mm and 225mm diameter foul sewer system, laid to falls as indicated on attached Wastewater Services Layout Plan. The system will discharge to the existing network servicing permitted 5 No. dwellings, to the South of the proposed development.

A pre-connection enquiry was initially submitted to Uisce Éireann in 2022 by KJBA, Consulting Engineers and Uisce Éireann responded on the 31st January 2023, confirming feasibility of connection (150 No. units), subject to valid connection agreement and completion of foul sewer extension and infrastructure upgrade (extension of network by approximately 40m from the site entrance East to the existing manhole on the R617 Road).

Following submission of detailed design statement and wastewater layout in respect of Connection Application for permitted 5 No. dwellings: Phase 1 development, Uisce Éireann issued Self Lay Agreement for wastewater connection on the 30th June 2023. The proposed wastewater network upgrade therefore (as directed by Uisce Éireann) shall be completed as part of the initial Phase 1 Development, comprising 5 No. dwellings.

A further pre-connection enquiry was submitted to Uisce Éireann, in respect of Phase 2 Development and Irish Waster responded on 20th May 2025, confirming feasibility subject to upgrades as follows:

• *Proposed connection is via Phase 1 of the development (5 No. domestic units) adjacent to R617.* • *All relevant wastewater infrastructure within the Phase 1 must be completed, of adequate capacity and integrity to cater for the additional load, connected to the Uisce Éireann Network and in operation before the connection.*

All foul sewer drainage has been designed in accordance with “Recommendations for Site Development Works for Housing Areas” and Uisce Éireann: “Code of Practice for Water Infrastructure”.

Foul water layouts are included in **Appendix 2**.

4. Stage 1 – Screening for Appropriate Assessment

4.1 Introduction

This section contains the information required for the competent authority to undertake screening for AA for the proposed development.

The aims of this section are to:

- Determine whether the proposed development is directly connected with, or necessary to, the conservation management of any Natura 2000 Sites;
- Provide information on, and assess the potential for the proposed development to significantly effect on Natura 2000 Sites (also known as European sites); and
- Determine whether the proposed development, alone or in combination with other projects, is likely to have significant effects on Natura 2000 sites in view of their conservation objectives.

The proposed development is not directly connected with, or necessary to the conservation management of any Natura 2000 sites.

4.2 Zone of Influence

The Zone of Influence (Zoi) comprises the area within which the proposed development may potentially affect the conservation objectives or qualifying interests (QI) of a Natura 2000 site. There is no recommended zone of influence, and guidance from the National Parks and Wildlife Service (NPWS) and CIEEM (2018) recommends that the distance should be evaluated on a case-by- case basis with reference to the nature, size and location of the project, the sensitivities of the ecological receptors, and the potential for in-combination effects (cumulative).

In ecological and environmental impact assessment, for an effect to occur there must be a risk enabled by having a source (e.g. construction works at a proposed development site), a ‘receptor’ (e.g. SAC or other ecologically sensitive feature), and a pathway between the source and the receptor (e.g. a watercourse which connects the proposed development site to the SAC). A ‘receptor’ is defined as the Special Conservation Interest (SCI) of SPAs or Qualifying Interest (QI) of SACs for which conservation objectives have been set for the European sites being screened.

Consideration is therefore given to the source-pathway-receptor linkage and associated risks between the proposed development and Natura 2000 sites. For a significant effect to occur there needs to be an identified risk whereby a source (e.g. contaminant or pollutant arising from construction activities) affects a particular receptor (i.e. Natura 2000 site) through a particular pathway (e.g. a watercourse which connects the proposed development with the Natura 2000 site).

The identification of risk does not automatically mean that an effect will occur, nor that it will be significant. The identification of these risks means that there is a possibility of environmental or ecological damage occurring. The level and significance of the effect depends upon the nature of the consequence, likelihood of the risk and characteristics of the receptor.

The precautionary principle is applied for the purposes of screening to ensure that consideration and pre-emptive action is undertaken where there is a lack of scientific evidence. It is noted that mitigation measures are not taken into account in the AA screening assessment process.

4.3 Field Study

Site surveys were carried out on the 16th and 17th of September 2023 and on the 10th of June, 24th of June, 27th of August, 11th of September and 12th of September 2025 to identify the habitats, flora and fauna present at the site. The surveys assessed the potential for all Qualifying Interests (QIs)/ Special Conservation Interests (SCIs) of European sites and third schedule invasive species to occur within the proposed site.

4.4 Source-Pathway-Receptor Model

The likely effects of the proposed development on any European site has been assessed using a source-pathway-receptor model, where:

- A 'source' is defined as the individual element of the proposed works that has the potential to impact on a European site, its qualifying features and its conservation objectives.
- A 'pathway' is defined as the means or route by which a source can affect the ecological receptor.
- A 'receptor' is defined as the SCI of SPAs or QI of SACs for which conservation objectives have been set for the European sites being screened.

A source-pathway-receptor model is a standard tool used in environmental assessment. In order for an effect to be likely, all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism results in no likelihood for the effect to occur. The source-pathway-receptor model was used to identify a list of European sites, and their QIs/SCIs, with potential links to European sites. These are termed as 'relevant' European sites/QIs/SCIs throughout this report.

4.5 Likely Significant Effect

The threshold for a Likely Significant Effect (LSE) is treated in the screening exercise as being above a de minimis level. The opinion of the Advocate General in CJEU case C-258/11 outlines:

“the requirement that the effect in question be ‘significant’ exists in order to lay down a de minimis threshold. Plans or projects that have no appreciable effect on a European site are thereby excluded.

If all plans or projects capable of having any effect whatsoever on the site were to be caught by Article 6(3), activities on or near the site would risk being impossible by reason of legislative overkill.”

In this report, therefore, ‘relevant’ European sites are those within the potential Zol of activities associated with the construction and operation of the proposed development, where LSE pathways to European sites were identified through the source-pathway-receptor model.

4.6 Screening Process

The Screening for Appropriate Assessment will incorporate the following steps:

Definition of the zone of influence for the proposed works;

- Identification of the European sites that are situated (in their entirety or partially or downstream) within the zone of influence of the proposed works;
- Identification of the most up-to-date QIs and SCIs for each European site within the zone of influence;
- Identification of the environmental conditions that maintain the QIs/SCIs at the desired target of Favourable Conservation Status;
- Identification of the threats/impacts – actual or potential that could negatively impact the environmental conditions of the QIs/SCIs within the European sites;
- Highlighting the activities of the proposed works that could give rise to significant negative impacts; and
- Identification of other plans or projects, for which in-combination impacts would likely have significant effects.

4.7 Desktop Review

A desktop review facilitates the identification of the baseline ecological conditions and key ecological issues relating to Natura 2000 sites and facilitates an evaluation assessment of potential in-combination impacts. Sources of information used for this report include reports prepared for the Tower/Blarney area and information from statutory and non-statutory bodies. The following sources of information and relevant documentation were utilised:

- National Parks & Wildlife Service (NPWS) - www.npws.ie
- Environmental Protection Agency (EPA) – www.epa.ie
- National Biodiversity Data Centre (NBDC) – www.biodiversityireland.ie
- Cork City Heritage and Biodiversity Plan (2021-2026);
- Cork City Development Plan 2022-2028 (Cork City Council 2022);
- Birdwatch Ireland - <http://www.birdwatchireland.ie/>
- Invasive Species Ireland - <http://www.invasivespeciesireland.com/>

- *Best Practice Guidance for Habitat Survey and Mapping* (Heritage Council, 2011)
- *Guidelines for Assessment of Ecological Impacts of National Road Schemes* (National Roads Authority, 2009)
- *Environmental Impact Assessment of Projects Guidance on the preparation of the Environmental Impact Assessment Report (Directive 2011/92/EU as amended by 2014/52/EU)* European Union, 2017
- Blarney D0043-01 Wastewater Treatment Plant (WWTP) Annual Environmental Report 2024 (EPA 2025).

4.8. Natura 2000 Sites

4.8.1 Designated sites within Zone of Influence

In accordance with the European Commission Methodological Guidance (EC 2018), a list of Natura 2000 sites that can be potentially affected by the proposed development has been compiled. All SACs, candidate SAC's (cSAC) and SPAs sites within the zone of influence of the proposed development have been identified in **Table 1** and shown in **Figure 3**.

The River Shournagh runs along the eastern boundary of the proposed development site. There are a number of drainage ditches which traverse the site which ultimately discharge to the River Shournagh. During operation, the proposed surface water drainage network will discharge the Shournagh via the onsite drainage ditches. The River Shournagh meets the Cork Harbour SPA c.19.7km downstream. Therefore, although unlikely, surface water run-off/discharges during the construction or operational phases could potentially flow into the Cork Harbour SPA via the River Shournagh.

Wastewater from the site will ultimately discharge into River Shournagh via the Blarney Wastewater treatment plant (WWTP) approximately 18.4km upstream of Cork Harbour SPA. This could potentially impact on water quality within the Cork Harbour SPA.

Although unlikely given the distance involved, surface water run-off/discharges during the construction or operational phases as well as wastewater discharges from the proposed development could potentially impact on Cork Harbour SPA via the River Shournagh. Habitats within or near the proposed development area could also potentially provide ex-situ foraging grounds for SCI species outside the Cork Harbour SPA.

Therefore, a source-pathway-receptor link has been identified between the source (proposed development) and the receptor (Cork Harbour SPA) via a potential pathway (surface water runoff/discharges during construction and operation, loss of ex situ habitat, wastewater discharges and the spread of invasive species). Further information on the Cork Harbour SPA is provided below and a full site synopsis included **Appendix 1**.

Given the distances involved and/or the lack of significant hydrological connection, no potential pathway for impact has been identified between the proposed development and any other European site.

Table 1. European sites and their location relative to the proposed development site

European sites name and code	Distance from site boundary (at closest point) and potential source-pathway-receptor link	Qualifying interests (QI)/ Special Conservation Interests (SCI)
Special Protection Area (SPA)		
Cork Harbour SPA (site code 004030)	12.1km southeast (19.7km downstream). The River Shournagh run along the eastern boundary of the proposed development site. There are a number of drainage ditches which traverse the site which ultimately discharge to the River Shournagh. During operation, the proposed surface water drainage network will discharge the Shournagh via the onsite drainage ditches. The River Shournagh meets the Cork Harbour SPA c.19.7km downstream. Therefore, although unlikely, surface water run-off/discharges during the construction or operational phases could potentially flow into the Cork Harbour SPA via the River Shournagh. Wastewater from the site will ultimately discharge into River Shournagh via the Blarney Wastewater treatment plant (WWTP) approximately 18.4km upstream of Cork Harbour SPA. This could potentially impact on water quality within the Cork Harbour SPA. Although unlikely given the distance involved, surface water run-off/discharges during the construction or operational phases as well as wastewater discharges from the proposed development could potentially impact on Cork Harbour SPA via the River Shournagh. Habitats within or near the proposed development area could also potentially provide ex-situ foraging grounds for SCI species outside the Cork Harbour SPA.	Birds A193 Common Tern (<i>Sterna hirundo</i>) A028 Grey Heron (<i>Ardea cinerea</i>) A130 Oystercatcher (<i>Haematopus ostralegus</i>) A140 Golden Plover (<i>Pluvialis apricaria</i>) A157 Bar-tailed Godwit (<i>Limosa lapponica</i>) A056 Shoveler (<i>Anas clypeata</i>) A156 Black-tailed Godwit (<i>Limosa limosa</i>) A052 Teal (<i>Anas crecca</i>) A183 Lesser Black-backed Gull (<i>Larus fuscus</i>) A054 Pintail (<i>Anas acuta</i>) A149 Dunlin (<i>Calidris alpina</i>) A017 Cormorant (<i>Phalacrocorax carbo</i>) A162 Redshank (<i>Tringa totanus</i>) A004 Little Grebe (<i>Tachybaptus ruficollis</i>) A050 Wigeon (<i>Anas penelope</i>) A160 Curlew (<i>Numenius arquata</i>) A005 Great Crested Grebe (<i>Podiceps cristatus</i>) A069 Red-breasted Merganser (<i>Mergus serrator</i>) A048 Shelduck (<i>Tadorna tadorna</i>) A142 Lapwing (<i>Vanellus vanellus</i>) A179 Black-headed Gull (<i>Chroicocephalus ridibundus</i>) A182 Common Gull (<i>Larus canus</i>)

European sites name and code	Distance from site boundary (at closest point) and potential source-pathway-receptor link	Qualifying interests (QI)/ Special Conservation Interests (SCI)
		A141 Grey Plover (<i>Pluvialis squatarola</i>) Habitats Wetlands
Special Area of Conservation (SAC)		
Blackwater River (Cork/Waterford) SAC	14.6km north. No hydrological or other pathway	Habitats 1130 Estuaries 1140 Mudflats and sandflats not covered by seawater at low tide 1220 Perennial vegetation of stony banks 1310 Salicornia and other annuals colonising mud and sand 1330 Atlantic salt meadows (<i>Glaucopuccinellietalia maritima</i>) 1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>) 3260 Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachium</i> vegetation 91A0 Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles 91E0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae)* Species 1029 Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>) 1092 White-clawed Crayfish (<i>Austropotamobius pallipes</i>) 1095 Sea Lamprey (<i>Petromyzon marinus</i>) 1096 Brook Lamprey (<i>Lampetra planeri</i>) 1099 River Lamprey (<i>Lampetra fluviatilis</i>) 1103 Twait Shad (<i>Alosa fallax fallax</i>) 1106 Salmon (<i>Salmo salar</i>) 1355 Otter (<i>Lutra lutra</i>) 1421 Killarney Fern (<i>Trichomanes speciosum</i>)



Figure 3. European sites within zone of influence of the proposed development site | Source EPA Envision Mapping | Not to scale

4.8.2 Cork Harbour SPA (site code 004030) Site Synopses

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

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Little Grebe, Great Crested Grebe, Cormorant, Grey Heron, Shelduck, Wigeon, Teal, Mallard, Pintail, Shoveler, Redbreasted Merganser, Oystercatcher, Golden Plover, Grey Plover, Lapwing, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew, Redshank, Greenshank, Blackheaded Gull, Common Gull, Lesser Black-backed Gull and Common Tern. The site is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

Cork Harbour has a nationally important breeding colony of Common Tern (102 pairs in 1995). The birds have nested in Cork Harbour since about 1970, and since 1983 on various artificial structures, notably derelict steel barges and the roof of a Martello Tower. The birds are monitored annually and the chicks are ringed.

A full site synopsis for the Cork Harbour SPA is included as **Appendix 1** of this report.

4.8.3 Natura 2000 sites – Features of interests and conservation objectives.

The EU Habitats Directive contains a list of habitats (Annex I) and species (Annex II) for which SACs must be established by Member States. Similarly, the EU Birds Directive contains lists of important bird species (Annex I) and other migratory bird species for which SPAs must be established. Those that are known to occur at a site are referred to as ‘qualifying interests’ and are listed in the Natura 2000 forms which are lodged with the EU Commission by each Member State. A ‘qualifying interest’ is one of the factors (such as the species or habitat that is present) for which the site merits designation. The National Parks and Wildlife Service (NPWS) are responsible for the designation of SACs and SPAs in Ireland.

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network. European and national legislation places a collective obligation on Ireland and its citizens to maintain at favourable conservation status sites designated as Special Areas of Conservation and Special Protection Areas. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level. Favourable conservation status of a habitat is achieved when its natural range, and area it covers within that range, is stable or increasing, and the ecological factors that are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and the conservation status of its typical species is favourable.

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

The conservation objectives for Cork Harbour SPA are included in *Cork Harbour Special Protection Area (Site Code 4030) Conservation Objectives version 1* (NPWS 2014a). The species listed as Special Conservation Interests (SCIs) for the Cork Harbour SPA are listed in **Table 2**.

Table 2. Special Conservation Interests (SCIs) for the Cork Harbour SPA

Species code	Species	Scientific name	Conservation objective
A004	Little Grebe	<i>Tachybaptus ruficollis</i>	Maintain
A005	Great Crested Grebe	<i>Podiceps cristatus</i>	Maintain
A017	Cormorant	<i>Phalacrocorax carbo</i>	Maintain
A028	Grey Heron	<i>Ardea cinerea</i>	Maintain
A048	Shelduck	<i>Tadorna tadorna</i>	Maintain
A050	Wigeon	<i>Anas Penelope</i>	Maintain
A052	Teal	<i>Anas crecca</i>	Maintain
A054	Pintail	<i>Anas acuta</i>	Maintain
A056	Shoveler	<i>Anas clypeata</i>	Maintain
A069	Red-breasted Merganser	<i>Mergus serrator</i>	Maintain
A130	Oystercatcher	<i>Haematopus ostralegus</i>	Maintain
A140	Golden Plover	<i>Pluvialis apricaria</i>	Maintain
A141	Grey Plover	<i>Pluvialis squatarola</i>	Maintain
A142	Lapwing	<i>Vanellus vanellus</i>	Maintain
A149	Dunlin	<i>Calidris alpina</i>	Maintain
A156	Black-tailed Godwit	<i>Limosa limosa</i>	Maintain
A157	Bar-tailed Godwit	<i>Limosa lapponica</i>	Maintain
A160	Curlew	<i>Numenius arquata</i>	Maintain
A162	Redshank	<i>Tringa totanus</i>	Maintain
A179	Black-headed Gull	<i>Chroicocephalus ridibundus</i>	Maintain
A182	Common Gull	<i>Larus canus</i>	Maintain
A183	Lesser Black-backed Gull	<i>Larus fuscus</i>	Maintain
A193	Common Tern	<i>Sterna hirundo</i>	Maintain
A999	Wetland and Waterbirds		Maintain

Restore = Restore favourable conservation condition, Maintain = Restore favourable conservation condition

To acknowledge the importance of Ireland's wetlands to wintering waterbirds, "Wetland and Waterbirds" may be included as a Special Conservation Interest for some SPAs that have been designated for wintering waterbirds and that contain a wetland site of significant importance to one or more of the species of Special Conservation Interest. Thus, a further objective is to maintain or restore the favourable conservation condition of the wetland habitat

within the Cork Harbour SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.

4.9 Baseline Data

4.9.1 Habitats

Habitat surveys were carried out on the 16th and 17th of September 2023, 10th of June, 24th of June and 27th August 2025. Habitat mapping was carried out in line with the methodology outlined in the Heritage Council Publication, *Best Practice Guidance for Habitat Survey and Mapping* (Heritage Council, 2011). The terrestrial and aquatic habitats within or adjacent to the proposed development site was classified using the classification scheme outlined in the Heritage council publication *A Guide to Habitats in Ireland* (Fossitt, 2000) and cross referenced with Annex I Habitats where required.

A current overview of habitats recorded within the site is shown in **Figure 4** and the habitats recorded on site are described in **Table 3**. Photographs of the site are also included below. No Annex I habitats were recorded within the proposed development site. No protected species were recorded during the site visits. The habitats at the site were previously mapped in 2017 by Dr. Tom Gittings. This indicates that areas of woodland were cleared from the site between 2017 and 2025, in particular at the north and northwest of the site. The habitats recorded during the 2017 survey are cross referenced in **Table 3**.

Table 3. Habitat present within proposed development site and their relative value

Habitats		Comments
Recolonising ground ED3	bare	There are two large areas of this habitat at the north and west of the site. These areas were previously disturbed and largely cleared the vegetation, but there is now considerable regrowth probably classified as recolonizing bare ground. Tree stumps and remnants of old trees remain. Building material is stored in some parts of the site. During the 2017 surveys, this area included Mixed (Broadleaved) woodland WD1 and Mixed (Broadleaved/conifer) woodland WD2, with some smaller areas of recolonising bare ground. There is quite dense regrowth of species like Willowherb, Broadleaved dock, Spear thistle, Prickly sow thistle, Scarlet pimpernel, Oxeye daisy, Burdock, Creeping buttercup, Nettle, Goosegrass, Bramble, Gorse, Buttercup, immature Willow and Ash Bamboo is present close to the road. This area does not support any significant trees apart from three poor quality immature to semi-mature Cypress trees which are of negligible ecological value. Bindweed also present. Two invasive species were noted at the west of the site, namely Cherry Laurel, which has a scatter distribution and Pheasant bush. Bamboo and Fuchsia were also noted. At the north of the site an area of recolonising bare ground includes a relatively distinct area with stored topsoil and woody material. It supports some invasive species namely Himalayan knotweed, Pheasant Bush, Winter heliotrope and Cherry Laurel which have a scattered distribution throughout. Vegetation is quite dense but low growing. There is some immature Willow, dense Cleavers, Nettles etc. A number of scattered mature trees remain within this area of the site.

Habitats	Comments
	 Plate 1. Significant regrowth in some areas.  Plate 2. Cleared areas with remnants of dead wood  Plate 3. Some Cypress trees remaining  Plate 4. Recolonising in parts

Habitats	Comments
	 Plate 5. Northern area near woodland
Spoil and bare ground ED2/Recolonising bare ground ED3	This section is a mixture of spoil and bare ground and recolonizing bare ground. It includes sections of the site which have been previously disturbed via the provision of access tracks, clearance of vegetation, etc. Access tracks and areas used for storing construction material are generally of negligible ecological value and support few species such as Greater plantain, Scarlet pimpernel, Field thistle, Nettle etc. During the 2017 surveys, this area included Mixed (Broadleaved) woodland WD1 and Mixed (Broadleaved/conifer) woodland WD2, with some smaller areas of recolonising bare ground. Areas that have retained some topsoil have more fertile growth with a broad range of species. Species noted includes Spear thistle, Field thistle, Forget me not, Redshank, Prickly sow thistle, Ribwort plantain, Oxeye daisy, Ragweed, Ivy leaved Toadflax, Red fescue, Common dock, Shepherd's purse, Willowherb, immature Willow, Burdock, Bramble. Winter heliotrope and Buddleia are common. There are a small number of isolated mature trees within this area.  Plate 6. Recolonising bare ground  Plate 7. Spoil and bare ground

Habitats	Comments
	 Plate 8. Spoil and bare ground/storage areas
Amenity grassland GA2	Dominated by a large field. It is noted that the separation between the disturbed area and this field are indistinct as there has been considerable disturbance of the margins of this habitat. There are a number of scattered trees creating a park-like landscape. The grassland area is moderately diverse. It includes Sweet vernal grass, Common bent, Velvet bent, Yorkshire fog, Creeping buttercup, Ragweed. False oat grass, White clover, Velvet bent, Rush, Common mouse-ear. Meadow vetchling, Ryegrass, Common dock and nettle. This area was also previously classified as grassland during the 2017 habitat.  Plate 9. Grassland at centre of the site  Plate 10. Grassland at the centre of the site
Mixed (Broadleaved and conifer) woodland WD2	A copse of trees remains towards the north of the site. This is a remnant of what as a larger area of woodland (as recorded during the 2017 surveys) which was contiguous with mixed broadleaved woodland and oak-birch-holly woodland habitat to the north. This pocket of woodland is now largely isolated within the site.

Habitats	Comments
	This area includes one's large conifer immature Oak and some semi-mature conifers. The understory includes Gorse, Bramble, Burdock, Lords and ladies, Elder, Burdock and Meadow vetchling. Other trees include a mature conifer, mature Oak and one large dead oak  Plate 11. Band of mature trees and scrub at the centre of the site  Plate 12. Mature conifer within this area
Recolonising bare ground ED3/Scrub WS1/Buildings and artificial surfaces BL3	This includes the ruins of the old buildings, some dilapidated sheds and areas that were previously disturbed and now colonized by a mixture of Willow/Gorse scrub and dense Bramble. Some dead wood remains. Invasive species include Winter heliotrope and Pheasant bush as well as mature Cherry Laurel. Scrub has developed in some areas in the absence of development. During the 2017 surveys this area included some areas of mixed conifer woodland. The buildings are a mix of ruins with only walls remaining, buildings with roofs in an advanced state of disrepair or corrugated roofs which are largely collapsed. Although the vegetation mix is not particularly valuable, this area supports a number of potential bat roosts and breeding barn owl and therefore has been classified as higher value

Habitats	Comments
	 Plate 13. Ruins of old house. Only walls remaining.  Plate 14. Areas of scrub have developed  Plate 15. Ruins of old stables largely collapsed.  Plate 16. Ruins of old stables and coach house.

Habitats	Comments
Treeline WL2 <i>(Western side of site)</i>	Running along the western more elevated boundary of the site there is a treeline which broadens occasionally into woodland moving north. The southern section of this treeline is patchier and there's a number of Ash which are suffering from Ash dieback disease. Overall, this area is dominated by Sycamore. None of the trees in this area are of sufficient age to be of significant potential value for bats, although there is one mature Sycamore and one mature Monterey Cypress which are of moderate value. There is dense Cherry Laurel in the understory which provides high levels of shade and suppresses ground flora. Winter heliotrope also noted on the periphery along with Pheasant bush. Enchanters' nightshade present as well as Elder, Bramble, nettle, etc. Occasional immature Sycamore and Willow, semi-mature Ash and Leylandii. The northern parts of this treeline would have been classified as woodland prior to site clearance, when it formed part of the larger area of woodland habitat extending into the north of the site.  Plate 17. Treeline to west of buildings  Plate 18. Treeline patchy in parts
Treeline WL2 <i>East of site</i>	A treeline runs along the eastern boundary of the site, south of the River Shournagh and is contiguous with the woodland along the river. Species recorded include Oak, Holly, Hazel, Sycamore and Holly. A drainage ditch (partly culverted) runs beneath this treeline. While some pockets of stagnant water were visible here, there were no flows recorded. This area has been largely retained since the 2017 surveys, although some individual trees have been removed.

Habitats	Comments
	 Plate 19. Treeline along east of site with drainage ditch visible
Mixed Broadleaved woodland WD1 <i>North and northwest of site</i>	At the northwest corner and northern boundary of the site there is a band of broadleaved woodland. Many of the trees are young, largely multi-stem Sycamore with no old native trees. Extensive Cherry Laurel occurs in the understory as well as Winter heliotrope and Bamboo. Hawthorn including mature trees was also noted. Understorey includes Herb Robert, Hartstongue fern, Wood Avens, Remote sedge, Woundwort, Cherry Laurel, Foxglove, Hard Shield Fern, Rush, Beech and Bramble. A drainage ditch runs through the northern woodland with steep banks in parts. This drainage ditch was dry during all summer surveys. During the 2017 surveys, this formed a larger area of woodland extending along the western boundary.  Plate 20. Northern woodland area  Plate 21. Northern woodland area
Mixed (broadleaved) woodland WD1	A small area of woodland remains at the southwest corner of the site adjoining the R617 road. This includes some mature Oak, Hawthorn and Sycamore (however the area is dominated by evenly aged Sycamore) The understory is densely

Habitats	Comments
<i>South-west of site</i>	vegetated with bramble. Cherry laurel, Winter heliotrope and Pheasant bush are also present in the understory. Other species include Hogweed, Herb Robert, Wood avens, Wood Rush, Buckler Fern, Wood dock, Nettle, Remote sage. This area has remained largely intact since the 2017 surveys.  Plate 22. Woodland at south of site  Plate 23. Woodland at south of site
Mixed broadleaved woodland WD1 <i>River Shournagh</i>	A treeline/band of woodland running along the River Shournagh. Area includes mature trees, with mature Oak present. Other species include Hazel, Sycamore, Holly. High value habitat with a well-developed understorey. i.e. Remote sedge, Velvet bent, Ivy, Common dog violet, Bramble, Herb Robert, Enchanters nightshade, Wood rush. However affected by dense growth of Cherry Laurel in parts. This area has been largely retained since the 2017 surveys, although some individual trees have been removed.

Habitats	Comments
	 Plate 24. Mature woodland along River Shournagh. Some tree removal  Plate 25. Mature woodland along River Shournagh  Plate 26. Cherry Laurel in understory  Plate 27. Understory of woodland
Scrub trees and parkland WD5	At the centre of the site there is a mix of scrub and scattered trees and parkland which is dominated by immature Willow and Ash and with a number of large veteran Oak. A drainage ditch runs beneath this habitat. This drain was largely dry but has a trickle of water on the eastern side of the site. This has been culverted at its

Habitats	Comments
	eastern extent where it overlaps with the housing development under construction. During the 2017 surveys this watercourse was classified as a stream. The mature trees within this area have been retained.  Plate 28. Mature oak at centre of site  Plate 29. Trickle of water on drainage ditch
Buildings and artificial surfaces BL3/Spoil and bare ground ED2	This includes an existing housing development under construction and the access roads/tracks/storage areas associated with the site.  Plate 30. Area under construction at south of site
Spoil and bare ground ED2/Dry meadows and grassy verge GS1	An area at the southern boundary has been largely cleared of vegetation. This generally consists of dry metal grassy verge. There is a large heap of spoil which has been vegetated with common species, including Dock and Ragweed, etc. During the 2017 survey, this area was dominated by Scrub habitat, with a strip of treeline along the R617 road. Two trees remain i.e. one Oak and one Hawthorn along the roadside.

Habitats	Comments
	GS1 has Links with Annex I: This category includes the priority habitat, “species-rich <i>Nardus</i> grasslands on siliceous substrates in mountain areas (6230)”. High species diversity is not characteristic but species-poor stands that appear to be the product of overgrazing are excluded. As with dry calcareous and neutral grassland - GS1, acid grasslands of old mine workings may also correspond to the annexed habitat ‘Calaminarian grasslands of the <i>Violetalia calaminariae</i> (6130)’. However, this habitat within the proposed development site is not an example of this Annex I habitat.  Plate 31. Cleared area at south of the site  Plate 32. Some recolonization in parts
Drainage ditch FW4	There are a number of drainage ditches within the site. None have consistent flows. A number of these have stagnant water. These drains ultimately discharge into the River Shournagh to the east and south of the proposed development site.
Depositing (Lowland) River FW2	The River Shournagh, where it overlaps with the proposed development site, has a natural pool, and riffle-glide sequences. Steep cliffs separate the proposed development site interior from the river and this is stabilised by mature trees. The riparian area is heavily shaded in parts by Sycamore and Cherry Laurel.

Habitats	Comments
	No signs of excessive erosion, no signs of excessive siltation or nutrient enrichment. Potential habitat for Brown Trout. Overall, a high value habitat which is utilized by Otters and Dipper  Plate 33. River Shournagh at east of proposed development site

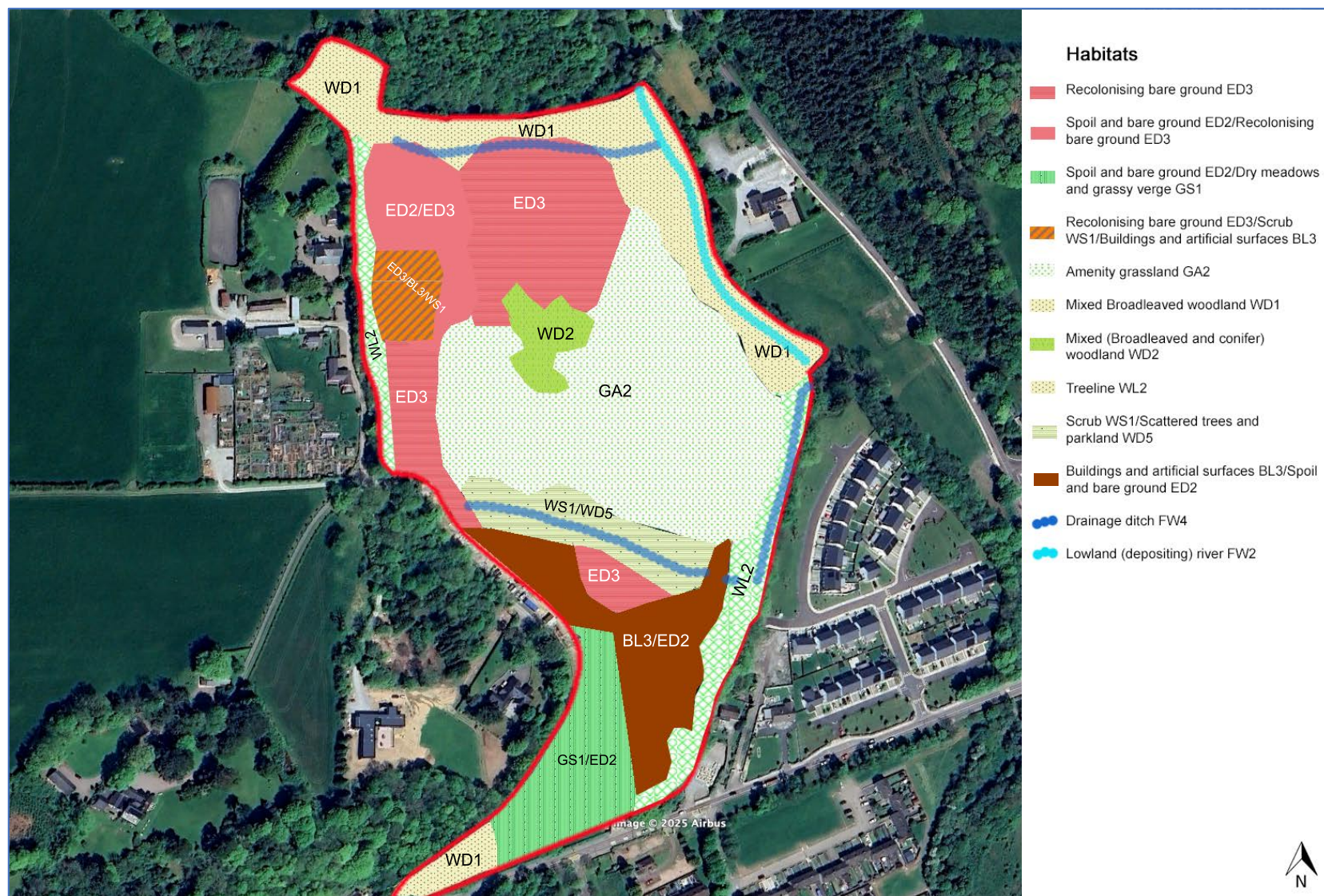


Figure 4. Habitat map (red line indicates study area)

4.9.2 Birds

Breeding bird surveys were carried out at the proposed development site during the summer of 2025. During the survey, all birds seen or heard within the development site were recorded. Certain bird species are listed by BirdWatch Ireland as Birds of Conservation Concern in Ireland (BOCCI). These are bird species suffering declines in population size. BirdWatch Ireland and the Royal Society for the Protection of Birds have identified and classified these species by the rate of decline into Red and Amber lists (Gilbert *et al.* 2021). Red List bird species are of high conservation concern and the Amber List species are of medium conservation. Green listed species are regularly occurring bird species whose conservation status is currently considered favourable. Species recorded during the site visits are shown in **Table 4**.

Table 4. Bird Species recorded during site survey

Species		Birds Directive Annex I	BOCCI	
			Red List	Amber List
<i>Accipiter nisus</i>	Sparrowhawk			
<i>Buteo buteo</i>	Buzzard			
<i>Carduelis carduelis</i>	Goldfinch			
<i>Certhia familiaris</i>	Treecreeper			
<i>Cinclus cinclus</i>	Dipper			
<i>Columba palumbus</i>	Woodpigeon			
<i>Corvus cornix</i>	Hooded crow			
<i>Corvus frugilegus</i>	Rook			
<i>Corvus monedula</i>	Jackdaw			
<i>Corvus monedula</i>	Jackdaw			
<i>Cyanistes caeruleus</i>	Blue Tit			
<i>Delichon urbicum</i>	House martin			x
<i>Erithacus rubecula</i>	Robin			
<i>Fringilla coelebs</i>	Chaffinch			
<i>Hirundo rusticag</i>	Swallow			x
<i>Motacilla cinerea</i>	Grey wagtail		x	
<i>Parus major</i>	Great Tit			
<i>Phylloscopus collybita</i>	Chiffchaff			
<i>Pica pica</i>	Magpie			
<i>Regulus regulus</i>	Goldcrest			x

Species		Birds Directive Annex I	BOCCI	
			Red List	Amber List
<i>Sylvia atricapilla</i>	Blackcap			
<i>Troglodytes troglodytes</i>	Wren			
<i>Turdus merula</i>	Blackbird			
<i>Turdus philomelos</i>	Song Thrush			
<i>Turdus philomelos</i>	Song thrush			
<i>Tyto alba</i>	Barn owl		x	
<i>Columba livia domestica</i>	Feral pigeon			

The proposed development site supports a range of common bird species. The grassland and cleared areas which dominate the site are of low value for birds, but the woodland and treeline habitat provides valuable nesting habitat for a range of bird species. The River Shournagh also provides specialist habitat for riparian species including Dipper and Grey Wagtail. Two Red list species were recorded during the site surveys i.e. Barn owl and Grey Wagtail. A number of Amber list species were also recorded i.e. House martin, Swallow and Goldcrest.

A Barn owl nest was recorded within one of the old buildings onsite (the exact location is not disclosed in this report). All buildings onsite were checked for signs of nesting Barn owl prior to the commencement of breeding bird surveys in September 2023. Nesting material was recorded in one of the site buildings. Breeding surveys in 2025 confirmed the presence of a nest with two chicks. Feral pigeon were also recorded nesting within one of the buildings. It is noted that breeding Barn owl were not present during the 2017 surveys.



Plate 34. Barn owl chicks within proposed development site

The proposed development site contains suitable nesting and foraging habitat for a range of common bird species. The treelines and woodland within the site provide valuable nesting and feeding resources for local bird species.

No SCI species (for Cork Harbour SPA) or any wading birds or waterfowl were recorded during the site surveys.

4.9.3 Invasive Species

Non-native plants are defined as those plants which have been introduced outside of their native range by humans and their activities, either purposefully or accidentally. Invasive non-native species are so-called as they typically display one or more of the following characteristics or features: (1) prolific reproduction through seed dispersal and/or re-growth from plant fragments; (2) rapid growth patterns; and, (3) resistance to standard weed control methods.

Where a non-native species displays invasive qualities and is not managed it can potentially: (1) out compete native vegetation, affecting plant community structure and habitat for wildlife; (2) cause damage to infrastructure including road carriageways, footpaths, walls and foundations; and, (3) have an adverse effect on landscape quality. The National Biodiversity Data Centre's (NBDC) online database provides data on the distribution of species within 10km grid squares. The site of the proposed development lies within 10km square W57 of Ordnance Survey Ireland's National Grid System. The NBDC lists a number of high impact invasive species which have been recorded within grid square W57 (**Table 5**).

Table 5. NBDC list of high impact invasive species recorded in W57

Species group	Species name
Flowering plant	Japanese Knotweed (<i>Fallopia japonica</i>)
Flowering plant	Nuttall's Waterweed (<i>Elodea nuttallii</i>)
Flowering plant	<i>Rhododendron ponticum</i>
Terrestrial mammal	American Mink (<i>Neovison vison</i>)
Terrestrial mammal	Sika Deer (<i>Cervus nippon</i>)

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The Birds and Natural Habitats Regulations 2011 (SI 477 of 2011), Section 49(2) prohibits the introduction and dispersal of species listed in the Third Schedule, which includes Himalayan Knotweed and Himalayan Balsam, as follows: "any person who plants, disperses, allows or causes to disperse, spreads or otherwise causes to grow [...] shall be guilty of an offence." The third schedule species Himalayan Knotweed was recorded within the proposed development site. The locations of this area indicated in **Figure 5**. This includes a smaller area of young plants and a more mature strand of knotweed.

A number of other invasive species were recorded during the site surveys including the high-risk species Cherry Laurel, the medium risk species Buddleia, Bamboo Pheasant Bush and the low risk species Winter heliotrope and Montbretia. These species are not listed in SI 477 of 2011 and therefore there is no statutory obligation to remove them. However, they have

been shown to have an adverse impact on landscape quality, native biodiversity or infrastructure; and are likely to be encountered during road schemes.



Figure 5. Himalayan Knotweed locations within proposed development site

4.10 River Basin Management Plan for Ireland 2022-2027 (3rd Cycle)

4.10.1 River Basin Management Plan for Ireland 2022-2027 (3rd Cycle)

The Water Framework Directive (WFD) sets out the environmental objectives which are required to be met through the process of river basin planning and implementation of those plans. Specific objectives are set out for surface water, groundwater and protected areas. The challenges that must be overcome in order to achieve those objectives are very significant. Therefore, a key purpose of the River Basin Management Plan (RBMP) is to set out priorities and ensure that implementation is guided by these priorities.

The third-cycle RBMP aims to build on the progress made during the first cycle. Key measures during the first cycle included the licensing of urban waste-water discharges (with an associated investment in urban waste-water treatment) and the implementation of the Nitrates Action Programme (Good Agricultural Practice Regulations). The former measure has resulted in significant progress in terms both of compliance levels and of the impact of urban waste-water on water quality. The latter provides a considerable environmental baseline which all Irish farmers must achieve and has resulted in improving trends in the level of nitrates and phosphates in rivers and groundwater. It is acknowledged, however, that sufficient progress has not been made in developing and implementing supporting measures during the first and second cycles.

Overall, RBMP assesses the quality of water in Ireland and presents detailed scientific characterisation of our water bodies. The characterisation process also takes into account wider water quality considerations, such as the special water-quality requirements of protected areas. The characterisation process identifies those water bodies that are At Risk of not meeting the objectives of the WFD, and the process also identifies the significant pressures causing this risk. Based on an assessment of risk and pressures, a programme of measures has been developed to address the identified pressures and work towards achieving the required objectives for water quality and protected areas. Data relating to the waterbodies is included in **Table 6**. The location of WFD monitoring locations relative to the proposed development site are illustrated in **Figure 6**.

Table 6. Water Framework Directive Data 3rd Cycle – Relevant data

Catchment: Lee, Cork Harbour and Youghal Bay (Code 19)			
This catchment includes the area drained by the River Lee and all streams entering tidal water in Cork Harbour and Youghal Bay and between Knockaverry and Templebreedy Battery, Co. Cork, draining a total area of 2,153km². The largest urban centre in the catchment is Cork City. The other main urban centres in this catchment are Ballincollig, Macroom, Carrigaline, Crosshaven, Blarney, Glanmire, Midleton, Carrigtohill, Cobh, Passage West and Belvelly. The total population of the catchment is approximately 328,854 with a population density of 153 people per km². Several small coastal rivers drain the area to the southeast of Cork Harbour and the area at the eastern extreme of the catchment is drained by the Womanagh River which flows into the sea on the western side of Youghal Bay. The Lee-Cork Harbour catchment comprises 18 sub-catchments with 92 river water bodies, three lakes, 13 transitional, six coastal water bodies and 16 groundwater bodies. There are five heavily modified and no artificial water bodies in the catchment. <u>2nd Cycle data summary</u> The proposed development site is located within the Manin_SC_10 subcatchment. Two out of five river water bodies within this subcatchment are AT RISK: Martin_010 due to Poor biological status; Martin_040 due to elevated phosphate concentrations. Blarney_010 is under REVIEW due to elevated nutrients. Damage to the riparian habitat and dumping of plant debris have impacted ecological conditions within Martin_010. Urban runoff was highlighted as the likely significant pressure within Martin_040. Waste water treatment may be impacting nutrient conditions within Blarney_010.			
Waterbodies relevant to the proposed project 3 rd Cycle data			
Waterbody	WFD Status	Significant Pressure	Pressure Category
Blarney_010	At risk	Moderate	Urban wastewater
Martin_040	At risk	Moderate	Diffuse source run-off
Shournagh_030	At risk	Moderate	None
Shournagh_040	At risk	Good	None
Lee (Cork)_090	Not at risk	Good	None
Lee (Cork) Estuary Upper	At risk	Moderate	Diffuse Sources Run-Off, combined sewer overflows.

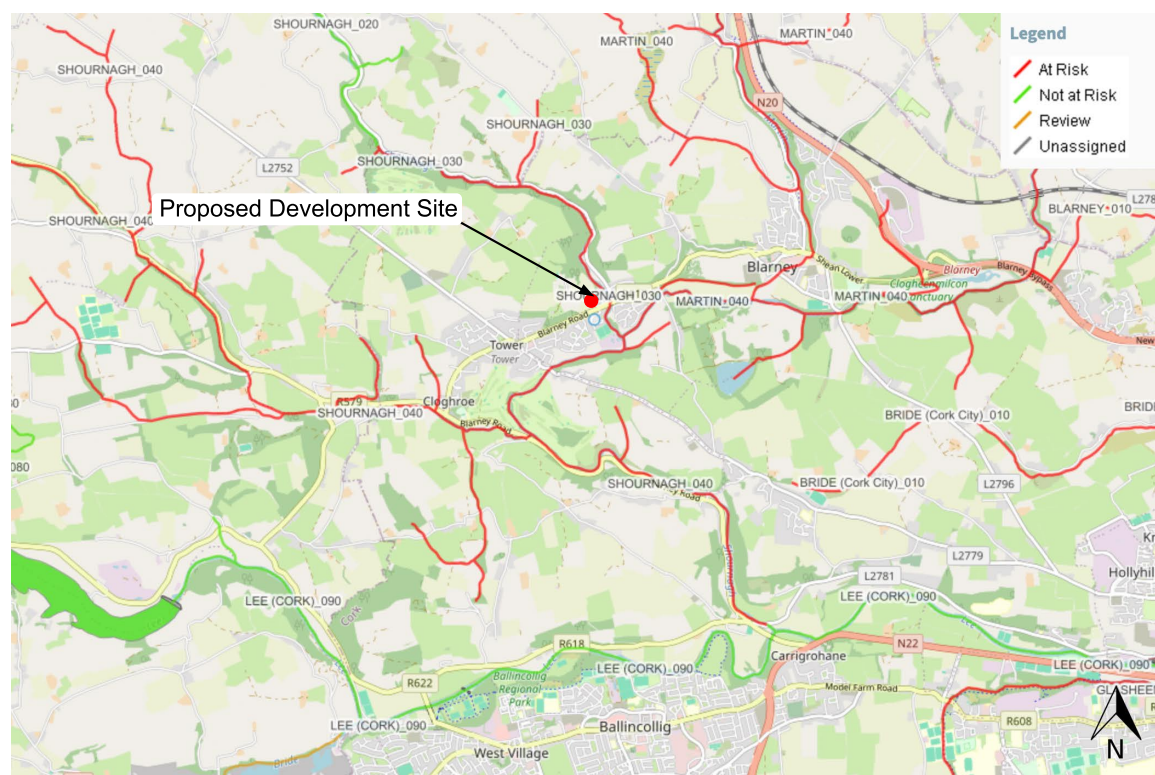


Figure 6. WFD waterbodies in the vicinity of the proposed development | | Source EPA envision mapping | not to scale

4.10.2 Urban Wastewater Treatment Directive

The Wastewater Discharge (Authorisation) Regulations 2007 (S.I. 684 of 2007) gives effect to the requirements of the Urban Wastewater Treatment Directive (Directive 91/271/EEC) and the Water Framework Directive (2000/60/EC) in Ireland. The Urban Wastewater Treatment Directive (UWWTD) lays down the requirements for the collection, treatment and discharge of urban wastewater and specifies the quality standards which must be met — based on agglomeration size — before treated waste-water is released into the environment.

The priority objective for this river basin planning cycle is to secure compliance with the Urban Wastewater Treatment Directive and to contribute to the improvement and protection of waters in keeping with the water-quality objectives established by this Plan. Achieving this objective entails addressing waste-water discharges and overflows where protected areas (i.e. designated bathing waters, shellfish waters and Freshwater Pearl-Mussel sites) or high-status waters are at risk from urban waste-water pressures.

As part of the proposed development wastewater discharging from the proposed development will be conveyed to the Blarney WWTP (Reference D0043-01) for treatment prior to discharging into the River Shournagh.

4.11 Potential Effects

Potential effects to European sites relate to habitat loss, changes to water quality (during construction and operation), the spread of invasive species and disturbance effects during the proposed works. Based on the *Managing Natura 2000 Sites: The Provision of Article 6 of the Habitats Directive 92/43/EEC* (European Commission (EC), 2018) and CIEEM guidelines '*Guidelines for Ecological Impact Assessment*' (CIEEM, 2019) effects are listed as significant using a combination of professional judgement and criteria or standards where available, if effects have the potential to have a significant impact on the ecological integrity on the habitats and species for which the site is designated.

The potential effects associated with the proposed works are discussed in the following sections with respect to their likelihood to have significant effects on European sites.

As part of the assessment direct, indirect and in-combination effects on all relevant QIs/SCIs were considered. Direct effects refer to habitat loss or fragmentation arising from land-take requirements for development. Indirect and secondary effects do not have a straight-line route between cause and effect, and it is potentially more challenging to ensure that all the possible indirect effects of the project/plan - in combination with other plans and projects have been established.

Potential effects were identified as follows:

- Potential effects from loss of habitat
- Potential effects from noise and disturbance
- Potential effects from surface water runoff
- Potential effects from wastewater discharges
- Potential effects from spread of invasive species
- In-combination effects

4.11.1 Potential effects from loss of habitat

The works area is located over 12.1km from the closest European site. An ecological appraisal of the site indicates that it supports locally valuable habitats. However, these are not of high value in the context of European designations. The habitats recorded within the proposed development site do not correspond to habitats listed on Annex I of the Habitats Directive.

The proposed development site includes areas of woodland and recolonizing bare ground as well as areas of amenity grassland. There are no wetland habitats which could provide foraging or roosting habitat for wading birds within or in immediate proximity to the proposed site boundary. No signs of SCI birds were recorded during site surveys.

In a study around Cork Harbour (NIS for the M28 Cork to Ringaskiddy Project (RPS 2017)) a detailed study was carried out on grasslands in the vicinity of Cork Harbour to determine the value of these habitats for roosting and foraging SCI birds. This study found that while SCI birds occasionally used fields, they found that these grassland areas are not routinely used as a feeding habitat for the SCI species associated with Cork Harbour SPA. In addition, this study concluded that there is, effectively, an unlimited supply of potentially suitable grassland habitat in the vicinity of Cork Harbour, although there may be variations in habitat quality.

In the absence of any specific European or Irish guidance in relation to establishing ecological connectivity to SPAs NatureScot (SNH, 2016) was consulted. This document provides guidance in relation to the identification of ecological connectivity between development sites and SPAs. The guidance takes into consideration the distances species may travel beyond the boundary of relevant SPAs and provides information on dispersal and foraging ranges of bird species which are frequently encountered when considering plans and projects. It goes on to state that *"in most cases the core range should be used when determining whether there is connectivity between the proposal and the qualifying Interests"*. Where SPAs are at greater distance from the site than the core foraging distances for their listed Special Conservation Interest (SCI) species, there is no likely ecological connectivity to the development and so the SPAs are outside the likely Zone of Impact.

Core ranges are not available for all SCI species of Cork Harbour SPA. However the following may be indicative of core range for other wading birds. According to NatureScot guidance (SNH, 2016), the core foraging distances of Dunlin is 500m (max 3km), Curlew 1km (max 2km) and Golden Plover 2km (max 11km). Given there are no wetland features of significance of the site, ducks and diving SCI species will not forage at the site e.g. Cormorant, Little Grebe, Great Crested Grebe, Common Tern. Based on the above, the proposed development site is essentially outside the core range for SCI birds of Cork Harbour SPA.

There is nothing to differentiate the grassland habitats within the proposed development site from other similar habitats in the vicinity and at this distance from the SPA boundary they could not represent critical foraging or roosting habitat for the SCI birds of Cork Harbour SPA. No signs of SCI birds were recorded here, or in the fields surrounding the proposed development site during the site survey.

Considering the above no likely significant effects on European sites from loss of habitat due to the proposed development have been identified.

4.11.2 Potential effects from noise and disturbance

Potentially increased noise and disturbance associated with the site works could cause disturbance/displacement of fauna. If of sufficient severity, there could be effects on reproductive success. Disturbance can cause sensitive species, such as birds, to deviate from their normal, preferred behaviour, resulting in stress, increased energy expenditure and, in some cases, species mortality.

The potential effects and effects of disturbance have been widely recognised in wildlife conservation legislation, as has the need to develop conservation measures for birds whilst taking human activities into account. Article 4.4 of the Bird's Directive (79/409/EEC) requires member states to *"take appropriate steps to avoid... any disturbances affecting the birds, in so far as these would be significant having regard to the objectives of this Article"*. This specifically relates to conservation measures concerning Annex I species.

The wintering birds listed as qualifying interests for the Cork Harbour SPA are strongly associated with estuarine shoreline areas or wetlands - habitat types absent from the proposed development area.

It is noted that the proposed development area is located c.12.1km from the SPA boundary. As noted in **Section 4.11.1**, this area does not provide critical habitat for SCI birds. Given the

absence of valuable habitats within and in the vicinity of the site, any increases in disturbance at the site during construction and operation will not impact on SCI birds.

No valuable habitat for SCI species was recorded within or adjacent to the proposed development area. The construction phase of the project will increase noise and disturbance. However, given the lack of valuable habitat for SCI species on or near the proposed development area no impact on birds listed as qualifying interests for the Cork Harbour SPA is predicted to occur.

4.11.3 Potential effects from surface water runoff

Potential impacts on aquatic habitats which can arise from surface water emissions associated with the construction phase of the proposed development include increased silt levels in surface water run-off, inadvertent spillages of hydrocarbons from fuel and hydraulic fluid and spillage of cementitious materials. Hazardous waste, such as asbestos, could also potentially impact on local water quality if not stored/managed correctly during construction/demolition works.

The proposed development site is located c.19.7km upstream of Cork Harbour SPA. Although unlikely given the distance downstream, silt-laden stormwater run-off during site preparation, site clearance, dewatering of excavations and construction of site access roads as well as spillages of fuel and oil and concrete / cement run-off could potentially impact on water quality within the River Shournagh and the Cork Harbour SPA downstream of the proposed development site. During operation surface water from the site will discharge to the onsite drainage ditches will flow into the River Shournagh. In the absence of mitigation, hydrocarbons from the parking areas could be carried in the stormwater and increased volumes of stormwater as a result of increased areas of impermeable surfaces could also occur during operation.

Therefore, the conservation objectives of Cork Harbour SPA may be impacted by surface water runoff during construction and operation and likely significant effects from surface water emissions cannot be excluded in the absence of mitigation.

4.11.4 Potential effects from discharges of wastewater

The proposed housing development could potentially result in an increase in nutrients discharging to River Shournagh via the Blarney Wastewater Treatment Plant (WWTP). Increased nutrients can potentially impact on freshwater (and estuarine) habitats by changing baseline ecological conditions and increasing algal growth, which in turn could impact on feeding local flora and fauna.

Wastewater from the proposed development will be conveyed for treatment to Blarney WWTP. The Blarney agglomeration is served by a wastewater treatment plant with a Plant Capacity Population Equivalent (P.E.) of 13,000. The agglomeration consists of one primary discharge point which discharges to the River Shournagh c.960m downstream of the proposed development site.

The WWTP obtained a discharge licence (Reg: D0043-01) from the EPA and has assigned emission limit values (ELV's) for a range of parameters to ensure a high degree of protection to the River Shournagh and surrounding waters. The discharge licence assigns ELV's for total

phosphorous (Total P), chemical oxygen demand (COD), total suspended solids (TSS), biological oxygen demand (BOD), Ammonia, pH and orthophosphate. The ELVs are set based on the full design capacity (P.E. 13,000) and are aimed at providing a high degree of protection to the receiving water body and to ensure the receiving waterbody is capable of accommodating the proposed discharge without causing or exacerbating a breach in the relevant standards.

The 2024 Annual Environmental Report for Blarney WWTP was reviewed. The AER notes that the final effluent from the Primary Discharge Point was non-compliant with the Emission Limit Values in 2024. The non-compliance's with the ELVs were in relation to Ammonia – as N (mg/l). This non-compliance is related to the hydraulic load at the WWTP where the annual mean hydraulic loading is greater than the peak Treatment Plant Capacity. The annual maximum hydraulic loading is also greater than the peak Treatment Plant Capacity. However, the AER notes that the discharge from the wastewater treatment plant does not have an observable negative impact on the Water Framework Directive status.

In 2024 the agglomeration PE for Blarney WWTP was 10,150 with a design capacity of 13,000 P.E.. A Pre-Connection Enquiry was submitted to Uisce Eireann to determine if the connection of the proposed development to Uisce Eireann network could be facilitated. The response notes that while there is currently capacity in the Blarney Wastewater Treatment Plant (WWTP) to facilitate the proposed connection, this capacity is limited and there are a large number of ongoing/proposed developments in the Blarney area. At a connection application stage, the available capacity will be reviewed, and upgrade of the WWTP may be required, to be funded by developers in the agglomeration area.

While there appears to be compliance issues at Blarney WWTP, these are not having an observable negative effect on the Water Framework Directive. The addition of the effluent discharge from the proposed housing development to the Blarney WWTP is well within its design capacity and will not comprise the operational capability of the WWTP to treat effluent to comply with emission limit values. Therefore, the effects from the proposed development will be negligible given the current operating conditions at the WWTP. Minor increases in nutrient levels potentially discharged by the WWTP will not have a significant impact water quality within the River Shournagh and/or the Lee Estuary downstream. No likely significant effects on Cork Harbour SPA have been identified.

4.11.5 Potential effects from spread of invasive species

The following invasive species were recorded on the site: Himalayan Knotweed, Bamboo, Cherry Laurel, Himalayan Honeysuckle (Pheasant Bush), Montbretia Buddleia and Winter Heliotrope.

An invasive species management plan will be developed (post planning) for this development to ensure that all invasive species are removed and that woodland habitat, where Cherry Laurel has heavily infested in parts, will be protected. This will be managed as outlined in the DMNA landscape masterplan by a National Woodland Scheme Ecologist. The removal of invasive species from the site will have a positive, slight and long-term impact on the retained and newly planted habitats.

While these measures will address local impacts from invasive species, the distance from Cork Harbour SPA and the absence of third schedule invasive species in proximity to

watercourses means there is no pathway for impact on the SPA (located c.19.7km downstream). Therefore, no likely significant effects from the spread of invasive species have been identified.

4.11.6 In-combination Effects

In-combination effects refer to a series of individually modest effects that may in combination produce a significant impact. The underlying intention of this in combination provision is to take account of in-combination effects from existing or proposed plans and projects and these will often only occur over time. Other developments near site and potential in-combination effects are identified in **Table 7** In the absence of any significant effects on qualifying interests or conservation objectives associated with this project no significant in-combination effects have been identified.

Table 7. Other developments near site and potential in-combination effects

Plans and Projects	Key Policies/Issues/Objectives Directly Related to the Conservation of the Natura 2000 Network	Impact
River Basin Management Plan 2022-2027	The project should comply with the environmental objectives of the Irish RBMP which are to be achieved generally by 2027. • Ensure full compliance with relevant EU legislation • Prevent deterioration • Meeting the objectives for designated protected areas • Protect high status waters • Implement targeted actions and pilot schemes in focus sub-catchments aimed at: targeting water bodies close to meeting their objective and addressing more complex issues which will build knowledge for the third cycle.	The implementation and compliance with key environmental policies, issues and objectives of this management plan will result in positive in-combination effects to European sites. The implementation of this plan will have a positive impact for the biodiversity. It will not contribute to in-combination or cumulative effects with the proposed development.
Inland Fisheries Ireland Corporate Plan 2021-2025	To ensure that Ireland's fish populations are managed and protected to ensure their conservation status remains favourable. That they provide a basis for a sustainable world class recreational angling product, and that pristine aquatic habitats are also enjoyed for other recreational uses. To develop and improve fish habitats and ensure that the conditions required for fish populations to thrive are sustained and protected. To grow the number of anglers and ensure the needs of IFI's other key stakeholders are being met in a sustainable conservation focused manner. EU (Quality of Salmonid Waters) Regulations 1988. All works during development and operation of the project must aim to conserve fish and other species of	The implementation and compliance with key environmental issues and objectives of this corporate plan will result in positive on-combination effects to European sites. The implementation of this corporate plan will have a positive impact for biodiversity of inland fisheries and ecosystems. It will not contribute to in-combination or cumulative effects with the proposed works.

Plans and Projects	Key Policies/Issues/Objectives Directly Related to the Conservation of the Natura 2000 Network	Impact
	fauna and flora habitat; biodiversity of inland fisheries and ecosystems and protect spawning salmon and trout.	
Irish Water Capital Investment Plan 2014-2016	Proposals to upgrade and secure water services and water treatment services countrywide.	Likely net positive impact due to water conservation and more effective treatment of water.
Water Services Strategic Plan (WSSP, 2015)	Irish Water has prepared a Water Services Strategic Plan (WSSP, 2015), under Section 33 of the Water Service No. 2 Act of 2013 to address the delivery of strategic objectives which will contribute towards improved water quality and biodiversity requirements through reducing: • Habitat loss and disturbance from new / upgraded infrastructure; • Species disturbance; • Changes to water quality or quantity; and • Nutrient enrichment /eutrophication.	The WSSP forms the highest tier of asset management plans (Tier 1) which Irish Water prepare and it sets the overarching framework for subsequent detailed implementation plans (Tier 2) and water services projects (Tier 3). The WSSP also sets out the strategic objectives against which the Irish Water Capital Investment Programme is developed. The current version of the CAP outlines the proposals for capital expenditure in terms of upgrades and new builds within the Irish Water owned assets. No long-term in-combination effect on Natura 2000 sites will occur.
NPWS Conservation Management Plans	Conservation Management Plans have not been fully prepared for the European sites being assessed. However, conservation objectives are set for all sites.	The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. A site-specific conservation objective aims to define favourable conservation condition for a particular habitat or species at that site. The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level. The resultant effects of conservation objectives are a net positive and there is no potential for in combination effects on European sites.

Plans and Projects	Key Policies/Issues/Objectives Directly Related to the Conservation of the Natura 2000 Network	Impact
WWTP discharges into Cork Harbour	A number of agglomerations discharge into Cork Harbour including Cork City WWTP, Ballincollig (via River Lee) Carrigtohill and Environs WWTP.	Discharges from municipal WWTPs are required to meet water quality standards. Irish Water Capital Investment Plan proposes to upgrade water treatment services countrywide (see above). No long-term in-combination effect on Natura 2000 sites will occur.
Other developments in the vicinity	A planning search of Cork City Council planning portal was conducted to identify permitted projects in the vicinity of the proposed development site. Projects which, due to their nature or scale were unlikely to result in an in-combination impact, or to which there was no pathway, were excluded. Part of the proposed development site is currently under construction. This was permitted under the following application; Cork City Council Planning Reference 23/41719 (An Bord Pleanála Reference 316276-23). Permission for the construction of 5 no. dwelling houses on lands associated with the former St. Ann's Hydropathic Establishment, St. Ann's Hill, Kilnamucky, Tower, Blarney, Cork. The development will consist of the construction of 4 no. 4 bedroom detached dwelling houses and 1 no. 5 bedroom detached dwelling house. The proposed development is a change of plan from that originally permitted under Cork County Council Planning Reference 18/7111 and is located within the curtilage of lands associated with the former St. Ann's Hydropathic Establishment (St. Ann's Hydro) which is a Protected Structure RPS ref. no: PS1168. The development will result in the construction of an additional dwelling house. Access to the proposed development will be provided via the permitted access off the R617 road and internal road network. The development will also include all ancillary works necessary to facilitate the development. SHD development which is currently being assessed by An Coimisiún Pleanála to the west of the proposed development site – (Reference TA28.320056) for 198 no. units. Cork City Council Planning Ref: 24/43031. LRD of 246no. residential dwellings permitted recently – Permission was granted in May 2025. The remaining developments which have been granted planning during the last 24 month period are small in scale.	Future developments will only be granted permission where discharges from same meet with relevant water quality standards. Given the nature, extent and scale of the proposed project, it is not anticipated that it will act in-combination with the plans or projects outlined, or other plans or projects, to give rise to in-combination effects on Cork Harbour SPA.

In the absence of any significant impact associated with this project no in-combination effects on water quality have been identified. Similarly, no significant in-combination effects in relation

to noise and disturbance have been identified. No other significant in-combination effects have been identified. There are no projects which could have a potential significant in-combination effect along with the proposed development.

Given the nature, extent and scale of the proposed project, it is not anticipated that it will act in-combination with the plans or projects outlined, or other plans or projects, to give rise to in-combination effects on the Cork Harbour SPA.

4.12 Stage One Appropriate Assessment Conclusions

4.12.1 Screening of Relevant Natura 2000 Sites and Qualifying Interests/Special Conservation Interests

Potential significant effects on Cork Harbour SPA cannot be ruled out. Screening conclusions with regards to the qualifying species and habitats for relevant Natura 2000 sites are provided in **Table 8**. No significant effects on the conservation objectives of other Natura 2000 sites will occur. Sites/QIs/SCIs that are screened in for further assessment are highlighted in bold.

Table 8. Screening of relevant Natura 2000 sites

Natura 2000 Site	Qualifying Interest	Potential Impacts	Screened In/Out
Cork Harbour SPA (Site code 004030)	▪ A056 Shoveler <i>Anas clypeata</i> ▪ A149 Dunlin <i>Calidris alpina</i> ▪ A140 Golden Plover <i>Pluvialis apricaria</i> ▪ A050 Wigeon <i>Anas penelope</i> ▪ A028 Grey Heron <i>Ardea cinerea</i> ▪ A069 Red-breasted merganser <i>Mergus serrator</i> ▪ A142 Lapwing <i>Vanellus vanellus</i> ▪ A130 Oystercatcher <i>Haematopus ostralegus</i> ▪ A141 Grey plover <i>Pluvialis squatarola</i> ▪ A052 Teal <i>Anas crecca</i> ▪ A05 Pintail <i>Anas acuta</i> ▪ A157 Bar-tailed Godwit <i>Limosa lapponica</i> ▪ A162 Redshank <i>Tringa totanus</i> ▪ A183 Lesser Black-backed gull <i>Larus fuscus</i> ▪ A179 Black-headed Gull <i>Chroicocephalus ridibundus</i> ▪ A004 Little Grebe <i>Tachybaptus ruficollis</i> ▪ A160 Curlew <i>Numenius arquata</i> ▪ A182 Common Gull <i>Larus canus</i> ▪ A048 Shelduck <i>Tadorna tadorna</i> ▪ A017 Cormorant <i>Phalacrocorax carbo</i> ▪ A193 Common Tern <i>Sterna hirundo</i> ▪ A005 Great crested grebe <i>Podiceps cristatus</i> ▪ A156 Black-tailed Godwit <i>Limosa limosa</i> ▪ A999 Wetlands and waterbirds	Given the potential impacts from surface water runoff during construction/operation and the hydrological connection of the proposed development site to the SPA, significant effects cannot be ruled out due to impacts on water quality during the construction and operational phase. The proposed development site does not provide habitat that is relied upon by SCI Birds. Given the distance from valuable roosting and foraging habitats within the SPA, the absence of valuable foraging/roosting habitats within the proposed development site, and the existing noise/disturbance environment, significant adverse effects on Cork Harbour SPA from noise and disturbance on <i>ex-situ</i> habitats can be excluded. In the absence of mitigation, the potential for significant adverse in-combination effects on Cork Harbour SPA from emissions to water during construction and operation cannot be ruled out. No other significant in-combination impacts have been identified. No significant impacts from loss of habitat, foul water discharges or the spread of invasive species have been identified.	Screened in (surface water)

4.12.2 Screening conclusion

The aims of this screening section of this report were as follows:

- Determine whether the proposed development, alone or in combination with other projects, is likely to have significant effects on Natura 2000 sites in view of their conservation objectives.
- Provide information on and assess the potential for the proposed development to significantly impact on Natura 2000 Sites (also known as European sites).
- Determine whether the proposed development is directly connected with, or necessary to the conservation management of any Natura 2000 sites.

It has been objectively concluded that:

- The proposed development is not directly connected with, or necessary to the conservation management of any Natura 2000 sites.
- On the basis of objective information, the possibility of significant effects from the proposed development on European sites cannot be excluded. There is potential for the proposed development to significantly impact the Cork Harbour SPA via impacts on water quality during construction and operation (surface water).
- The proposed development, alone or in combination with other projects could potentially impact on the conservation objectives of Cork Harbour SPA.

On the basis of objective information and in view of best scientific knowledge, the possibility of significant effects from the proposed development on the Cork Harbour SPA, cannot be ruled out and therefore an Appropriate Assessment is required.

The NIS (below) has been prepared to inform and assist Cork City Council, to assess, in view of best scientific knowledge, if the proposed development, individually or in combination with another plan or project is likely to have a significant effects on Cork Harbour SPA.

5. Stage 2 – Natura Impact Statement

5.1 Introduction

The main objective of this stage (Stage 2, Natura Impact Statement) in the Appropriate Assessment process is to determine whether the proposed LRD at Former St. Ann's Hydropathic Establishment, St. Ann's Hill, Kilnamucky, Tower, Blarney, Cork (either alone or in combination with other plans, programmes and projects) will result in significant adverse impacts to the integrity of the Natura 2000 sites identified in the previous section i.e., Cork Harbour SPA with respect to the site's structure, function and/or conservation objectives. This stage also outlines the mitigation measures that should be taken in order to avoid any negative impacts associated with the proposed development.

5.2 Status of qualifying interests for the Cork Harbour SPA

Cork Harbour SPA is a large, sheltered bay system that is an internationally important wetland site, regularly supporting in excess of 20,000 wintering waterfowl, for which it is amongst the

top ten sites in the country. Owing to the sheltered conditions, the intertidal flats are often muddy in character but described principally as 'mixed sediment to sandy mud with polychaetes and oligochaetes'. These muds support a range of macro-invertebrates, notably *Macoma balthica*, *Scrobicularia plana*, *Peringia (Hydrobia) ulvae*, *Nephtys hombergi*, *Nereis diversicolor* and *Corophium volutator*, all of which provide a food source for many wintering waterbird species. Salt marshes are scattered through the site and these provide high tide roosts for waterbirds (NPWS 2014b).

The specific conservation objectives for the species listed as conservation interests for the Cork Harbour SPA (**Table 9**) are to maintain a favourable conservation condition of the non-breeding/breeding waterbirds and to maintain the favourable conservation condition of the wetland habitat at Cork Harbour SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.

Table 9. SCI species for which a potential impact has been identified – specific targets

Species/Habitats	Attribute	Measure	Target
Little Grebe	Population trend	Percentage change	Long term population trend stable or increasing
Great Crested Grebe			
Cormorant			
Grey Heron			
Shelduck			
Wigeon	Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by each species, other than that occurring from natural patterns of variation
Teal			
Pintail			
Shoveler			
Red-breasted Merganser			
Oystercatcher			
Golden Plover			
Grey Plover			
Lapwing			
Dunlin			
Black-tailed Godwit			
Bar-tailed Godwit			
Curlew			

Species/Habitats	Attribute	Measure	Target
Redshank Black-headed Gull Common Gull Lesser Black-backed Gull			
Common Tern	Breeding population abundance: apparently occupied nests (AONs)	Number	No significant decline
	Productivity rate: fledged young per breeding pair	Mean number	No significant decline
	Distribution: breeding colonies	Number; location; area (hectares)	No significant decline
	Prey biomass available	Kilogrammes	No significant decline
	Barriers to connectivity	Number; location; shape; area (hectares)	No significant increase
	Disturbance at the breeding site	Level of impact	Human activities should occur at levels that do not adversely affect the breeding common tern population
Wetlands	Habitat area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 2,587 hectares, other than that occurring from natural patterns of variation

The Conservation Objectives Supporting document for Cork Harbour SPA (NPWS, 2014c) provides a review of the site conservation condition and population trends for Cork Harbour SPA with regard to species' all-Ireland and international trends. All-Ireland trends follow I-WeBS data 1994-2015 (Birdwatch Ireland 2022) while International trends follow Wetlands

International (2012). The conservation status of Cork Harbour SPA's SCI birds are included in **Table 10**.

Table 10. Conservation Status of SCI species within Cork Harbour

Special Conservation Interests	BoCCI Category ¹	Site conservation condition ²	Current All-Ireland Trend ³	Current International Trend ⁴
Shelduck	Amber	Unfavourable	Declining	Increasing
Wigeon	Amber	Unfavourable	Declining	Stable
Teal	Amber	Intermediate (Unfavourable)	Stable	Increasing
Pintail	Amber	Highly unfavourable	Stable	Increasing
Shoveler	Red	Highly unfavourable	Stable	Increasing
Red-breasted Merganser	Amber	Highly unfavourable	Stable	n/c
Little Grebe	Green	Favourable	Increasing	Increasing
Great Crested Grebe	Amber	Unfavourable	Stable	Declining?
Cormorant	Amber	Highly unfavourable	Stable	Increasing
Grey Heron	Green	Intermediate	Stable	Increasing
Oystercatcher	Red	Intermediate (unfavourable)	Stable	Declining
Golden Plover	Red	Favourable	Declining	Declining
Grey Plover	Red	Highly unfavourable	Declining	Declining?
Lapwing	Red	Highly unfavourable	Declining	Stable
Dunlin	Red	Unfavourable	Declining	Stable
Black-tailed Godwit	Red	Favourable	Increasing	Increasing
Bar-tailed Godwit	Red	Favourable	Stable	Increasing
Curlew	Red	Unfavourable	Declining	Declining
Redshank	Red	Unfavourable	Stable	Stable/increasing
Black-headed Gull	Amber	Highly unfavourable	n/c	n/c
Common Gull	Amber	Highly unfavourable	n/c	n/c
Lesser Black-backed Gull	Amber	Highly unfavourable	n/c	n/c

1. Gilbert et al. 2021. 2. NPWS, 2014c, 3. Birdwatch Ireland I-WeBS 1994-2015, 4. Wetlands International (2012)

6. Assessment of Likely Significant Effects

All likely significant effects relate to surface water runoff/discharges during construction and operation. Based on the *Managing Natura 2000 Sites: The Provision of Article 6 of the Habitats Directive 92/43/EEC* (European Commission (EC), 2018 and CIEEM guidelines '*Guidelines for Ecological Impact Assessment*' (CIEEM, 2019) impacts are listed as significant using a combination of professional judgement and criteria or standards where available, if impacts have the potential to have a significant impact on the ecological integrity on the habitats and species for which the site is designated.

The potential impacts associated with the proposed development are discussed in the following section with respect to their likelihood to have significant impacts on European sites.

As part of the assessment direct, indirect and in-combination impacts were considered. Direct impacts refer to habitat loss or fragmentation arising from land-take requirements for development. Indirect and secondary impacts do not have a straight-line route between cause and effect, and it is potentially more challenging to ensure that all the possible indirect impacts of the project/plan - in combination with other plans and projects have been established.

Likely significant effects were identified as follows:

- Surface water runoff during construction
- Surface water discharges during operation
- In-combination impacts

6.1 Surface water runoff during construction

Potential impacts on aquatic habitats which can arise from this type of development include increased silt levels in surface water run-off, silt from dewatering of excavations, concrete spillage and hydrocarbon spillage. In the absence of appropriate design and mitigation, high levels of silt in surface water run-off from construction works, could theoretically impact on fish species. If of sufficient severity, adult fish could theoretically be affected by increased silt levels as gills may become damaged by exposure to elevated suspended solids levels. Excessive siltation can cause eggs and fry to be smothered. In particular impacts on spawning lamprey and salmonids can be significant. If of sufficient severity, aquatic invertebrates may be smothered by excessive deposits of silt from suspended solids. In areas of stony substrate, silt deposits may result in a change in the macro-invertebrate species composition, favouring less diverse assemblages and impacting on sensitive species. Aquatic plant communities may also be affected by increased siltation. Submerged plants may be stunted and photosynthesis may be reduced.

Inadvertent spillages of hydrocarbons during construction could introduce toxic chemicals into the aquatic environment via surface water run-off or groundwater contamination and have a direct toxicological impact on habitats and fauna.

The River Shournagh, a tributary of the River Lee, is located along the eastern boundary of the proposed development site. During operation, the proposed surface water drainage network will discharge to drainage ditches connecting to this river. The Cork Harbour SPA is located 19.7km downstream of the site. Therefore, although unlikely, surface water run-off during the construction or operational phases could potentially flow into the Cork Harbour SPA via the River Shournagh.

During the construction phase, the scale of the works will be small and there is no potential for significant hydrocarbon spills. However, given the proximity of the River Shournagh a range of mitigation measures have been specified during construction works to prevent impact on water quality and to prevent damage to the surrounding riparian vegetation. Hydrocarbon and silt control measures are outlined in **Section 7** of this report as well as in the Construction, Environmental, Management Plan (CEMP) which has been included with this application.

Given the surface water mitigation measures will ensure there are no adverse effects on local water quality, there will be no adverse effects on the conservation objectives of the Cork Harbour SPA from construction surface water discharges.

6.2 Surface water discharges during operation

During operation, the proposed surface water management system is designed, as much as is feasible, in accordance with the principles of Sustainable Drainage Systems (SuDS) as embodied in the recommendations of the Greater Dublin Strategic Drainage Study (GDSDS). As outlined in **Section 3.3**, surface water will be discharged to the existing drainage ditches onsite. SuDS measures will include percolation to ground and attenuation. The maximum permitted surface water outflow from the new development is to be restricted to that of the existing greenfield rates (5.08l/s for 1.498ha). The proposed attenuation storage tanks will be made of concrete with access manholes upstream and downstream of each tank. A petrol interceptor will be installed on the incoming manhole prior to discharging into the storage tanks. In addition, a hydro brake will be installed on the downstream manhole to limit flow rate to Q-1 year prior to discharge into existing drainage ditch.

Egis carried out Stage 1 and 2 flood risk assessment for the proposed residential development in accordance with the methodology recommended by the FRM Guidelines. Following from Stage 2 – Initial Flood Risk Assessment, it was determined that the proposed development is in Flood Zone C and hence not at flood risk. The implementation of these SuDs measures will not increase the risk of flooding elsewhere.

The operational surface water design measures will ensure there are no significant impact on local water quality and therefore there will be no adverse effect on the conservation objectives of the Cork Harbour SPA from operational surface water discharges.

7. Mitigation Measures

The mitigation measures have been drawn up in line with current best practice and include an avoidance of sensitive habitats at the design stage and mitigation measures will function effectively in preventing significant ecological impacts. The following mitigation measures will be implemented:

A Construction Environmental Management Plan (CEMP) has been prepared (by O'Mahony Developments) for the proposed development and this contains construction mitigation measures, which are also set out in this report.

Mitigation measures (of relevance in respect of any potential ecological effects) will be implemented throughout the project, including the preparation and implementation of detailed method statements. The works will incorporate the relevant elements of the guidelines outlined below:

NRA (2010) Guidelines for the Management of Noxious Weeds and Non- Native Invasive Plant Species on National Roads. National Roads Authority, Dublin.

Murphy, D. (2004) Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites. Eastern Regional Fisheries Board, Dublin.

IFI (2016) Guidelines on protection of fisheries during construction Works in and adjacent to waters (IFI, 2016)

H. Masters-Williams et al (2001) Control of water pollution from construction sites. Guidance for consultants and contractors (C532). CIRIA.

E. Murnane, A. Heap and A. Swain. (2006) Control of water pollution from linear construction projects. Technical guidance (C648). CIRIA.

E. Murnane et al., (2006) Control of water pollution from linear construction projects. Site guide (C649). CIRIA.

All personnel involved with the proposed development will receive an on-site induction relating to construction and operations, and the environmentally sensitive nature of the local watercourses and to re-emphasise the precautions that are required as well as the control measures to be implemented. Site managers, foremen and workforce, including all subcontractors, will be suitably trained in risks and preventative measures.

All staff and subcontractors have the responsibility to:

- Work to agreed plans, methods and procedures to eliminate and minimise environmental impacts,
- Understand the importance of avoiding on-site impacts, including noise and dust, and how to respond in the event of an incident to avoid or limit environmental impact;
- Respond in the event of an incident to avoid or limit environmental impact;
- Report all incidents immediately to the site manager;
- Monitor the workplace for potential environmental risks and alert the site manager if any are observed; and
- Co-operate as required, with site inspections.

7.1 Water Protection Measures

The following measures are to be implemented during the construction phase in order to mitigate risks to the water supply, drainage, and utilities.

- Surface water runoff from areas stripped of topsoil and surface water collected in excavations shall be directed to on-site settlement ponds where measures will be implemented to capture and treat sediment laden runoff prior to discharge of surface water at a controlled rate.
- Foul drainage discharge from the construction compound will be tankered off site to a licensed facility until a connection to the public foul drainage network has been established.
- The construction compound's potable water supply shall be located where it is protected from contamination by any construction activities or materials.

- Relocation of existing overhead ESB lines shall be fully coordinated with ESB Networks to ensure interruption to the existing power network is minimized
- Connections to the existing gas and telecommunications networks shall be coordinated with the relevant utility provider and carried out by approved contractors.
- Discharge from any vehicle wheel wash areas is to be directed to onsite settlement areas, debris and sediment captured by vehicle wheel washes are to be disposed off-site at a licensed facility.
- Through consultation with the Site Manager (SM) /Site Environmental Manager (SEM), a schedule for surface water quality monitoring will be drawn up. This will be finalised prior to the start of construction. Where monitoring parameters are found to exceed the standards laid down, the SM/SEM will initiate and report corrective actions. This may necessitate the alteration of the environmental control measures and in turn the relevant construction method statement.

Water pumped from Excavations

Measures will be implemented to capture and treat sediment laden water run off (e.g., silt traps). The area of exposed ground will be minimized and as much vegetation as possible will be retained for as long as is practical.

- Clearing and topsoil stripping of each area will be delayed until work is ready to proceed.
- Closing and backfill of trenches will take place as soon as practically possible.
- Any earthworks temporary stockpile areas will require silt fencing to be installed.
- Any on-site settlement areas are to include geotextile liners and riprappd inlets and outlets to prevent scour and erosion.
- Surface water runoff from areas stripped of topsoil and surface water collected in excavations will be directed to on-site settlement areas, at the lower, south/southwest end of the site, where measures will be implemented to capture and treat sediment
- Surface water discharge points during the construction phase are to be agreed Cork City Council's Environment Section prior to commencing works on site.
- To minimise potential impacts from deposition of silt and bank destabilisation, works will only be carried out when the stream (drainage ditch) levels are low and when dry weather is forecast
- Works on the stream bank (drainage ditch) will be kept to the minimum necessary to complete the works to prevent additional destabilisation of the riverbank. Tools must not be washed within the watercourse. No storage of hydrocarbons will be permitted within in the flood zone of the watercourse. The works area will be reseeded as soon as possible after completion of works to minimise the potential for silt runoff

Silt fence

Silt fencing will be installed along the eastern boundary of the site. The outline location of the silt fencing is illustrated in the CEMP (O'Mahony Developments) and will be subject to a detailed assessment of each area or phase to be developed. The purpose of the silt fencing is to prevent silt laden water leaving the site and entering neighbouring land with the potential to impact nearby watercourses. A typical silt fencing will consist of a double layer of geotextile membrane fixed to wooden stakes approximately 600mm high. The membrane will be anchored into the ground to form a continuous barrier to silt laden water from the works site. Silt fences will be monitored via a silt inspection log and periodically maintained during the construction period. Typical maintenance will consist of repairs to damaged sections of membrane and removal of a build-up of silt on the upslope side of the fence. Daily silt fence inspections are recommended as part of their operation ensuring that any necessary repairs can be expedited.

7.2 Excavations, Erosion and Sediment Control

Rainwater pumped from excavations is to be directed to on-site settlement ponds.

Groundwater pumped from excavations is to be directed to on-site settlement ponds.

On-site settlement ponds are to include geotextile liners and riprapped inlets and outlets to prevent scour and erosion.

Surface water discharge points during the construction phase are to be agreed with Cork City Council's Environment Section prior to commencing works on site.

7.3 Accidental Spills and Leaks

All oils, fuels, paints, and other chemicals shall be stored in a secure bunded hardstand area.

Refuelling and servicing of construction machinery shall take place in a designated hardstand area which is also remote from any surface water inlets (when not possible to carry out such activities off site).

A response procedure shall be put in place to deal with any accidental pollution events and spillage kits shall be available and construction staff will be familiar with the emergency procedures and use of the equipment.

As fuels and oils are required during construction stage, it is necessary to mitigate the possibility of there being an accidental leakage of these liquids. There will be very limited storage of fuels on site and any fuels stored on site will be bunded and all chemicals will be stored in an appropriate tank. Should any spillage occur on site during construction, it is likely that there will be a localised moderate impact in the short term on the environment.

7.4 Concrete

- Concrete batching will take place off site where practical.
- Concrete wash down and wash out of concrete trucks will take place off site and any excess concrete is not to be disposed on site.

- Pumped concrete shall be monitored to ensure there is no accidental discharge.
- Concrete mixer washings are not to be discharged to surface water drains.

7.5 Wheel wash areas

Discharge from any vehicle wheel wash areas is to be directed to on-site settlement ponds/tanks, debris and sediment captured by vehicle wheel washes are to be disposed off-site at a licensed facility. During the groundworks excavation, a properly sized and designed wheel wash will be provided and maintained on site (or similar system). Appropriate water collection and filtering will take place prior to discharge to the public sewer system (subject to the contractor gaining approval from CCC). Gate staff will be trained to inspect vehicles for cleanliness prior to egress to the public road network and any trucks that have been inadequately cleaned will be returned to site.

Cover systems will be used on all vehicles removing spoil from site so as to minimise dust arising on surrounding streets.

8. In-combination effects

Article 6(3) of the Habitats Directive requires that:

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 subject to appropriate assessment of its implications for the site in view of the site's conservation objectives.

In-combination impacts refer to a series of individually modest impacts that may in combination produce a significant impact. The underlying intention of this in combination provision is to take account of in-combination impacts from existing or proposed plans and projects and these will often only occur over time.

High negative threats, pressures and activities identified for the Cork Harbour SPA include roads, motorways, port areas, industrial or commercial areas, urbanised areas, human habitation and marine and freshwater aquaculture. Other developments near the proposed development area and their potential in-combination impacts are listed in **Table 7**.

The area surrounding the proposed development area is also heavily populated with a mixture of residential estates, schools, medical facilities, commercial developments and a busy road network. Wastewater is also discharged from other settlements around Blarney (e.g., Ballincollig, Cork City, Douglas, Ringaskiddy) and local industry. However, in the absence of any significant impact associated with this project no in-combination impacts on water quality have been identified. Similarly, no significant in-combination impacts in relation to noise and disturbance have been identified. No other significant in-combination impacts have been identified. There are no projects which could have a potential significant in-combination effect along with the proposed development.

Following mitigation, no adverse impacts from changes in water quality during construction or operation were identified in the plans or projects described above. In summary, no measurable in-combination impacts are likely to Cork Harbour SPA from other developments.

9. Conclusions

The AA screening concluded, on the basis of objective information and in view of best scientific knowledge, the possibility of significant effects from the proposed project on European sites could not be ruled out and therefore an Appropriate Assessment was required. The AA screening concluded that there was potential for the proposed development to significantly impact the Cork Harbour SPA, via water quality impacts during construction and operation.

The NIS has been prepared to inform and assist the competent authority to assess, in view of best scientific knowledge, if the proposed development, individually or in combination with another plan or project is likely to have a significant effect on the European site, Cork Harbour SPA.

This NIS has examined and analysed, in light of the best scientific knowledge, with respect to Cork Harbour SPA within the potential likely zone of impact of the proposed development, the potential effect pathways, how these could impact on qualifying species and habitats and whether the predicted effects would adversely affect the integrity of Cork Harbour SPA.

Mitigation measures are set out in **Section 7** of the NIS and they ensure that any effects on the conservation objectives of Cork Harbour SPA will be avoided during the proposed development such that there will be no risk of adverse effects on the integrity of this European site.

It has been objectively concluded following an examination, analysis and evaluation of the relevant information, including in particular the nature of the predicted effects from the proposed development and with the implementation of the mitigation measures proposed, that the construction and operation of the proposed development will not adversely affect (either directly or indirectly) the integrity of any European site, either alone or in combination with other plans or projects. There is no reasonable scientific doubt in relation to this conclusion. The competent authority will make the final determination in this regard.

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Appendices

Appendix 1 Site synopses

Cork Harbour Special Protection Area (Site Code 004030)

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

Owing to the sheltered conditions, the intertidal flats are often muddy in character. These muds support a range of macro-invertebrates, notably *Macoma balthica*, *Scrobicularia plana*, *Hydrobia ulvae*, *Nephtys hombergi*, *Nereis diversicolor* and *Corophium volutator*. Green algae species occur on the flats, especially *Ulva lactuca* and *Enteromorpha* spp. Cordgrass (*Spartina* spp.) has colonised the intertidal flats in places, especially where good shelter exists, such as at Rossleague and Belvelly in the North Channel. Salt marshes are scattered through the site and these provide high tide roosts for the birds. Salt marsh species present include Sea Purslane (*Halimione portulacoides*), Sea Aster (*Aster tripolium*), Thrift (*Armeria maritima*), Common Saltmarsh-grass (*Puccinellia maritima*), Sea Plantain (*Plantago maritima*), Laxflowered Sea-lavender (*Limonium humile*) and Sea Arrowgrass (*Triglochin maritima*). Some shallow bay water is included in the site. Cork Harbour is adjacent to a major urban centre and a major industrial centre. Rostellan Lake is a small brackish lake that is used by swans throughout the winter. The site also includes some marginal wet grassland areas used by feeding and roosting birds.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Little Grebe, Great Crested Grebe, Cormorant, Grey Heron, Shelduck, Wigeon, Teal, Pintail, Shoveler, Red-breasted Merganser, Oystercatcher, Golden Plover, Grey Plover, Lapwing, Dunlin, Blacktailed Godwit, Bar-tailed Godwit, Curlew, Redshank, Black-headed Gull, Common Gull, Lesser Black-backed Gull and Common Tern. The site is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

Cork Harbour is an internationally important wetland site, regularly supporting in excess of 20,000 wintering waterfowl, for which it is amongst the top five sites in the country. The two-year mean of summed annual peaks for the entire harbour complex was 55,401 for the period 1995/96 and 1996/97. Of particular note is that the site supports internationally important populations of Black-tailed Godwit (905) and Redshank (1,782) - all figures given are average winter means for the two winters 1995/96 and 1996/97. At least 18 other species have populations of national importance, as follows: Little Grebe (51), Great Crested Grebe (204), Cormorant (705), Grey Heron (63), Shelduck (2,093), Wigeon (1,852), Teal (922), Pintail (66), Shoveler (57), Red-breasted Merganser (88), Oystercatcher (1,404), Golden Plover (3,653), Grey Plover (84), Lapwing (7,688), Dunlin (10,373), Bartailed Godwit (417), Curlew (1,325) and Greenshank (26). The Shelduck population is the largest in the country (over 10% of national total). The site has regionally or locally important populations of a range of other species, including Whooper Swan (10), Pochard (145) and Turnstone (79). Other species using the site include Gadwall (13), Mallard (456), Tufted Duck (113), Goldeneye (31), Coot (53), Mute Swan (38), Ringed Plover (34) and Knot (38). Cork Harbour is a nationally important site for gulls in winter and autumn, especially Black-headed Gull (4,704), Common Gull (3,180) and Lesser Black-backed Gull (1,440).

A range of passage waders occurs regularly in autumn, including such species as Ruff (5-10), Spotted Redshank (1-5) and Green Sandpiper (1-5). Numbers vary between years and usually a few of each of these species over-winter.

The wintering birds in Cork Harbour have been monitored since the 1970s and are counted annually as part of the I-WeBS scheme.

Cork Harbour has a nationally important breeding colony of Common Tern (3-year mean of 69 pairs for the period 1998-2000, with a maximum of 102 pairs in 1995). The birds have nested in Cork Harbour since about 1970, and since 1983 on various artificial structures, notably derelict steel barges and the roof of a Martello Tower. The birds are monitored annually and the chicks are ringed.

Extensive areas of estuarine habitat have been reclaimed since about the 1950s for industrial, port-related and road projects, and further reclamation remains a threat. As Cork Harbour is adjacent to a major urban centre and a major industrial centre, water quality is variable, with the estuary of the River Lee and parts of the Inner Harbour being somewhat eutrophic. However, the polluted conditions may not be having significant impacts on the bird populations. Oil pollution from shipping in Cork Harbour is a general threat. Recreational activities are high in some areas of the harbour, including jet skiing which causes disturbance to roosting birds.

Cork Harbour is of major ornithological significance, being of international importance both for the total numbers of wintering birds (i.e. > 20,000) and also for its populations of Black-tailed Godwit and Redshank. In addition, there are at least 18 wintering species that have populations of national importance, as well as a nationally important breeding colony of Common Tern. Several of the species which occur regularly are listed on Annex I of the E.U. Birds Directive, i.e. Whooper Swan, Golden Plover, Bar-tailed Godwit, Ruff and Common Tern. The site provides both feeding and roosting sites for the various bird species that use it.

Appendix 2. Drawings

