

1. EUROPEAN SITE DATA

| Great Island Channel candidate Special Area Of Conservation (site code 001058) | |
|---|---|
| Conservation objective | To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected. |
| Qualifying interests | Annex I listed habitats: mudflats, sandflats not covered by seawater at low tide, estuaries, spartina swards, Atlantic salt meadows. |
| References and further information | <i>Conservation Objectives for Great Island Channel SAC [001058]</i> (NPWS), <i>Natura 2000 Standard Data Form</i> (NPWS), <i>Site Synopsis Great Island Channel Site Code 001058</i> (NPWS) (see www.npws.ie for further details) |

| Cork Harbour Special Protection Area (site code 004030) | |
|--|--|
| Conservation objective | To maintain or restore the favourable conservation condition of the bird species listed as special conservation interests for this SPA. |
| Qualifying interests | Annex I-listed bird species: bar-tailed godwit, common tern (breeding), golden plover, ruff, whooper swan. Other birds of special conservation interest include black-headed gull, black-tailed godwit, common gull, curlew, dunlin, great crested grebe, grey heron, grey plover, lapwing, lesser black-backed gull, little grebe, oystercatcher, pintail, red-breasted merganser, redshank, shelduck, shoveler, teal, and widgeon. This site is an internationally important wetland site supporting > 20,000 wintering waterfowl. |
| References and further information | <i>Conservation Objectives for Cork Harbour SPA [004030]</i> (NPWS), <i>Natura 2000 Standard Data Form</i> (NPWS), <i>Site Synopsis Cork Harbour SPA Site Code 004030</i> (NPWS) (see www.npws.ie for further details) |

2. DETAILS OF PROPOSED DEVELOPMENT

| | |
|---------------------------------|---|
| Reference no. | Ballincroilig, Co. Cork. |
| Development consent type | Part 8 Local Authority |
| Development location | Ballincroilig, Co. Cork. |
| Description of development | The Ballincroilig proposed development, comprises of the construction of a residential development of 72 no. dwelling units, all designed to take into account the existing urban architecture. The development site is approximately 2.91 hectares (of which 1.26 hectare is developable). |
| Distance from cSAC | 7.9km |
| Distance from SPA | 3.9km |
| Relevant strategies or policies | Draft Cork City Heritage and Biodiversity Plan (2021-2026); Cork City Development Plan 2015-2021 (Cork City Council, 2015); Draft Cork City Development Plan 2022-2028 (Cork City Council 2021); |
| EIS submitted? | No |

3. ASSESSMENT OF LIKELY DIRECT, INDIRECT AND CUMULATIVE EFFECTS

Yes / No

| | |
|---|-----|
| 1. Is the proposed development directly connected to or necessary for the conservation management of the SPA and/or cSAC? (If yes, no further assessment required. If no, screening required.) | no |
| 2. Is the proposed development located within or partly within the SPA? | no |
| 3. Is the proposed development located within 100m of the SPA? | no |
| 4. Does the proposed project involve the development, extension or upgrade of a cycleway or walkway within 200m of the SPA? | no |
| 5. Does the proposed development involve development in the intertidal or coastal zone within the potential impact zone of the SPA? | no |
| 6. Could the proposed project increase the level of recreational or other use of marine or intertidal areas within the potential impact zone of the SPA? | no |
| 7. Does the proposed development involve the excavation of previously undeveloped land within an area that has been identified to be at risk of flooding within the potential impact zone of the SPA? | no |
| 8. Does the proposed development involve the removal of significant amounts of topsoil within 100m of the SPA? | no |
| 9. Does the existing wastewater treatment system have the capacity to treat any additional loading? | Yes |

3. ASSESSMENT OF LIKELY DIRECT, INDIRECT AND CUMULATIVE EFFECTS

Yes / No

| | |
|--|-----|
| 10. Would the proposed development result in direct surface water or other discharge to water bodies in or feeding into the SPA or cSAC? Would it result in additional storm flows into a combined sewer and subsequently into a combined sewer overflow (CSO), resulting in increased frequency, quantity and/or duration of overflow from the CSO to watercourses feeding into the European sites? | Yes |
| 11. Would the proposed development involve dredging or could it result in the mobilisation of marine sediments in the Harbour area? | no |
| 12. Could the proposed development give rise to increased risk of oil or chemical spillage or leaks within the marine environment or watercourse within the potential impact zone for the SPA or cSAC? | no |
| 13. Are there relevant plans or projects which, in combination with the proposed development, are likely to give rise to any cumulative effects? | no |
| Comments or notes | |
| | |

4. SCREENING CONCLUSION STATEMENT

In view of the above it is considered that (tick one box only):

Appropriate Assessment is not required
The proposed development is directly connected / necessary to the conservation management of a site.

Appropriate Assessment is not required
It can be excluded through screening that the proposed development will have significant effects on the sites.

Further information is required
Potential impacts have been identified through initial screening and/or there is insufficient information to enable the planning authority to screen out impacts, but on balance it is determined that the issues could be resolved through minor modifications to the proposed development or by appropriate conditions. The information required is specified below.

Appropriate Assessment is required
Significant issues have been identified and/or significant effects are certain, likely or uncertain, and the submission of a Natura Impact Statement (NIS) is required, or the proposed development must be rejected.

Further information required / Comments or Notes

In accordance with the Habitats Directive, an Appropriate Assessment (AA) Screening has been carried out on the project, in relation to any potential impacts upon the Cork Harbour Special Protection Area [Site No. 004030] and the Great Island Channel Special Area of Conservation [Site No. 001058]. The findings of the AA screening noted that no significant effects on any Natura 2000 sites is likely and it was not necessary to undertake any further stage of the Appropriate Assessment process. Please refer to Appendix A for report titled; Report Title prepared by Report in Support of Appropriate Assessment (AA) Screening Part 8 Residential Development at Ballyhooly Road, Ballincroig, Co. Cork dated June 2022.

| | |
|------------------|----------------------|
| Name: | Niall Ó Donnabháin |
| Position: | Director of Services |
| Date: | 04/07/2022 |

Appendix A

Stage 1 Appropriate Assessment Screening



DixonBrosnan
environmental consultants

Report in Support of Appropriate
Assessment (AA) Screening

Part 8 Residential Development at Ballyhooly Road,
Ballincroilig, Co. Cork

On Behalf of
O'Leary O'Sullivan Developments Ltd.

June 2022

www.dixonbrosnan.com

| | | |
|---|--|-----------------------|
| Project | Report in Support of Appropriate Assessment (AA) Screening Part 8 Residential Development at Ballyhooly Road, Ballincroig, Co. Cork | |
| Client | O'Leary O'Sullivan Developments Ltd. | |
| Project Ref. | 2207.1 | |
| Report No. | 2207.1 | |
| Client Ref. | - | |
| Date | Revision | Prepared By |
| 17/01/22 | 1 st Draft | Sorcha Sheehy BSc PhD |
| 27/6/22 | 0 Issue to Client | Carl Dixon BSc MSc |
| | | |
| <p>DixonBrosnan Lios Ri Na hAoine, 1 Redemption Road, Cork. Tel 086 851 1437 carl@dixonbrosnan.com www.dixonbrosnan.com</p> | | |
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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 the proposed development at Ballyhooly Road, Ballincroilig, Co. 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 Cork City Council 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) and
- CJEU Case C 164/17 Edel Grace Peter Sweetman v An Bord Pleanála.

1.3 Authors of Report

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

Sorcha Sheehy PhD (ecology/ornithology) is an ecologist and ornithologist who has worked for 13 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.

Sorcha'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).

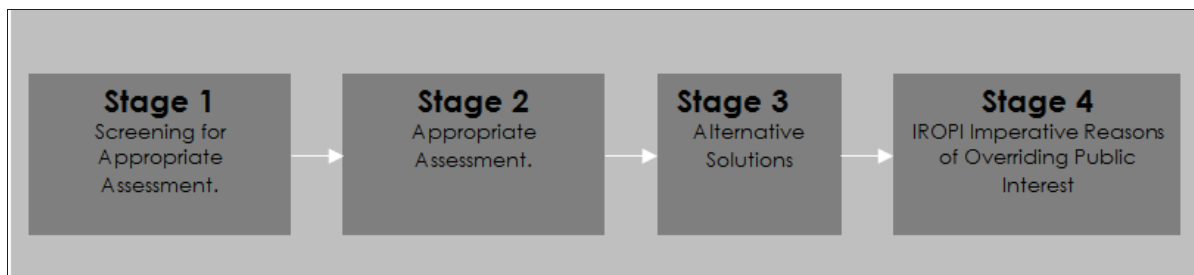
Under the Directive a network of sites of nature conservation importance have been identified by each Member State as containing specified habitats or species requiring to be maintained or returned to favourable conservation status. In Ireland the network consists of SACs and SPAs, and also candidate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

3.1 Existing site

The proposed development site is located in Ballincroilig, Co. Cork approximately 3.8km northwest of Cork city centre and approximately 700m south of White's Cross. The site is bordered to the west by existing residential developments and agricultural lands to the north, south and east. The site is bounded to the east by the Ballyhooly Road which is a regional road R614 (**Figure 1**).

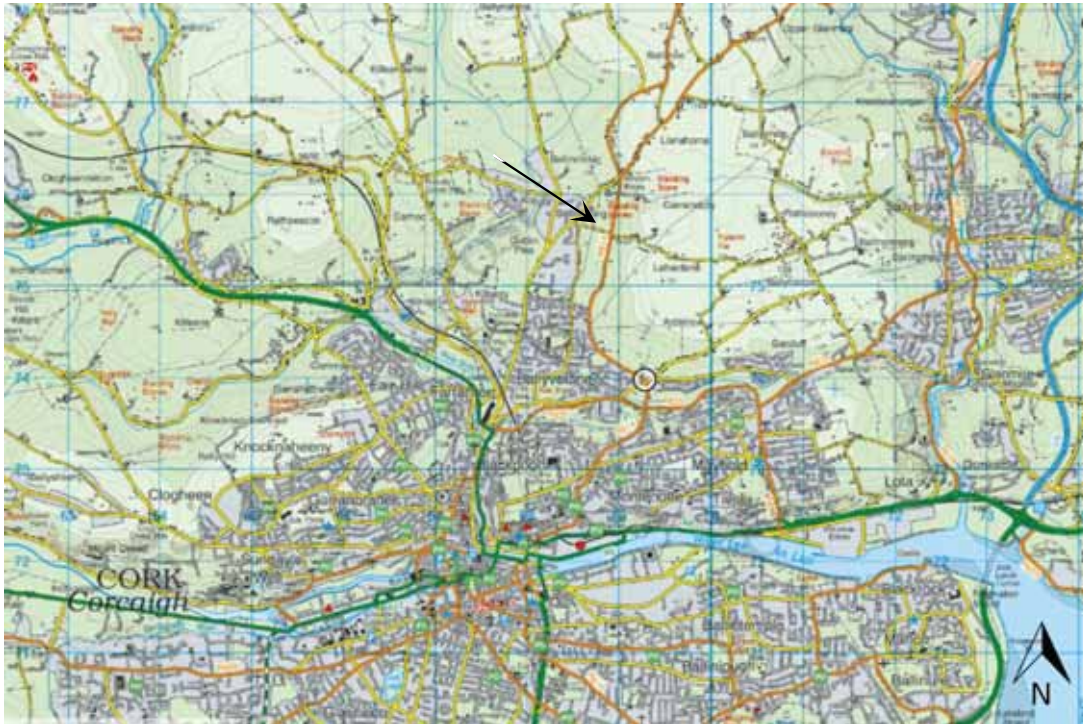


Figure 1. Site location | Source OSI.ie

3.2 Proposed Development

The Ballincrokig proposed development, comprises of the construction of a residential development of 72 no. dwelling units, all designed to take into account the existing urban architecture. The development site is approximately 2.91 hectares (of which 1.26 hectare is developable). The site is located in Ballincrokig, Ballyhooly Road, Ballyvolane, Co. Cork, to the North of Cork City Centre. Access to the development will be via Ballyhooly Road

The proposed development will comprise of:

1. Construction of 72 No. dwelling units comprising of all duplex units: -
 1. 28 no. 1 bedroom apartments, 1 storey,
 2. 8 no. 2-bedroom apartments, 1 storey,
 3. 28 no. 2 bedroom duplex units, 2 storey,
 4. 8 no. 3 bedroom duplex units, 2 storey.
1. Provision of 94 no. car parking spaces and 124 no. covered bicycle spaces.
2. All ancillary site works and signage as outlined in the plans and particulars

An overview of the proposed development is shown in **Figure 2**. Details of surface water and foul water drainage are included in **Appendix 2** of this report.

4. Screening

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 (Zol) 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

A site inspection was carried out on the 13th of January 2022 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 Ballincroikig 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

- Draft Cork City Heritage and Biodiversity Plan (2021-2026);
- *Cork City Development Plan 2015-2021* (Cork City Council, 2015);
- Draft Cork City Development Plan 2022-2028 (Cork City Council 2021);
- 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 and
- Cork City D0033-01 Wastewater Treatment Plant (WWTP) Annual Environmental Report 2020 (EPA 2021)

5. Natura 2000 Sites

5.1 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 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**.

A small watercourse runs along the eastern boundary of the proposed development site and surface water runoff from the proposed development site will be discharged to this stream. This stream is not mapped on the EPA online mapping system, however further downstream this watercourse is referred to as the Ballincolly Stream. This is a small tributary of the Glen (Cork City) watercourse which joins with the Bride (Cork City) to form the Kiln Stream. The Kiln Stream discharges to an estuarine section of the River Lee within the city centre which flows into the Cork Harbour SPA near Blackrock Castle. Therefore, the proposed development site is located approximately 10.5km upstream of the Cork Harbour SPA. Although unlikely, surface water run-off during the construction or operational phase of the proposed development could potentially flow into Cork Harbour SPA via the unnamed stream. Wastewater from the site will ultimately discharge into Cork Harbour via the Cork City Wastewater treatment plant (WWTP). Habitats within or near the proposed development site could 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 residential development) and the receptor (Cork Harbour SPA) via a potential pathway (surface water runoff, the spread of invasive species and disturbance during construction/operational phase and wastewater discharge during the operational phase). Cork Harbour SPA is of conservation significance for the occurrence of good examples of species

that are listed on Annex I of the Birds Directive. Further information on the Cork Harbour SPA is provided below and a full site synopsis included **Appendix 1**.

While the proposed development is potentially hydrologically connected to the Great Island Channel SAC via Cork Harbour, given the small scale of the proposed development, the dilution capacity available within Cork Harbour and the robust nature of the estuarine qualifying habitats for the Great Island Channel SAC, no pathway for impact has been identified. The proposed development is not hydrologically connected to the Blackwater River (Cork/Waterford) SAC. Given the distances involved and the lack of hydrological connection, no pathway for impact has been identified between the proposed development and any other Natura 2000 site.

Table 1. Natura 2000 sites and their location relative to the proposed development site

| Natura 2000 Sites | Site Code | Distance at closest point and potential source-pathway-receptor link | Qualifying Interests (* denotes a priority habitat) |
|---|-----------|--|---|
| Special Area of Conservation (SAC) | | | |
| Great Island Channel SAC | 001058 | 7.9km southeast. No pathway exists. | <p>Habitats</p> <p>1140 Mudflats and sandflats not covered by seawater at low tide</p> <p>1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>)</p> |
| Blackwater River (Cork/Waterford) SAC | 002170 | 11.4km north. No pathway exists | <p>Habitats</p> <p>1130 Estuaries</p> <p>1140 Mudflats and sandflats not covered by seawater at low tide</p> <p>1220 Perennial vegetation of stony banks</p> <p>1310 Salicornia and other annuals colonising mud and sand</p> <p>1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>)</p> <p>1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>)</p> <p>3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation</p> <p>91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles</p> <p>91E0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>)*</p> <p>Species</p> <p>1096 Brook Lamprey (<i>Lampetra planeri</i>)</p> <p>1106 Salmon (<i>Salmo salar</i>)</p> <p>1421 Killarney Fern (<i>Trichomanes speciosum</i>)</p> <p>1095 Sea Lamprey (<i>Petromyzon marinus</i>)</p> <p>1355 Otter (<i>Lutra lutra</i>)</p> <p>1103 Twaite Shad (<i>Alosa fallax fallax</i>)</p> <p>1092 White-clawed Crayfish (<i>Austropotamobius pallipes</i>)</p> |

| Natura 2000 Sites | Site Code | Distance at closest point and potential source-pathway-receptor link | Qualifying Interests (* denotes a priority habitat) |
|--------------------------------------|-----------|---|--|
| | | | 1029 Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>) 1099 River Lamprey (<i>Lampetra fluviatilis</i>) |
| Special Protection Area (SPA) | | | |
| Cork Harbour SPA | 004030 | 3.9km north of the Cork Harbour SPA, 10.5km via hydrological connection. A source-pathway-receptor link has been identified between the source (proposed development site) and the receptor (Cork Harbour SPA) via a potential pathway (impacts on water quality, disturbance or spread of invasive species during construction or operational phase and wastewater discharges during operation). | <p>Birds</p> <ul style="list-style-type: none"> 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>) A054 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>) <p>Habitats</p> <ul style="list-style-type: none"> Wetlands |



Figure 3. Natura 2000 sites within zone of influence of the proposed development site |
Source EPA Envision Mapping | Not to scale

5.2 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.

5.3 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.

5.4 Status of qualifying interests for the Cork Harbour SPA

The specific conservation objectives for species listed as conservation interests for the Cork Harbour SPA (**Table 3**) 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.

The conservation objectives for the SCI species of the Cork Harbour SPA are to maintain their favourable conservation condition in the Cork Harbour SPA (NPWS 2014b). The favourable conservation condition of all the non-breeding SCI species are defined by the same two attributes and targets, which are shown in **Table 3**. The favourable conservation condition of the Common Tern SCI species is defined by six attributes and targets, which are shown in **Table 3**.

The conservation objective for the Wetlands SCI of the Cork Harbour SPA is “to maintain the favourable conservation condition of the wetland habitat in Cork Harbour SPA as a resource for the regularly-occurring migratory waterbirds that utilise it” (NPWS, 2014a). This is defined by a single attribute and target, which is shown in **Table 3**.

Table 3. SCI species for which a potential impact has been identified – specific targets

| Species/Habitats | Attribute | Measure | Target |
|--|------------------|---|---|
| Little Grebe Great Crested Grebe Cormorant Grey Heron Shelduck | Population trend | Percentage change | Long term population trend stable or increasing |
| Wigeon Teal Pintail Shoveler Red-breasted Merganser Oystercatcher Golden Plover Grey Plover | 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 |

| Species/Habitats | Attribute | Measure | Target |
|---|---|--|--|
| Lapwing Dunlin Black-tailed Godwit Bar-tailed Godwit Curlew 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 |

| Species/Habitats | Attribute | Measure | Target |
|------------------|-----------|---------|---|
| | | | than the area of 2,587 hectares, other than that occurring from natural patterns of variation |

6. Water Quality data

6.1 River Basin Management Plan for Ireland 2018 – 2021 (2nd 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 second-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 cycle.

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 watercourses within the study area is provided in **Table 4** and the location of these shown in **Figure 4**. It is noted that limited data on the 3rd cycle of the RBMP has been released through the EPA envision mapping portal. There has been no change in the WFD status in waterbodies in the vicinity of the proposed development site since the 2nd cycle.

Table 4. WFD Status

| Catchment: Lee, Cork Harbour and Youghal Bay (Code 19) – 2nd Cycle | | | |
|--|-------------------|-----------------------------|-----------------------------------|
| <p>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.</p> <p>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.</p> <p>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.</p> <p>The proposed development site is located within the Kiln_SC_10 subcatchment. Two out of three river water bodies within this subcatchment are unassigned but AT RISK due to elevated nutrients, Bride (Cork City)_010 and Bride (Cork City)_020. Glennamought Trib Bride_010 is under REVIEW due to its unassigned status.</p> <p>Diffuse urban appears to be the most significant pressure present within the subcatchment due to Cork City and its surrounds. Channelisation may also impact Bride (Cork City)_020 due to the presence of a drainage district scheme.</p> <p>Wastewater discharges from the proposed development will discharge into Cork Harbour at Lough Mahon.</p> | | | |
| Waterbodies relevant to the proposed project | | | |
| Waterbody | WFD Status | Significant Pressure | Pressure Category |
| GLENNAMOUGHT TRIB River BRIDE_010 | Review | Yes | Urban Runoff |
| BRIDE (Cork City)_020 | Review | Yes | Urban Runoff |
| BRIDE (Cork City)_010 | Review | Yes | Urban Runoff and Hydro morphology |
| Lough Mahon | At risk | n/a | Urban wastewater |

Source: EPA envision mapping and www.catchments.ie

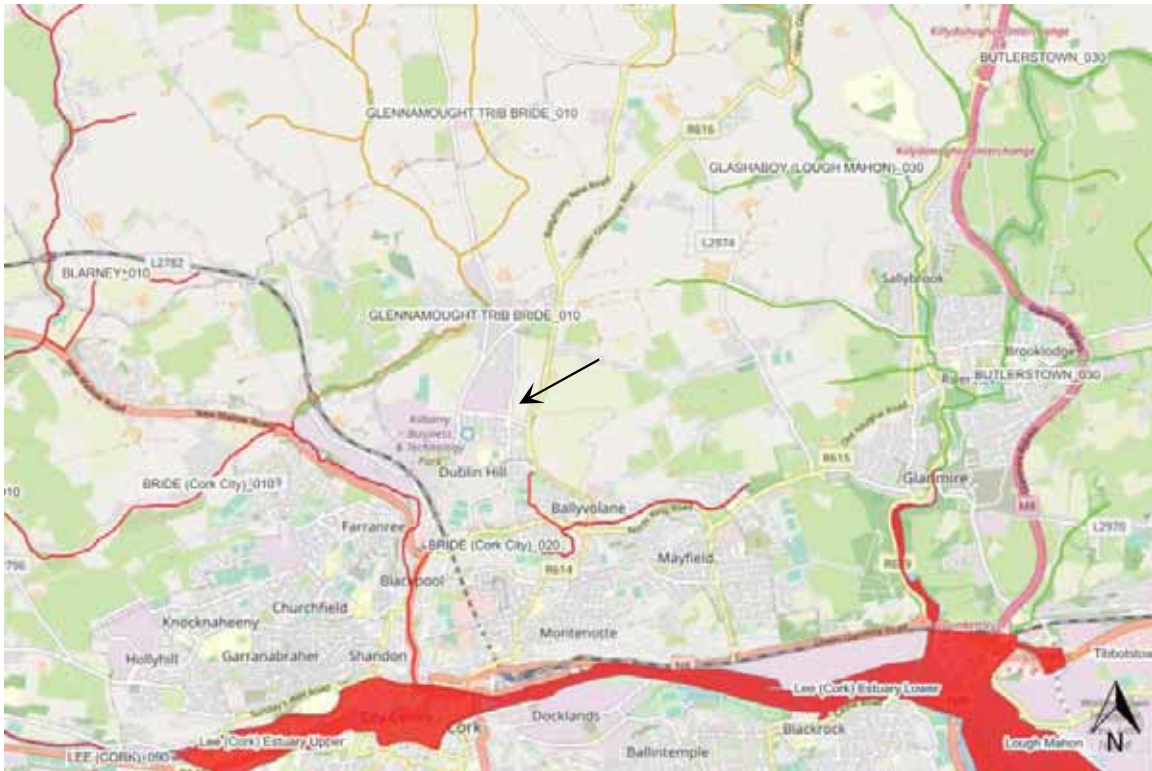


Figure 4. WFD waterbodies in the vicinity of the proposed development | Source: EPA Envision mapping <https://qis.epa.ie/EPAMaps/> | not to scale

6.2 Urban Wastewater Treatment Directive

The Waste Water Discharge (Authorisation) Regulations 2007 (S.I. 684 of 2007) gives effect to the requirements of the Urban Waste Water Treatment Directive (Directive 91/271/EEC) and the Water Framework Directive (2000/60/EC) in Ireland. The Urban Waste Water Treatment Directive (UWWTD) lays down the requirements for the collection, treatment and discharge of urban waste-water 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 Waste Water 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 Cork City WWTP (D0033-01) for treatment prior to discharging into the Cork Harbour at Lough Mahon. Cork Harbour is a Nutrient Sensitive Area listed in accordance with the Urban Waste Water Treatment (UWWT) Directive 91/271/EEC on Urban Waste Water Treatment Regulations 2001 (S.I. 48 of 2010).

7. Site Surveys

7.1 Habitat survey

A site survey was carried out on 13th January 2022. DixonBrosnan previously surveyed this site on the 5th, 10th and 15th of March 2021 as part of the assessment for an EclA at an adjoining development (*Ecological Impact Assessment Screening (EclA) Proposed residential development at Coppenger Fields, Ballyvolane, Co. Cork, DixonBrosnan, 2021*).

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 5** and the habitats recorded on site are described in **Table 5**.

Table 5. Habitat present within the proposed development site.

| Habitat | Comments |
|--|--|
| Arable crops (BC1)/ Exposed sand, gravel or till (ED1)/ Spoil and bare ground (ED2) | <p>A proportion of the site was previously managed as arable land although some regrowth of grass and common weed species such as Field Thistle <i>Cirsium arvense</i>, Field Speedwell <i>Veronica agrestis</i> and Groundsel <i>Senecio vulgaris</i> has occurred.</p> <p>Part of the proposed development area is now utilised as a site compound for the adjoining residential development to the west. Building materials including pallets, pipes and large spoil heaps are stored in this area. This storage area is largely unvegetated with the exception of common species such as Field Thistle Common Fumitory <i>Fumaria muralis</i>, Broadleaved Dock <i>Rumex obtusifolius</i> and Spear Thistle <i>Cirsium vulgare</i>.</p> <p>A strip of previously disturbed ground runs parallel to the drain along the southern boundary. The ground was disturbed to provide a surface water discharge pipeline, running to the the upper reaches of the Ballincolly Stream which runs along the eastern boundary. This section of disturbed ground is now generally revegetated with a mixture of common species including Gorse <i>Ulex europeas</i>, Broad Leaved Dock, Ragweed <i>Ambrosia artemisiifolia</i>, Rosebay Willowherb <i>Chamerion angustifolium</i> and Field Thistle. <i>Buddleia Buddleia davidii</i> has a scattered distribution within the habitat. In the absence of development this area will develop into scrub habitat. These are low value habitats.</p> <p>These habitats do not have links to Annex I habitats.</p> |
| Improved agricultural grassland (GA1)/Scrub (WS2) | <p>Between the arable fields and the stream, which runs along the eastern boundary of the site, there is an area of grassland which is not utilised for arable crops. There is some waterlogging in this area and a spring and pool of standing water was noted.</p> <p>There are a small number of native Willow <i>Salix</i> sp. within this habitat. The species noted are common and include Nettle <i>Urtica dioica</i>, Dock sp., Soft Rush <i>Juncus effuses</i> Rosebay Willowherb, Bramble, Hogweed <i>Heracleum sphondylium</i> and common grass species such as Yorkshire Fog <i>Holcus lanatus</i>, Perennial</p> |

| Habitat | Comments |
|--|--|
| | <p>Ryegrass <i>Lolium perenne</i> and Cocksfoot <i>Dactylis glomerata</i>. This habitat grades into a dense band of bramble scrub along the river.</p> <p>These habitats do not have links to Annex I habitats.</p> |
| <p>Earth banks (BL2) Hedgerows (WL1)/</p> | <p>A vegetated earth bank forms the boundary between the proposed development site and agricultural land to the south. This vegetated earth bank, supports a mosaic of hedgerow species such as Hawthorn <i>Crataegus monogyna</i> with occasional Ash <i>Fraxinus excelsior</i> and large areas dominated by Bracken, Bramble and Gorse. Ivy (<i>Hedera helix</i>), Honeysuckle (<i>Lonicera periclymenum</i>) occur and Lesser Celendine <i>Ranunculus ficaria</i>, Goosegrass <i>Galium aparine</i>, Nettle and Foxglove <i>Digitalis purpurea</i>. Common Knapweed <i>Centaurea nigra</i> was also noted.</p> <p>This habitat also forms the boundary between the between the stream and the adjoining R614 road which runs along the eastern boundary of the site.</p> <p>These habitats do not have links to Annex I habitats.</p> |
| <p>Eroding River (FW1)</p> | <p>A small watercourse runs along the eastern boundary of the site. In the upper catchment where the development site occurs, this stream is not mapped on the EPA online mapping system, however further downstream this watercourse is referred to as the Ballincolly Stream. This is a small tributary of the Glen (Cork City) watercourse which joins with the River Bride (Cork City) to form the Kiln River. The Kiln River discharges to an estuarine section of the River Lee with the city centre.</p> <p>Where it adjoins the site the upper reaches of the Ballincolly Stream consist of a small, fast flowing stream with a relatively natural riffle glide sequence. The general morphological condition of the stream is good, although there is some evidence of alterations to its natural bankside structure. It is approximately 1m in width a mixture of heavily shaded areas and more open riffle glide with large beds of Watercress <i>Nasturtium Officinale</i> and Fools Watercress <i>Apium nodiflorum</i>. The substrate is mixed with coarse gravel, stones and pockets of gravel. No signs of nutrient enrichment were noted.</p> <p>Brown Trout and Eel do occur in the River Bride further downstream however given its limited flows this stream adjacent to the proposed development site is unlikely to be of value for fish. It is also noted that the stream is culverted part way along the site boundary and further downstream, which is likely to impede the movement of fish.</p> <p>Although the presence of fish such as Brown Trout and European Eel in small pockets of water downstream of the site cannot be altogether precluded, the stream where it adjoins the site is likely to have very low flows during dry summers and the presence of permanent fish populations is unlikely.</p> <p>These habitats do not have links to Annex I habitats.</p> |
| <p>Drainage ditch (FW4)</p> | <p>A small drainage ditch runs along the southern boundary of the site. This flows to the east and ultimately discharges into the unnamed stream on the eastern boundary of the proposed development site. It has limited flows with some Fools Watercress and is shaded by an earthbank and patchy treeline to the south. This drainage ditch is expected to dry up completely during dry conditions.</p> <p>These habitats do not have links to Annex I habitats.</p> |

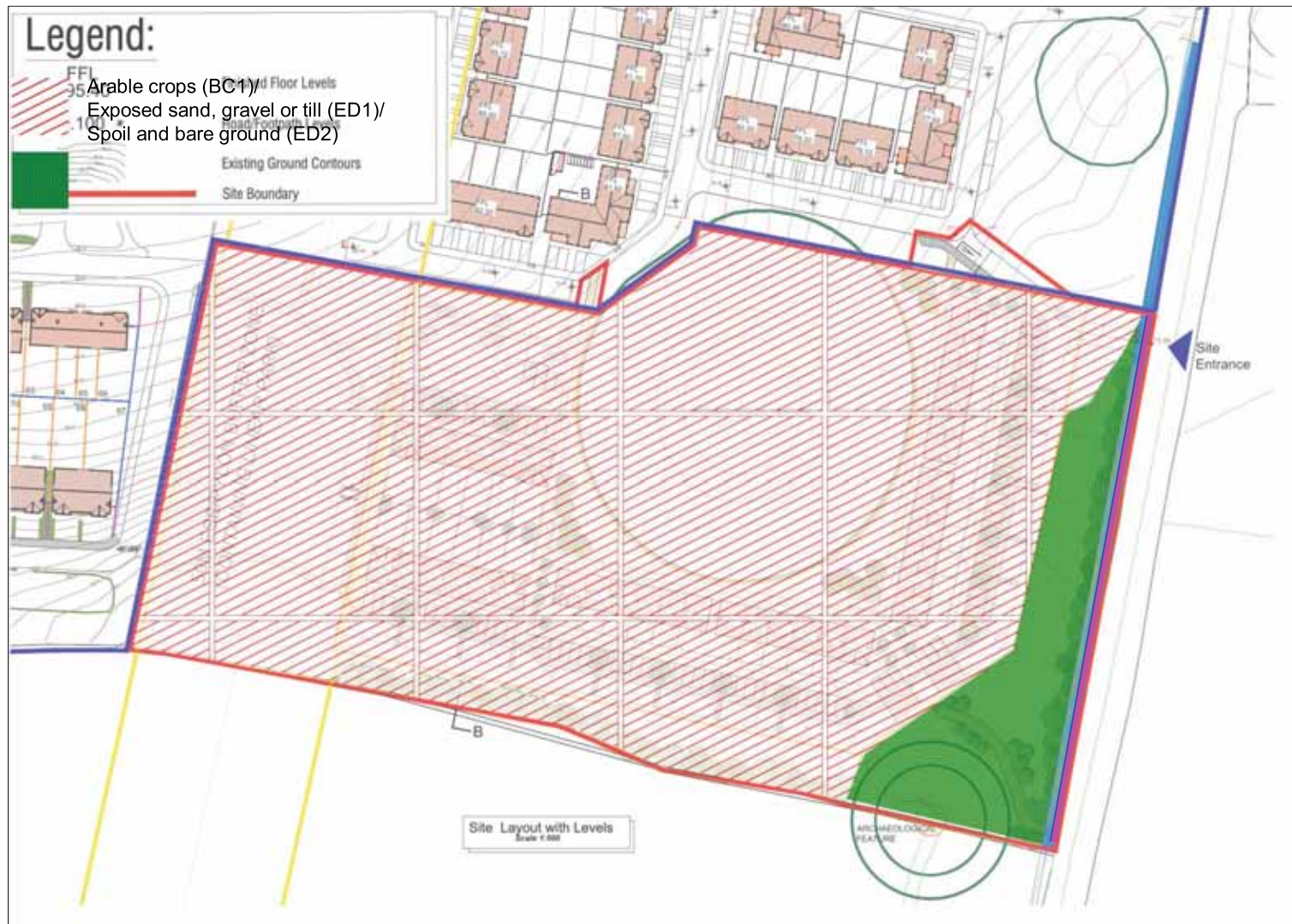


Figure 5. Habitat map of proposed development site (red line boundary)

7.2 Birds

A bird survey was carried out in conjunction with habitat surveys in January 2022. Breeding bird surveys were previously carried out at the site in March 2021. During the survey, all birds seen or heard within the development site were recorded. The majority of birds utilising the proposed works areas were common in the local landscape.

Bird species listed in Annex I of the Birds Directive are considered a conservation priority. 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.

No Annex I bird species were recorded during the site survey in January 2022 or during the breeding season in March 2021. Species recorded during the January 2022 survey are shown in **Table 6**.

Table 6. Bird Species recorded in January 2022

| Species | | Birds Directive Annex I | BOCCI | |
|-----------------------------------|---------------|-------------------------|----------|------------|
| | | | Red List | Amber List |
| <i>Sturnus vulgaris</i> | Starling | | | X |
| <i>Turdus merula</i> | Blackbird | | | |
| <i>Erithacus rubecula</i> | Robin | | | |
| <i>Prunella modularis</i> | Dunnock | | | |
| <i>Passer domesticus</i> | House Sparrow | | | X |
| <i>Carduelis carduelis</i> | Goldfinch | | | |
| <i>Troglodytes troglodytes</i> | Wren | | | |
| <i>Gallinago gallinago</i> | Snipe | | | X |
| <i>Anas platyrhynchos</i> | Mallard | | | |
| <i>Columba livia f. domestica</i> | Feral Pigeon | | | |
| <i>Turdus philomelos</i> | Song Thrush | | | |
| <i>Corvus frugilegus</i> | Rook | | | |
| <i>Corvus monedula</i> | Jackdaw | | | |
| <i>Parus caeruleus</i> | Blue Tit | | | |
| <i>Fringilla coelebs</i> | Chaffinch | | | |

The surrounding landscape is dominated by a mix of good quality agricultural land (tillage and pasture) to the east, north and south with ribbon development to the west. The proposed development site is dominated by arable land, disturbed ground habitats with small area of grassland. Vegetation on the boundaries of the existing site and the early successional, seed producing species provide some feeding/nesting resources for birds. Site boundaries are dominated by earth bank with some trees. As noted in **Section 5** above, the stream adjacent

to the site has been modified in parts and is unlikely to support fish species. Therefore, the stream is of negligible value for Kingfisher. However, other more specialised species such as Dipper *Cinclus cinclus* could potentially use the stream and this species was recorded during the 2021 breeding season.

Overall, most of the proposed development site is of low to moderate local value for terrestrial bird species that are relatively common in the Irish countryside. No species of high conservation status were recorded within the proposed development site. No signs of other significant nesting species were recorded. No birds listed as SCIs for the Cork Harbour SPA were recorded or are likely to utilise the proposed development site.

7.3 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 NBDC lists a number of high impact invasive species which have been recorded within grid square W67 (**Table 7**).

Table 7. NBDC list of high impact invasive species.

| Common Name | Latin Name |
|--|---------------------------------|
| Canada Goose | <i>Branta canadensis</i> |
| Canadian Waterweed | <i>Elodea canadensis</i> |
| Cherry Laurel | <i>Prunus laurocerasus</i> |
| Curly Waterweed | <i>Lagarosiphon major</i> |
| <i>Fallopia japonica x sachalinensis = F. x bohemica</i> | |
| Giant Hogweed | <i>Heracleum mantegazzianum</i> |
| Giant-rhubarb | <i>Gunnera tinctoria</i> |
| Indian Balsam | <i>Impatiens glandulifera</i> |
| Japanese Knotweed | <i>Fallopia japonica</i> |
| Nuttall's Waterweed | <i>Elodea nuttallii</i> |
| <i>Rhododendron ponticum</i> | |
| Harlequin Ladybird | <i>Harmonia axyridis</i> |
| American Mink | <i>Mustela vison</i> |
| Brown Rat | <i>Rattus norvegicus</i> |
| Coypu | <i>Myocastor coypus</i> |
| Feral Ferret | <i>Mustela furo</i> |

| | |
|-------------|----------------------|
| House Mouse | <i>Mus musculus</i> |
| 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 Japanese 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.”

No third schedule species were recorded within the proposed development site. The medium impact listed species (as classified by the NBDC) Buddleia was recorded within the proposed development site. Buddleia is also listed in the NRA (2010) *Guidelines on The Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads*.

8. Potential Impacts

Potential impacts could arise from the following:

- Potential impacts from loss of habitat.
- Potential impacts from noise and disturbance
- Potential impacts on water quality during construction
- Potential impacts on water quality during operation
- Spread of invasive species
- Cumulative Impacts

8.1 Potential impacts from loss of habitat

The proposed development site is located 3.9km north of the Cork Harbour SPA at its closest point and 10.5km via a hydrological connection. An ecological appraisal of the proposed development site indicates that it supports common habitats which are not of high value in the context of the Natura 2000 designation. The habitats recorded within the proposed development boundary do not correspond to habitats listed on Annex I of the Habitats Directive. There is nothing to differentiate the grassland and arable habitats onsite from other similar habitats in the vicinity and they do 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 March 2021 or the January 2022 site visits. The vegetation onsite does not provide suitable foraging habitat for wading birds.

The proposed development will not result in any significant deterioration in habitat quality or loss of habitat within the Cork Harbour SPA. Therefore, it is concluded that the proposed development will not result in any loss, deterioration or fragmentation of habitat within Natura 2000 sites.

8.2 Potential impacts 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 impacts 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 impacts 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 site.

It is noted that the proposed development site is located 3.9km from the SPA boundary and is located adjacent to existing urban developments. This area is subject to noise disturbance and light pollution from existing residential developments. During the construction stage, there may be short-term increases in disturbance, but it will not be significant in the context of existing noise levels. During operation, noise levels will return to preconstruction levels.

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

8.3 Potential impacts on water quality during construction

Potential impacts on aquatic habitats which can arise from surface water emissions during 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.

Inadvertent spillages of hydrocarbon and/or other chemical substances during construction could introduce toxic chemicals into the aquatic environment via direct means, surface water run-off or groundwater contamination. Some hydrocarbons exhibit an affinity for sediments and thus become entrapped in deposits from which they are only released by vigorous erosion or turbulence. Oil products may contain various highly toxic substances, such as benzene, toluene, naphthenic acids and xylene which are to some extent soluble in water; these penetrate into the fish and can have a direct toxic effect. The lighter oil fractions (including kerosene, petrol, benzene, toluene and xylene) are much more toxic to fish than the heavy fractions (heavy paraffins and tars). In the case of turbulent waters, the oil becomes dispersed as droplets into the water. In such cases, the gills of fish can become mechanically contaminated and their respiratory capacity reduced (Svobodova *et al.* 1993).

High levels of silt can also 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. 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. Cement can also affect fish, plant life and macroinvertebrates by altering pH levels of the water.

Aquatic plant communities may also be affected by increased siltation. Submerged plants may be stunted and photosynthesis may be reduced. Significant impacts on fish stocks could impact on piscivorous birds i.e., Little Grebe, Great Crested Grebe, Cormorant, Grey Heron and Common Tern due to a reduction in prey availability. Such run-off if severe could potentially result in changes in the ecology of the estuary.

Given the large size of the Cork Harbour SPA, the dilution provided in the estuarine environment and naturally fluctuating levels of silt within these estuarine habitats, impacts are only likely to arise from extremely severe levels of siltation or major spills of hydrocarbons. The small scale of the proposed development means there is no significant risk of severe silt levels being generated or major spills of hydrocarbons. A natural buffer zone exists between the development area and the stream and the provision of a single span bridge will result in limited disturbance of riparian habitats. Therefore, construction runoff from the site will be negligible. It is noted that environmental control measures will be implemented during construction in line with standard guidelines. Whilst the implementation of such measures during construction will assist in minimising impacts on the local environment, the implementation of these measures has not been taken into consideration in this screening report when reaching a conclusion as to the likely impact of the development on Natura 2000 sites.

The proposed development site is located a considerable distance from the Cork Harbour SPA (10.5km upstream). Given the small scale of the proposed development, the distance upstream of the SPA and subsequent dilution available in local watercourses, there is no significant risk silt or hydrocarbon contamination within Cork Harbour SPA. Therefore, no impact on water quality within Natura 2000 sites during construction is predicted to occur.

8.4 Impacts on water quality from discharges of wastewater and surface water during operation

The proposed residential development could potentially result in an increase in nutrients discharging to Cork Harbour via the Cork City Wastewater Treatment Plant (WWTP). Increased nutrients can potentially impact on estuarine habitats by changing baseline ecological conditions and increasing algal growth.

The proposed residential development could potentially result in an increase in nutrients discharging to Cork Harbour via the Lough Mahon discharge for the Cork City WWTP. Increased nutrients can potentially impact on estuarine habitats by changing baseline ecological conditions and increasing algal growth, which in turn could impact on feeding success for birds listed as qualifying interests for the Cork Harbour SPA.

The Cork City WWTP has a design capacity i.e Population Equivalent (P.E.) of 413,200. The WWTP obtained a discharge licence (Reg: D0033-01) 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 Lough Mahon and surrounding waters.

Treated effluent from the proposed development will discharge from the Cork City WWTP via the main treated effluent line. The discharge licence assigns ELV's for biochemical oxygen demand (BOD), chemical oxygen demand (COD), total suspended solids (TSS), Total Nitrogen (Total N), Total Phosphorous (Total P), Ammonia Total (as N), orthophosphate (As P) and pH. The ELVs are set based on the full design capacity (P.E 413,200) 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.

Based on the planned occupancy, the P.E. for the proposed development has been conservatively calculated at 178. This would increase the current WWTP load from 241,480 (based on 2020 EPA data) to 241,658 which is well within the 413,200 P.E. design capacity. Therefore, with the addition of emissions from the proposed residential development to the WWTP it would increase its operational load to 58.5% of its design capacity with a residual capacity of 41.5%. Thus, given the limited scale of the proposed development and the ability of the WWTP to cater for the additional loading, no impact is expected.

The 2020 Annual Environmental Report for Cork City WWTP (D0033-01) was reviewed. **Table 8** provides a summary of the current operating conditions for the WWTP from the main effluent discharge obtained from the most recent Environmental Protection Agency Annual Environment Report (2021).

Table 8. Effluent Monitoring

| | COD (mg/l) | TSS (mg/l) | BOD (mg/l) | Total Nitrogen (mg/l) | Total P (mg/l) |
|--|------------|------------|------------|-----------------------|----------------|
| WWDL ELV (Schedule A1) | 125 | 35 | 25 | 10 | 2.5 |
| ELV with Condition 2 Interpretation | 250 | 87.5 | 50 | 12 | 3 |
| No. of Samples | 261 | 261 | 261 | 25 | 25 |
| No. of Exceedances | N/A | 2 | N/A | 24 | 2 |
| No Samples above ELV with condition 2 interpretation | N/A | N/A | N/A | 22 | 1 |
| Annual Mean | 64.47 | 14.71 | 8.64 | 16.6 | 1.73 |
| Overall Compliance | Pass | Pass | Pass | Fail | Fail |

The AER notes that the final effluent from the Primary Discharge Point was non-compliant with the Emission Limit Values in 2020. The noncompliance's with the ELVs were in relation to Total P (mg/l) and Total N (mg/l). This non-compliance was because nutrient removal does not form part of the WWTP process. In relation to ongoing monitoring of water quality, the 2020 AER concluded the following:

The WWTP discharge was not compliant with the ELV's set in the wastewater discharge licence.

- The ambient monitoring results does not meet the required EQS. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.

- The discharge from the wastewater treatment plant does not have an observable impact on the water quality.
- The discharge from the wastewater treatment plant does not have an observable negative impact on the Water Framework Directive status.

Overall, the discharge from the WWTP does not have an observable negative impact on receiving water quality nor a negative impact on the Water Framework Directive Status. The addition of the effluent discharge from the proposed residential development to the Cork City 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 impacts from the proposed development will be negligible given the current operating conditions at the WWTP.

As per Sustainable Drainage Systems (SuDS) principles, management of surface water runoff during operation of the residential development has been built into the plans. This will involve using an attenuation tank located in the south-eastern of the site. All surface water runoff arising from the proposed development will be drained to this attenuation tank. The attenuation tank will have a catchment capacity of 562m³ is designed for a 100-year storm event. All storm water discharge will be directed through hydrocarbon interceptors, and grit sumps, before being directed to the storm water attenuation tank, which will in turn discharge via a hydro-brake flow control device to the existing stream. No impact from operational surface water runoff is predicted to occur. Therefore, there will be no impact on Cork Harbour SPA from operational surface water discharges.

8.5 Spread of Invasive Species

No high-risk invasive species were recorded within the proposed development. Therefore, no risk from the spread of invasive species will occur. Therefore, there is no risk to Cork Harbour SPA via impacts from the spread of invasive species.

8.6 Cumulative Impacts

Cumulative 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 cumulative 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 site and their potential cumulative impacts are listed in **Table 9**.

Table 9. Other developments near site and potential cumulative impacts

| Plans and Projects | Key Policies/Issues/Objectives Directly Related to the Conservation of the Natura 2000 Network | Impact |
|--|---|---|
| <p>River Basin Management Plan 2018-2021</p> | <p>The project should comply with the environmental objectives of the Irish RBMP which are to be achieved generally by 2021.</p> <ul style="list-style-type: none"> • 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. | <p>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 impacts with the proposed development.</p> |
| <p>Inland Fisheries Ireland Corporate Plan 2016 -2020</p> | <p>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.</p> <p>To develop and improve fish habitats and ensure that the conditions required for fish populations to thrive are sustained and protected.</p> <p>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.</p> <p>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 fauna and flora habitat; biodiversity of inland fisheries and ecosystems and protect spawning salmon and trout.</p> | <p>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 impacts with the proposed works.</p> |
| <p>Irish Water Capital Investment Plan 2014-2016</p> | <p>Proposals to upgrade and secure water services and water treatment services countrywide.</p> | <p>Likely net positive impact due to water conservation and more effective treatment of water.</p> |
| <p>Water Services Strategic Plan (WSSP, 2015)</p> | <p>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:</p> | <p>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</p> |

| Plans and Projects | Key Policies/Issues/Objectives Directly Related to the Conservation of the Natura 2000 Network | Impact |
|---|---|--|
| | <ul style="list-style-type: none"> • Habitat loss and disturbance from new / upgraded infrastructure; • Species disturbance; • Changes to water quality or quantity; and <p>Nutrient enrichment /eutrophication.</p> | <p>(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.</p> <p>Therefore, no adverse significant in-combination effects are envisaged.</p> |
| NPWS Conservation Management Plans | <p>Conservation Management Plans have not been fully prepared for the European sites being assessed. However, conservation objectives along with supporting documents for the Cork Harbour SPA</p> | <p>The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest.</p> <p>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.</p> <p>The resultant effects of conservation objectives are a net positive and there is no potential for in combination effects on European sites.</p> |
| WWTP discharges | <p>Carrigtwohill and Environs WWTP, Carrigrennan (Cork City) WWTP, Midleton WWTP, Whitegate-Aghada WWTP, Midleton WWTP, Ringaskiddy Village WWTP's,</p> | <p>Discharges from municipal WWTPs are required to meet water quality standards. Irish Water Capital Investment</p> |

| Plans and Projects | Key Policies/Issues/Objectives Directly Related to the Conservation of the Natura 2000 Network | Impact |
|---|---|---|
| | Cobh & North Cobh WWTP's, Passage-Monkstown WWTP. | Plan proposes to upgrade water treatment services countrywide (see above). The long-term cumulative impact is predicted to be negligible. |
| Residential Applications Under consideration | <p>The proposed development site is located in the Ballyvolane area under the Cork City development plan. Ballyvolane is one of the five key suburban districts in Cork City. In the <i>Draft City Development Plan 2022-2028</i>, Ballyvolane is listed as one of seven strategic areas for development with the city.</p> <p>Objective 14.10 of <i>Cork City Development Plan 2015-2021</i> notes the following re. the Ballyvolane District Centre</p> <p>a. <i>To support the development of an urban format centre with an appropriate urban structure, density and built form that creates frontages onto the streets at the edge of the block;</i></p> <p>b. <i>To ensure provision of a mix of uses that includes retail units of a range of sizes to meet the needs of different types of occupier, and complementary commercial and community services in accordance with the zoning objective and in a comprehensive redevelopment could include residential upper floor uses;</i></p> <p>c. <i>Conservation and enhancement of the Glen River and its setting, maximising its landscape and natural heritage value;</i></p> <p>d. <i>Upgrade of existing public transportation services and other green modes infrastructure in the area to ensure that the centre is accessible to its catchment in the city and county.</i></p> | Future developments will only be granted permission where discharges from same meet with relevant water quality standards. The long-term cumulative impact is predicted to be negligible. |

The area surrounding the proposed development is also heavily populated with a mixture of residential estates and one-off dwellings and roads. Wastewater is also discharged from other settlements (e.g. Blarney, Douglas, Ringaskiddy) and local industry. However, in the absence of any significant impact associated with this project no cumulative impacts on water quality have been identified. Similarly, no significant cumulative impacts in relation to noise and disturbance have been identified.

9. Screening conclusion and statement

This AA screening report has been prepared to assess whether the proposed development, individually or in-combination with other plans or projects, and in view of best scientific knowledge, is likely to have a significant effect on any European site(s).

The screening exercise was completed in compliance with the relevant European Commission guidance, national guidance, and case law. The potential impacts of the proposed development have been considered in the context of the European sites potentially affected, their qualifying interests or special conservation interests, and their conservation objectives.

In accordance with the Habitats Directive, an **Appropriate Assessment (AA) Screening** has been carried out on the project, in relation to any potential impacts upon the Cork Harbour Special Protection Area [Site No. 004030] and the Great Island Channel Special Area of Conservation [Site No. 001058]. The findings of the AA screening noted that no significant effects on any Natura 2000 sites is likely and it was not necessary to undertake any further stage of the Appropriate Assessment process.

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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

