Screening Report for Appropriate Assessment of proposed development, Clongriffin, Dublin 13

prepared by OPENFIELD Ecological Services
for the Land Development Agency

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1.0 INTRODUCTION

1.1 About OPENFIELD Ecological Services

OPENFIELD Ecological Services is headed by Pádraic Fogarty who has worked for 25 years in the environmental field and in 2007 was awarded an MSc from Sligo Institute of Technology for research into Ecological Impact Assessment (EcIA) in Ireland. Pádraic has a primary degree in Analytical Science from DCU, and diplomas in Field Ecology (UCC), Environment and Geography (Open University) and Environmental Protection (IT Sligo). Since its inception in 2007 OPENFIELD has carried out numerous EcIAs for Environmental Impact Assessment (EIA), Appropriate Assessment under the EU Habitats Directive, as well as individual planning applications. Pádraic is a full member of the Institute of Environmental Management.

1.2 Protection of biodiversity

Biodiversity is a contraction of the words 'biological diversity' and describes the enormous variability in species, habitats and genes that exist on Earth. It provides food, building materials, fuel and clothing while maintaining clean air, water, soil fertility and the pollination of crops. A study by the Department of Environment, Heritage and Local Government placed the economic value of biodiversity to Ireland at €2.6 billion annually (Bullock et al., 2008) for these 'ecosystem services'.

All life depends on biodiversity and its current global decline is a major challenge facing humanity. In 1992, at the Rio Earth Summit, this challenge was recognised by the United Nations through the Convention on Biological Diversity which has since been ratified by 193 countries, including Ireland. Its goal to significantly slow down the rate of biodiversity loss on Earth has been echoed by the European Union, which set a target date of 2010 for halting the decline, however this was not achieved. In 2010 in Nagoya, Japan, governments from around the world set about redoubling their efforts and issued a strategy for 2020 called 'Living in Harmony with Nature' however none of these targets were achieved. In December 2022, the Kunming-Montreal Global biodiversity framework was agreed with the headline of 'living in harmony with nature'. This has set ambitious goals to not only protect, but restore, nature, including by protecting 30% of land and sea by 2030.

In 2024 the fourth national biodiversity action plan was published to incorporate the goals set out in this framework, along with its commitments to the conservation of biodiversity under national and EU law.

The main pieces of legislation for conserving biodiversity in Ireland have been the Directive 2009/147//EC of the European Parliament and of the Council of November 2009 on the conservation of wild birds (Birds Directive) and Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (Habitats Directive). Among other things, these require member states to designate areas of their territory that contain important bird populations in the case of the former; or a representative sample of important or endangered habitats and species in the case of the latter. These areas are known as Special Protection Areas (SPA) and Special Areas of Conservation (SAC) respectively. Collectively they form a network of sites across the European Union known as Natura 2000. The Birds and Habitats Directives have been transposed into Irish legislation by Part XAB of the Planning and Development Act 2000, as amended, and the European Communities

(Birds and Natural Habitats) Regulations 2011, as amended. Part XAB applies in relation to AA screenings and AAs to be undertaken in respect of this proposed development. A report into the economic benefits of the Natura 2000 network concluded that “there is a new evidence base that conserving and investing in our biodiversity makes sense for climate challenges, for saving money, for jobs, for food, water and physical security, for cultural identity, health, science and learning, and of course for biodiversity itself” (EU, 2013).

Unlike traditional nature reserves or national parks, Natura 2000 sites are not ‘fenced-off’ from human activity and are frequently in private ownership. It is the responsibility of the competent national authority to ensure that Article 6(3) of the Habitats Directive is met. Article 6(3) of the Habitats Directive states:

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

Section 177U of the Planning and Development Act 2000 as amended requires the following in respect of AA Screening:

A screening for appropriate assessment shall be carried out by the competent authority to assess, in view of best scientific knowledge, if that proposed development, individually or in combination with another plan or project is likely to have a significant effect on the European site.

The test at stage 1 AA Screening is that:

The competent authority shall determine that an appropriate assessment of a proposed development 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 test at stage 2 (Appropriate Assessment) under section 177V of the Planning and Development Act 2000 as amended, is:

Whether or not the proposed development, individually or in-combination with other plans or projects would adversely affect the integrity of a European site having regard to the European Site’s conservation objectives.

1.3 Purpose of this Report

This document provides for a screening of a residential development in Clongriffin, Dublin 13, and its potential effects in relation to Natura 2000 sites (SACs and SPAs), to enable the competent authority to determine whether or not it is likely to have significant effects on any European sites, individually or in combination with other plans and project, having regard to the site’s conservation objectives. This report provides the necessary information to allow Dublin City Council to carry out this screening.

1.4 Methodology

The methodology for this screening statement is clearly set out in a document prepared for the Environment DG of the European Commission entitled 'Assessment of plans and projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC' (EC, 2021).

In accordance with this guidance, the following methodology has been used to produce this screening statement:

Step 1: Management of the Natura 2000 site
This determines whether the project is necessary for the conservation management of the site in question.

Step 2: Description of the Project
This step describes the aspects of the project that may have an impact on the Natura 2000 site.

Step 3: Identify which Natura 2000 sites may be affected by the plan or project
This process identifies the conservation aspects of the Natura 2000 sites within the zone of influence of the project. This is done through a literature survey and consultation with relevant stakeholders – particularly the National Parks and Wildlife Service (NPWS).

Step 4: Assess whether likely significant effects can be ruled out in view of the site's conservation objectives
All potential effects are identified including those that may act alone or in combination with other projects or plans. Using the precautionary principle, and through consultation and a review of published data, it is normally possible to conclude at this point whether potential impacts are likely. Deficiencies in available data are also highlighted at this stage. Assessing whether an effect is significant or not must be measured against the conservation objectives of the Natura site in question.

If this analysis shows that significant effects are likely then a full AA will be required.

The steps are compiled into a screening matrix, a template of which is provided in Appendix II of the EU methodology.

Reference is also made to guidelines for Local Authorities from the Department of the Environment, Heritage and Local Government (DoEHLG, 2009) as well as 'Appropriate Assessment Screening for Development Management' (Office of the Planning Regulator, 2021).

A full list of literature sources that have been consulted for this study is given in the References section to this report while individual references are cited within the text where relevant.

This project is not necessary for the conservation management of a Natura 2000 sites and so Step 1 is not relevant.

2.0 Step 2 – Analysis of the Project

This application is for the construction of a mixed-use development along with all associated services as follows:

The proposed development will consist of the construction of a mixed use development comprising of two Blocks (i.e. Blocks 5 and 6) providing a total of 408 no. apartment units, as follows:

- *Block 5 ranges in height between 3- and 6-storeys and provides for 138 apartment units (comprising 58 x 1 bed; 78 x 2 bed and 2 x 3 bed units) with all apartments being provided with private balconies/terraces. A total of 879 sq.m of Communal Open Space is provided at podium level (736 sq.m, including children's play space) and at 4th floor roof terrace of 143 sq.m). At ground floor level provision is made for 502 sq/m of Community / Arts and Cultural floorspace. Provision is made for 79 car parking spaces, comprising 45 no. on-site car parking spaces (below podium level at ground floor level), accessed via a new vehicular access onto Park Street and 34 no. on-street car parking spaces. A total of 4 motorcycle spaces and 290 no. bicycle spaces (comprising 220 no. residents' spaces and 70 no. visitor spaces) are provided. Other facilities provided at ground floor level include refuse / bin stores and associated staging areas; energy centre, plant rooms and an integrated ESB substation and associated switch room. An on-street loading bay is provided along Lake Street.*

- *Block 6 ranges in height between 4- and 7-storeys and provides for 270 apartment units (comprising 122 x 1 bed and 148 x 2 bed units) with all apartments being provided with private balconies/terraces. A total of 2,678 sq.m of Communal Open Space (including children's play space) is provided within a central courtyard at podium level. At ground floor level provision is made for 707 sq/m of Community / Arts and Cultural floorspace and a childcare facility of 413 sq.m (with an ancillary play area of 125 sq.m). Provision is made for 181 no. car parking spaces, comprising 118 no. on-site car parking spaces (below podium level at ground floor level), accessed via a new vehicular access onto Lake Street and 63 no. on-street car parking spaces. A total of 9 motorcycle spaces and 568 no. bicycle spaces (comprising 418 residents' spaces; 136 no. visitors spaces and 14 no. creche spaces) are provided. Other facilities provided at ground floor level include refuse / bin stores and associated staging areas; energy centre, plant/tank rooms and 2 no. integrated ESB substations and associated switch rooms. An on-street loading bay is provided along Dargan Street.*

Other works include: (a) the provision of road infrastructure, comprising the construction and/or extension of surrounding streets, including Dargan Street (located between Block 5 and Block 6), Market Street (to the south of Block 5) which includes an external multi-functional community / arts and cultural events space of 315 sq.m, and sections of Lake Street (to the east of Block 5); (b) green infrastructure provision in the form of a public open space / landscaped pocket park extending to 1,433 sq.m in area (i.e. Grant Park, that is located to the east of Lake Street at its junction with Dargan Street) together with street planting and public lighting throughout; and (c) all associated engineering and site works (including underground services and utility connections) necessary to facilitate the development.

The construction phase will see site preparation and use of standard building materials. There is currently no attenuation of surface water and rain falling on the site percolates to the ground. Drainage for Blocks 5 & 6 will be provided in accordance with SUDS principles so that there is no negative impact to the quality or quantity of run-off leaving the site.

SUDS are standard measures which are included in all development projects and are not included here to reduce or avoid any effect to a Natura 2000 site. This is confirmed in the judgment recently issued from the ECJU (Case C-721/21, Eco Advocacy CLG v An Bord Pleanála) which confirms that where standard measures are included in the application they cannot be considered as mitigation in an AA context.

Foul effluent from the proposed development will be sent to the wastewater treatment plant at Ringsend in Dublin. Emissions from the plant are currently not in compliance with the Urban Wastewater Treatment Directive. The Ringsend plant is licenced to discharge treated effluent by the EPA (licence number D0034-01) and is managed by Uisce Éireann. It treats effluent for a population equivalent (P.E.) on average of 1.65 million however weekly averages can spike at around 2.36 million. This variation is due to storm water inflows during periods of wet weather as this is not separated from the foul network for much of the older quarters of the city.

The Annual Environmental Report for 2022, the most recent available, indicated that there were a number of exceedences of the emission limit values. In April 2019 Irish Water was granted planning permission to upgrade the Ringsend plant. This will see improved treatment standards and will increase network capacity by 50% on a phased basis. Works are currently underway on the first phase with a target completion date of 2023. According to the Uisce Éireann website “When all the proposed works are complete in 2025, the Ringsend WwTP will be able to treat wastewater for up to 2.4 million population equivalent while meeting the required standards.”

Fresh water supply for the development will be via a mains supply. This originates in reservoirs along the River Liffey.

Figure 3 – Proposed development layout

3.0 Step 3 – Analysis of the Natura 2000 network

3.1 Site location and extent

The development site is located to the west of the Dublin to Belfast railway line and to the north of Dublin City. This location is shown in figure 1 which also shows its position in relation to nearby water courses.

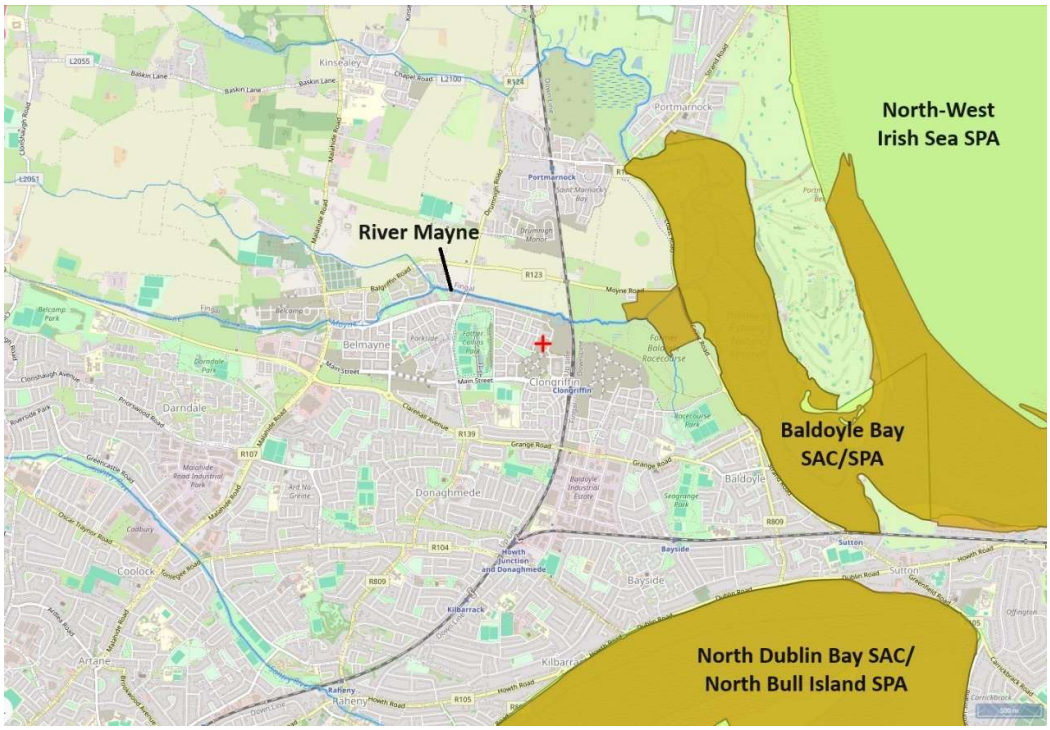

Figure 1 – Location of development site at Clongriffin (red cross) showing proximity to Natura 2000 sites. SACs are shown in tan while SPAs are shown in lime green (from www.epa.ie). There is considerable overlap between SAC and SPA boundaries in Baldoyle Bay and Dublin Bay.

Figure 1 shows the vicinity of the development site and as can be seen there are number of Natura 2000 sites in this area. Water courses drain to Baldoyle Bay, which is a SPA and SAC. In addition to these European designations Baldoyle Bay is also recognised as a wetland of international importance under the RAMSAR Convention (site 25/10/88). The North-West Irish Sea SPA is located in the outer marine zone.

Mapping from the Environmental Protection Agency (EPA) shows that the Mayne River flows a short distance to the north of the development site boundary and this discharges into Baldoyle Bay. The development site is within an area which has seen extensive residential development in recent years and this can be seen in recent aerial photography as shown in figure 2.

The development site is bare ground and artificial surfaces, with remnants of grassland and scrub plant species.

There are no water courses or drainage ditches on, or directly adjacent to, the development site which could provide direct pathway to the Mayne River.

Figure 2 – Indicative development site boundary (red line).

Pathway Analysis

There is an indirect hydrological pathway from the development site to Baldoyle Bay via surface drains and the Mayne River. There is an indirect hydrological pathway through the foul sewer to Dublin Bay via the Ringsend WWTP.

The status of Baldoyle Bay is failing to meet required standards under the Water Framework Directive. This is believed to be from nutrient sources/urban run-off. Although the exact cause of this is unknown, this may arise from misconnections whereby effluent from homes is discharging straight to the environment rather than the foul sewer. Unattenuated surface run-off may also be a contributing factor.

Sampling of water quality in Dublin Bay (and presented in the Annual Environmental Report for the WWTP) indicates that the discharge from the wastewater treatment plant is having an observable effect in the 'near field' of the discharge. This includes the inner Liffey Estuary and the Tolka Estuary, but not the coastal waters of Dublin Bay. This indicates that potential effects arising from the treatment plant are confined to these areas, and that the zone of influence does not extend to the coastal waters or the Irish Sea.

There are consequently pathways to a number of Natura 2000 sites. There are surface hydrological links to the Baldoyle Bay SAC (site code: 0199) and SPA (site code: 4016), and indirect, wastewater links to the South Dublin Bay and River Tolka Estuary SPA (site code: 4024), the South Dublin Bay SAC (site code: 0210), the North Bull Island SPA (site code: 4006), the North Dublin Bay SAC (site code: 0206) and the North-West Irish Sea SPA (site code: 4236)..

There are no direct or indirect, hydrological or surface pathways to any other Natura 2000 site.

3.2 Natura 2000 Sites

In assessing the zone of influence of this project upon Natura 2000 sites the following factors must be considered:

- Potential impacts arising from the development
- The location and nature of Natura 2000 sites
- Pathways between the development and the Natura 2000 network

It has already been stated that the site is not located within or directly adjacent to any Natura 2000 site. Following the pathway analysis, the following Natura 2000 sites are considered in detail:

Baldoyle Bay SAC/SPA. 1.3km from the development site.
This SAC (site code: 0199) is the estuary of the Sluice and the Mayne Rivers that is largely enclosed by a sand spit that stretches from Portmarnock to Howth. At low tide it has large areas of exposed mud and sediment that support rich invertebrate communities. There are a number of habitats here that are listed in the EU's Habitats Directive Annex I while there are two plants recorded from the Bay that are protected under the Flora Protection Order: Borrer's Saltmarsh-grass *Puccinellia fasciculata* and Meadow Barley *Hordeum secalinum* (NPWS, 2013a).

The reasons why the bay falls under the SAC designation are set out in the qualifying interests. They are either habitat types listed in Annex I or species listed in Annex II of the Habitats Directive. This information is provided by the National Parks and Wildlife Service (NPWS) and is shown in table 1 below. In this case the SAC is designated only for protected habitat types. Status is based on the NPWS national assessments under Article 17 of the Habitats Directive and unless otherwise stated do not refer to the status within the SAC in question.

Table 1 – Qualifying interests for the Baldoyle Bay SAC (from NPWS)

Code	Habitats	Status
1140	Mudflats and sandflats	Intermediate
1310	Salicornia and other annuals colonizing mud and sand	Intermediate
1330	Atlantic salt meadows	Intermediate
1410	Mediterranean salt meadows	Intermediate

- Tidal mudflats (1140). This is an intertidal habitat characterised by fine silt and sediment. The overall status of the habitat is inadequate and declining due to pollution from agriculture, forestry, wastewater sources and marine aquaculture.
- Salicornia mudflats (1310): This is a pioneer saltmarsh community and so is associated with intertidal areas. It is dependent upon a supply of fresh, bare mud and can be promoted by damage to other salt marsh habitats. It is chiefly

threatened by the advance of the alien invasive Cordgrass Spartina anglica. Erosion can be destructive but in many cases this is a natural process.

- Atlantic and Mediterranean salt meadows (1330 & 1410): these are intertidal habitats that differ somewhat in their vegetation composition. They are dynamic habitats that depend upon processes of erosion, sedimentation and colonisation by a typical suite of salt-tolerant organisms. The main pressures are invasion by the non-native *Spartina anglica* and overgrazing by cattle and sheep.

Site specific conservation objectives for this SAC have been published (NPWS, 2012a) and can be summarised as:

Mudflats (code 1140)
Permanent habitat area stable or increasing (estimated at 409 hectares); estuarine muds dominated by polychaetes and crustaceans community complex maintained in a natural condition.

Salicornia mudflats (1310)
Maintain habitat area and distribution including physical structure (sediment supply, creeks and pans, flooding regime). Maintain vegetation structure as measured by vegetation height, vegetation cover, typical species and sub-communities. Absences of the invasive *Spartina anglica.*

Atlantic/Mediterranean Salt Meadows (1330/1410)
Maintain habitat area and distribution including physical structure (sediment supply, creeks and pans, flooding regime). Maintain vegetation structure as measured by vegetation height, vegetation cover, typical species and sub-communities. Absences of the invasive *Spartina anglica.*

The Baldoyle Bay SPA (site codes: 4016) is composed of estuarine habitats. They are some of the most productive in the world and the nutrients that are deposited here fuel primary and secondary production (levels in the food chain) that in turn provide food for internationally significant numbers of wintering birds (Little, 2000). Specifically, it has a number of species which are qualifying interests of the SPA, along with 'wetlands and waterbirds'. Table 2 details these.

Table 2 – Qualifying interests for the Baldoyle Bay SPA (from NPWS)

Species	National Status[1]	SPA Status[2]
Branta bernicula hrota Light-bellied brent goose	Amber (Wintering)	Favourable
Charadrius hiaticula Ringed plover	Amber (Breeding & Wintering)	Intermediate unfavourable
Limosa lapponica Bar-tailed godwit	Red (Wintering)	Highly unfavourable
Pluvialis apricaria Golden plover	Red (Breeding & Wintering)	Unfavourable

[1] Birds of Conservation Concern in Ireland. Gilbert et al., 2021
[2] Conservation Objectives Supporting Document. Version 1. National Parks & Wildlife Service. 2012.

Pluvialis squatarola Grey plover	Red (Wintering)	Unfavourable
Tadorna Tadorna Shelduck	Amber (Breeding & Wintering)	Favourable
Wetlands & Waterbirds		

- **Light-bellied Brent Goose.** There has been a 67% increase in the distribution of this goose which winters throughout the Irish coast since the early 1980s. The light-bellied subspecies found in Ireland breeds predominantly in the Canadian Arctic.
- **Ringed Plover.** This bird is a common sight around the Irish coast where it is resident. They breed on stony beaches but also, more recently, on cut-away bog in the midlands.
- **Bar-tailed Godwit.** These wetland wading birds do not breed in Ireland but are found throughout the littoral zone during winter months. They prefer estuaries where there are areas of soft mud and sediments on which to feed.
- **Golden Plover.** In winter these birds are recorded across the midlands and coastal regions. They breed only in suitable upland habitat in the north-west. Wintering abundance in Ireland has changed little in recent years although it is estimated that half of its breeding range has been lost in the last 40 years.
- **Grey Plover.** These birds do not breed in Ireland but winter throughout coastal estuaries and wetlands. Its population and distribution is considered to be stable.
- **Shelduck.** The largest of our ducks, Shelduck both breed and winter around the coasts with some isolate stations inland. Its population and range are considered stable.

Of those species with unfavourable status in the SPA, Ringed Plover and Bar-tailed Godwit have exhibited losses at Baldoyle Bay while the national population remains stable or has increased. It is therefore reasonable to assume that local factors are leading to declines. The NPWS list a number of factors that may be contributing to this including human disturbance (walkers with or without dogs) and nutrient enrichment (pollution). The latter effect is exhibited by algal mats, typically Sea-lettuce Ulva sp. which covers the sediment surface at low tide. This is good for those species which feed on Sea-lettuce but bad for those which cannot reach their favoured prey under the mats.

Table 3 – Mean count of bird species (qualifying interests) for Baldoyle Bay SPA from the Irish Wetland Birds Survey (IWeBS) from 2015 - 2020[3]

Species	Mean
Light-bellied brent goose	506
Ringed plover	25
Bar-tailed godwit	67
Golden plover	1,020
Grey plover	13
Shelduck	143

[3] https://c0amf055.caspio.com/dp/f4db30005dbe20614b404564be88

Site specific conservation objectives have been published for this SPA (NPWS, 2013a) and are similar for each bird species. They can be summarised as:

Birds (similar for all species)
Long term population trend stable or increasing; there should be no significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation.

Wetlands
The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 263ha, other than that occurring from natural patterns of variation

North Dublin Bay SAC/North Bull Island SPA. 2.3km from the development site.
The North Dublin Bay SAC (site code: 0206) is focussed on the sand spit on the North Bull island. The qualifying interests for it are shown in table 4. The status of the habitat is also given and this is an assessment of its range, area, structure and function, and future prospects on a national level and not within the SAC itself.

Table 4 – Qualifying interests for the North Dublin Bay SAC

Code	Habitat/Species	Status
1140	Mudflats and sandflats not covered by seawater at low tide	Inadequate
1310	Salicornia and other annuals colonizing mud and sand	Favourable
1330	Atlantic salt meadows	Inadequate
1410	Mediterranean salt meadows	Inadequate
1210	Annual vegetation of drift lines	Inadequate
2110	Embryonic shifting dunes	Inadequate
2120	Shifting dunes along the shoreline with Ammophila arenaria (white dunes)	Inadequate
2130	Fixed coastal dunes with herbaceous vegetation (grey dunes)	Bad
2190	Humid dune slacks	Inadequate
1395	*Petalophyllum ralfsii* Petalwort	Good

- **Annual vegetation of drift lines (1210)** This habitat of the upper shore is characterised by raised banks of pebbles and stones. They are inhabited by a sparse but unique assemblage of plants, some of which are very rare. The principle pressures are listed as gravel extraction, the building of pipelines and coastal defences.
- **Embryonic shifting dunes (2110).** As their name suggests these sand structures represent the start of a sand dune's life. Perhaps only a meter high they are a

transient habitat, vulnerable to inundation by the sea, or developing further into white dunes with Marram Grass. They are threatened by recreational uses, coastal defences, trampling and erosion.

- **Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) (2120).** These are the second stage in dune formation and depend upon the stabilising effects of Marram Grass. The presence of the grass traps additional sand, thus growing the dunes. They are threatened by erosion, climate change, coastal flooding and built development.
- **Fixed coastal dunes with herbaceous vegetation (grey dunes) (2130 – priority habitat).** These are more stable dune systems, typically located on the landward side of the mobile dunes. They have a more or less permanent, and complete covering of vegetation, the quality of which depends on local hydrology and grazing regimes. They are the most endangered of the dune habitat types and are under pressure from built developments such as golf courses and caravan parks, over-grazing, under-grazing and invasive species.
- **Humid dune slacks (2190).** These are wet, nutrient enriched (relatively) depressions that are found between dune ridges. During winter months or wet weather these can flood and water levels are maintained by a soil layer or saltwater intrusion in the groundwater. There are found around the coast within the larger dune systems.
- **Petalwort (1395).** There are 30 extant populations of this small green liverwort, predominantly along the Atlantic seaboard but also with one in Dublin. It grows within sand dune systems and can attain high populations locally.

Site specific conservation objectives are available for this SAC (NPWS, 2013b) and are summarised as:

Mudflats (code 1140)
Permanent habitat area stable or increasing (estimated at 578 hectares); Maintain the extent and high quality of the *Mytilus edulis*-dominated community, subject to natural processes; Conserve the following community types in a natural condition: Fine sand to sandy mud with *Pygospio elegans* and *Crangon crangon* community complex; Fine sand with *Spio martinensis* community complex.

Atlantic/Mediterranean Salt Meadows (1330/1410)
Maintain habitat area and distribution including physical structure (sediment supply, creeks and pans, flooding regime). Maintain vegetation structure as measured by vegetation height, vegetation cover, typical species and sub-communities. Absences of the invasive *Spartina anglica.*

Annual vegetation of drift lines (code: 1210)
Habitat areas stable or increasing subject to natural variation; no decline in habitat distribution; maintain physical and vegetation structure without any physical obstructions, maintain vegetation structure and composition subject to natural variations.

Embryonic shifting dunes (code: 2110)
Habitat areas stable or increasing subject to natural variation; no decline in habitat distribution; maintain physical and vegetation structure without any physical obstructions, maintain vegetation structure and composition subject to natural variations.

Salicornia and other annuals colonising mud and sand (code: 3110)
Habitat area stable or increasing; no decline in habitat distribution; maintain physical and vegetation structure.

Fixed Coastal Dunes/Shifting Dunes (2130/2120)
Maintain habitat area and distribution including physical structure (functionality and sediment supply, percentage of bare ground, sward height). Maintain vegetation structure as measured by zonation, vegetation cover, typical species and sub-communities. Absences of the invasive *Hippophae rhamnoides.*

Humid dune slacks (code: 2190)
Area increasing, subject to natural processes including erosion and succession; No decline or change in habitat distribution, subject to natural processes; Maintain the natural circulation of sediment and organic matter, without any physical obstructions; Maintain natural hydrological regime; Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession; Bare ground should not exceed 5% of dune slack habitat, with the exception of pioneer slacks which can have up to 20% bare ground; Maintain structural variation within sward; Maintain range of subcommunities with typical species; Maintain less than 40% cover of creeping willow (Salix repens); Negative indicator species (including non-natives) to represent less than 5% cover.

Petalwort *Petalophyllum ralfsii* (code: 1395)
No decline in known populations. No decline in population, estimated at 5,824 thalli. No decline in area of suitable habitat. Maintain hydrological conditions; maintain open, low vegetation, with a high percentage cover of bryophytes (small acrocarps and liverwort turf) and bare ground.

The North Bull Island SPA (site code: 0206) is largely coincident with the North Dublin Bay SAC with the exception of the terrestrial portion of Bull Island. Table 5 lists its qualifying interests.

Table 5 – Qualifying interests for the North Bull Island SPA

North Bull Island SPA	National Status
Light-bellied Brent Goose *Branta bernicla hrota*	Amber (Wintering)
Oystercatcher *Haematopus ostralegus*	Red (Breeding & Wintering)
Teal *Anas crecca*	Amber (Breeding & Wintering)
Pintail *Anas acuta*	Amber (Wintering)
Shoveler *Anas clypeata*	Amber (Wintering)
Shelduck *Tadorna tadorna*	Amber (Breeding & Wintering)
Golden Plover *Pluvialis apricaria*	Red (Breeding & Wintering)
Grey Plover *Pluvialis squatarola*	Red (Wintering)
Knot *Calidris canutus*	Red (Wintering)

Sanderling *Calidris alba*	Green (Wintering)
Dunlin *Calidris alpina*	Red (Breeding & Wintering)
Black-tailed Godwit *Limosa limosa*	Red (Wintering)
Bar-tailed Godwit *Limosa lapponica*	Red (Wintering)
Curlew *Numenius arquata*	Red (Breeding & Wintering)
Redshank *Tringa totanus*	Red (Breeding & Wintering)
Turnstone *Arenaria interpres*	Amber (Wintering)
Black-headed Gull *Larus ridibundus*	Amber (Breeding)
Wetlands & Waterbirds	

- **Oystercatcher.** Predominantly coastal in habit Oystercatchers are resident birds whose numbers continue to expand in Ireland.
- **Teal**. In winter this duck is widespread throughout the country. Land use change and drainage however have contributed to a massive decline in its breeding range over the past 40 years.
- **Pintail**. Dabbling duck wintering on grazing marshes, river floodplains, sheltered coasts and estuaries. It is a localised species and has suffered a small decline in distribution in Ireland for unknown reasons.
- **Shoveler**. Favoured wintering sites for this duck are inland wetlands and coastal estuaries. While there have been local shifts in population and distribution, overall their status is stable in Ireland.
- **Knot.** These small wading birds do not breed in Ireland but gather in coastal wetlands in winter. Their numbers have increased dramatically since the mid-1990s although the reasons for this are unclear.
- **Sanderling.** This small bird breeds in the high Arctic and winters in Ireland along sandy beaches and sandbars. Its wintering distribution has increased by 21% in the previous 30 years.
- **Dunlin.** Although widespread and stable in number during the winter season, the Irish breeding population has collapsed by nearly 70% in 40 years. Breeding is now confined to just seven sites in the north and west as habitat in former nesting areas has been degraded.
- **Black-tailed Godwit.** Breeding in Iceland these waders winter in selected sites around the Irish coast, but predominantly to the east and southern halves. Their range here has increase substantially of late.
- **Curlew.** Still a common sight during winter at coastal and inland areas around the country it breeding population here has effectively collapsed. Their habitat has been affected by the destruction of peat bogs, afforestation, farmland intensification and land abandonment. Their wintering distribution also appears to be in decline.
- **Redshank.** Once common breeders throughout the peatlands and wet grasslands of the midlands Redshanks have undergone a 55% decline in distribution in the past 40 years. Agricultural intensification, drainage of wetlands and predation are the chief drivers of this change.

- **Turnstone.** This winter visitor to Irish coasts favours sandy beaches, estuaries and rocky shores. It is found throughout the island but changes may be occurring due to climate change.
- **Black-headed Gull.** Widespread and abundant in winter these gulls are nevertheless considered to be in decline. The reasons behind this are unclear but may relate to the loss of safe nesting sites, drainage, food depletion and increase predation.

Site specific conservation objectives have been published for this SPA (NPWS, 2015a) and are similar for each bird species. They can be summarised as:

Birds (similar for all species)
Long term population trend stable or increasing; there should be no significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation

Wetlands
The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 1,713 hectares, other than that occurring from natural patterns of variation

The **South Dublin Bay and Tolka Estuary SPA (side code: 4024). 5.3km from the development site.**

This SPA is largely coincident with the South Dublin Bay SAC boundary with the exception of the Tolka Estuary. These designations encompass all of the intertidal areas in Dublin Bay from south of Bull Island to the pier in Dun Laoghaire. Wintering birds in particular are attracted to these areas in great number as they shelter from harsh conditions further north and avail of the available food supply within sands and soft sediments. Table 6 lists the qualifying interests.

- **Light-bellied Brent Goose.** There has been a 67% increase in the distribution of this goose which winters throughout the Irish coast. The light-bellied subspecies found in Ireland breeds predominantly in the Canadian Arctic.
- **Sanderling.** This small bird breeds in the high Arctic and winters in Ireland along sandy beaches and sandbars. Its wintering distribution has increased by 21% in the previous 30 years.
- **Dunlin.** Although widespread and stable in number during the winter season, the Irish breeding population has collapsed by nearly 70% in 40 years. Breeding is now confined to just seven sites in the north and west as habitat in former nesting areas has been degraded.
- **Knot.** These small wading birds do not breed in Ireland but gather in coastal wetlands in winter. Their numbers have increased dramatically since the mid-1990s although the reasons for this are unclear.
- **Black-headed Gull.** Widespread and abundant in winter these gulls are nevertheless considered to be in decline. The reasons behind this are unclear but may relate to the loss of safe nesting sites, drainage, food depletion and increase predation.
- **Ringed Plover.** This bird is a common sight around the Irish coast where it is resident. They breed on stony beaches but also, more recently, on cut-away bog in the midlands.

- **Oystercatcher.** Predominantly coastal in habit Oystercatchers are resident birds whose numbers continue to expand in Ireland.
- **Bar-tailed Godwit.** These wetland wading birds do not breed in Ireland but are found throughout the littoral zone during winter months. They prefer estuaries where there are areas of soft mud and sediments on which to feed.
- **Grey Plover.** These birds do not breed in Ireland but winter throughout coastal estuaries and wetlands. Its population and distribution is considered to be stable.
- **Roseate Tern.** This tern breeds at only a few stations along Ireland's east coast. Most of these are in decline although at Dublin their colony is increasing.
- **Common Tern.** This summer visitor nests along the coast and on islands in the largest lakes. Its breeding range has halved in Ireland since the 1968-1972 period.
- **Arctic Tern.** These long-distance travellers predominantly breed in coastal areas of Ireland. They have suffered from predation by invasive mink and are declining in much of their range.
- **Redshank.** Once common breeders throughout the peatlands and wet grasslands of the midlands Redshanks have undergone a 55% decline in distribution in the past 40 years. Agricultural intensification, drainage of wetlands and predation are the chief drivers of this change.

Bird counts form BirdWatch Ireland are taken from Dublin Bay as a whole and are not specific to any particular portion of the Bay. Dublin Bay is recognised as an internationally important site for water birds as it supports over 20,000 individuals. Table 6 shows the most recent count data available[4].

Table 6 – Mean count of birds species (qualifying interests of SPAs) for Dublin Bay from the Irish Wetland Birds Survey (IWeBS) from 2010 - 2020

Species	Mean
Light-bellied Brent Goose	3,453
Sanderling	500
Dunlin	5,951
Knot	5,093
Black-headed Gull	3,340
Ringed Plover	176
Oystercatcher	3,419
Bar-tailed Godwit	1,965
Grey Plover	328
Roseate Tern	0
Common Tern	23
Arctic Tern	0
Redshank	2,050
Teal	1,335
Pintail	184
Shoveler	101

[4] https://c0amf055.caspio.com/dp/f4db30005dbe20614b404564be88

Black-tailed Godwit	2,038
Curlew	882
Turnstone	272

There were also internationally important populations of particular birds recorded in Dublin Bay (i.e. over 1% of the world population): Light-bellied brent geese *Branta bernicula hrota*; Black-tailed godwit *Limosa limosa*; Knot *Calidris canutus* and Bar-tailed godwit *L. lapponica*.

Table 7 – Qualifying interests for the South Dublin Bay & River Tolka Estuary SPA (EU code in square parenthesis)

South Dublin Bay and Tolka Estuary SPA
Light-bellied Brent Goose (*Branta bernicla hrota*) [A046]
Oystercatcher (*Haematopus ostralegus*) [A130]
Ringed Plover (*Charadrius hiaticula*) [A137]
Grey Plover (*Pluvialis squatarola*) [A140]
Knot (*Calidris canutus*) [A143]
Sanderling (*Calidris alba*) [A144]
Dunlin (*Calidris alpina*) [A149]
Bar-tailed Godwit (*Limosa lapponica*) [A157]
Redshank (*Tringa totanus*) [A162]
Black-headed Gull (*Croicocephalus ridibundus*) [A179]
Roseate Tern (*Sterna dougallii*) [A192]
Common Tern (*Sterna hirundo*) [A193]
Arctic Tern (*Sterna paradisaea*) [A194]
Wetlands & Waterbirds [A999]

Site specific conservation objectives have been published for this SPA (NPWS, 2015b) and are similar for each bird species. They can be summarised as:

Birds (similar for all species)
Long term population trend stable or increasing; there should be no significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation

Wetlands
The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 2,192 hectares, other than that occurring from natural patterns of variation

The **South Dublin Bay SAC (site code: 0210) 8.3km from the development site**

This SAC is concentrated on the intertidal area of Sandymount Strand (NPWS, 2015d). It has four qualifying interests: mudflats and sandflats not covered by seawater at low tide (1140), annual vegetation of drift lines (1210), Salicornia and other annuals colonising mud and sand (1310) and Embryonic shifting dunes (2110).

- **Annual vegetation of drift lines (1210)** This habitat of the upper shore is characterised by raised banks of pebbles and stones. They are inhabited by a sparse but unique assemblage of plants, some of which are very rare. The principle pressures are listed as gravel extraction, the building of pipelines and coastal defences.
- **Embryonic shifting dunes (2110).** As their name suggests these sand structures represent the start of a sand dune's life. Perhaps only a meter high they are a transient habitat, vulnerable to inundation by the sea, or developing further into white dunes with Marram Grass. They are threatened by recreational uses, coastal defences, trampling and erosion.
- **Tidal mudflats (1140)**. This is an intertidal habitat characterised by fine silt and sediment. The overall status of the habitat is inadequate and declining due to pollution from agriculture, forestry, wastewater sources and marine aquaculture.
- **Salicornia mudflats (1310)**: This is a pioneer saltmarsh community and so is associated with intertidal areas. It is dependant upon a supply of fresh, bare mud and can be promoted by damage to other salt marsh habitats. It is chiefly threatened by the advance of the alien invasive Cordgrass *Spartina anglica.* Erosion can be destructive but in many cases this is a natural process.

Site specific conservation objectives have been set out for mudflats in this SAC (NPWS, 2013c) and are summarised as:

Mudflats (code 1140)
Permanent habitat area stable or increasing (estimated at 720 hectares); Maintain the extent of the Zostera-dominated community, subject to natural processes; Conserve the high quality of the Zostera-dominated community, subject to natural processes; Conserve the following community type in a natural condition: Fine sands with Angulus tenuis community complex.

For other qualifying interests, only generic conservation objectives are available.

The **North-West Irish Sea SPA (site code: 4236) 2.5km from the development site.**

This is a large SPA that was designated in July 2023 and extends for 2,333km^2 from Dublin Bay in the south to the southern tip of Dundalk Bay in the north. It encompasses marine and coastal areas while bordering a number of other SPAs in this region.

Table 9 – Qualifying interests for the North-West Irish Sea SPA (EU code in square parenthesis)

South Dublin Bay and Tolka Estuary SPA
Roseate Tern (*Sterna dougallii*) [A192]
Common Tern (*Sterna hirundo*) [A193]
Arctic Tern (*Sterna paradisaea*) [A194]
Little Tern (*Sterna albifrons*) [A195]
Common Scoter (*Melanitta nigra*) [A065]
Red-throated Diver (*Gavia stellata*) [A001]
Great Northern Diver (*Gavia immer*) [A003]
Fulmar (*Fulmarus glacialis*) [A009]
Manx Shearwater (*Puffinus puffinus*) [A013]
Shag (*Phalacrocorax aristotelis*) [A018]
Cormorant (*Phalacrocorax carbo*) [A017]
Little Gull (*Larus minutus*) [A177]
Kittiwake (*Rissa tridactyla*) [A188]
Black-headed Gull (*Croicocephalus ridibundus*) [A179]
Common Gull (*Larus canus*) [A182]
Lesser Black-backed Gull (*Larus fuscus*) [A183]
Herring Gull (*Larus argentatus*) [A184]
Great Black-backed Gull (*Larus marinus*) [A187]
Puffin (*Fratercula arctica*) [A204]
Razorbill (*Alca torda*) [A200]
Guillemot (*Uria aalge*) [A199]

- **Roseate Tern.** This tern breeds at only a few stations along Ireland's east coast. Most of these are in decline although at Dublin their colony is increasing.
- **Common Tern.** This summer visitor nests along the coast and on islands in the largest lakes. Its breeding range has halved in Ireland since the 1968-1972 period.
- **Arctic Tern.** These long-distance travellers predominantly breed in coastal areas of Ireland. They have suffered from predation by invasive mink and are declining in much of their range.

- **Little Tern.** Breeding colonies have declines in nearly all scattered Irish nesting localities over the past 40 years. On mainland colonies wardening, to prevent predation effects, is now crucial for long-term survival.
- **Common Scoter.** While a familiar winter visitor this duck breeds only in small numbers in lakes of Counties Galway, Mayo, Fermanagh and Sligo. A significant decline in numbers is evident and is attributed to pollution, predation by the invasive American Mink and the introduction of non-native coarse fish.
- **Great Northern Diver.** This Arctic breeding bird migrates to Irish waters for winter, preferring coastal waters but occasionally frequenting inland wetlands. Galway Bay, Donegal Bay and Blacksod/Tullaghan Bays are of international importance.
- **Red-throated Diver.** While common around the coast in winter this diver breeds only in the far north-west of Donegal. Here they nest in bog-pools and freshwater lakes, and only in small numbers.
- **Fulmar.** Resident seabird that nests on sea cliffs. Historically, the population is believed to have expanded as a result of fishing bycatch but recent declines may be linked to a reduction in fishing activity as well as climate change.
- **Manx Shearwater.** Summer visitor to Ireland where it breeds on grassy slopes on a small number of offshore islands.
- **Shag.** Nearly half of the global population of this seabird is to be found around Ireland and Britain. Its population has shown great fluctuation since counts began although the reasons for this are largely unknown. It is to be found around the Irish coast throughout the year.
- **Cormorant.** Wintering populations of this large, fish-eating bird have increased in Ireland since the early 1980s. Breeding also occurs widely along the coast and inland waterways. It is amber-listed due to a moderate decline in numbers.
- **Little Gull.** This gull is present in Ireland in winter with only a scattering of breeding records.
- **Kittiwake.** These vocal seagulls spend most of their time at sea, returning to favoured coastal sites for breeding. Nesting is on suitable rocky cliffs around the Irish coast. These Irish colonies are considered stable.
- **Common Gull.** Breeding sites for this gull in Ireland are confined to coastal locations, and mostly in the north and west. Their population is boosted by winter arrivals but again, there is a distinct coastal bias in their distribution.
- **Herring Gull.** This large gull breeds predominantly around the Irish coast and only occasionally inland. Numbers at these colonies have fallen by 60% since 1969, a decline which is attributed to a number of sources including a reduction in available food at landfill, botulism and predation.
- **Lesser Black-backed Gull.** The wintering range of this distinctive gull has expanded in Ireland by 55% since the early 1980s while breeding colonies have similarly increased.
- **Black-headed Gull.** Widespread and abundant in winter these gulls are nevertheless considered to be in decline. The reasons behind this are unclear but may relate to the loss of safe nesting sites, drainage, food depletion and increase predation.
- **Great Black-backed Gull.** This gull winters all around the coast of Ireland while summer breeding sites are predominantly coastal in character. Its range has declined by 30% since the late 1960s.
- **Razorbill.** This member of the auk family breeds exclusively at suitable coastal sites, where there are rocky cliffs to provide protection from predators. Indications are that populations at Irish colonies are stable.
- **Puffin.** This unmistakable auk spends the winter far out to sea, only coming to shore in the summer to breed. Colonies are scattered around the coasts and the

birds face an uncertain future due to the scale of industrial fishing combined with climate change.

- **Guillemot.** This member of the auk family is found only near land during the breeding season. They nest on suitable rocky outcrops and cliffs where there is protection from predators. The population at four of Ireland's largest colonies is estimated to have increased by 22% over the past decade.

Conservation objectives for this SPA have been published (NPWS, 2023).

Birds (similar for all species)
no significant decline in the breeding/non-breeding population; maintain sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population; maintain sufficient number of locations, area of suitable habitat and available forage biomass to support the population target; ensure that the intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution; ensure that the number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA.

3.3 Data collected to carry out the assessment

As can be seen from figures 1 and 2, the development site is not located within or directly adjacent to any Natura 2000 site. It is situated approximately 1.3km from the boundary of the Baldoyle Bay SAC and SPA. The development site is situated within the catchment of the Mayne River, which flows approximately 180m to the north of the boundary. Habitats are artificial in nature and not associated with any which are qualifying interests for Natura 2000 sites.

The River Mayne is a relatively short water course that rises to the east of Dublin airport and enters the Irish Sea at Baldoyle. The EPA maintains one monitoring station, at the Hole-in-the-Wall Bridge (station code: RS09M030500), and here ecological conditions were most recently (2022) assessed as 'poor' (Q3). Under the Water Framework Directive the overall status of the River Mayne (water body code: IE_EA_09M030500) has been assessed as of 'poor' status. This indicates point or diffuse pollution sources, or other ecological problems such as obstructions. The ecological quality of the transitional water body at Baldoyle Bay (Mayne Estuary, water body code: IE_EA_080_0100) has been assessed as 'moderate' status. Dublin Bay (water body code: IE_EA_090_0000) is currently assessed as 'good status'.

There are no management plans for the designated areas in Baldoyle Bay however some work has been done to determine the site-specific trends or threats to their conservation status.

The status of qualifying interests in the Baldoyle Bay SPA has been assessed (NPWS, 2012c). Of those species with unfavourable status in the SPA, Ringed Plover and Bar-tailed Godwit have exhibited losses at Baldoyle Bay while the national population remains stable or has increased. It is therefore reasonable to assume that local factors are leading to declines. The NPWS list a number of factors that may be contributing to this including human disturbance (walkers with or without dogs) and nutrient enrichment (pollution). The latter effect is exhibited by algal mats, typically Sea-lettuce

Ulva sp. which covers the sediment surface at low tide. This is good for those species which feed on Sea-lettuce but bad for those which cannot reach their favoured prey under the mats.

Of the qualifying interest species for Baldoyle Bay SPA eleven: Curlew, Dunlin, Redshank, Shoveler, Oystercatcher, Grey Plover, Knot, Golden Plover, Bar-tailed Godwit, Black-tailed Godwit and Black-headed Gull are listed as of high conservation concern, and on BirdWatch Ireland's red list (Gilbert et al., 2021).

Details from the NPWS site synopsis report and the most recent data from BirdWatch Ireland's Wetlands Bird Survey (IWeBS) (Crowe et al., 2012) indicate that Dublin Bay is of international importance for wintering birds meaning that it regularly holds a population of over 20,000 birds.

A 'supporting document' has been published by the NPWS which gives a detailed assessment of the qualifying interests for which SPAs in Dublin Bay have been designated (NPWS, 2014). In particular it presents information on the trends of these features and the pressures which are likely to affect these trends. It has determined that five species: Grey Plover, Shelduck, Pintail, Shoveler, Golden Plover and Black-headed Gull, are of unfavourable status while the remainder are 'favourable'. In the case of the Grey Plover it was found that its population trend is decreasing both within Dublin Bay and at an all-Ireland level. For this reason it is reasonable to assume that the factors for its decline are not unique to Dublin Bay. The Black-headed Gull population was not assessed in this way. Only for Shoveler is it considered that significant declines are being experience due to site conditions.

In 2020 the NPWS published a report entitled 'The monitoring and assessment of six EU Habitats Directive Annex I Marine Habitats' (Scally & Hewett, 2020). This report specifically assessed the status of the habitat: mudflats and sandflats not covered by seawater at low tide (1140) which is a qualifying interest of the North Dublin Bay SAC and the South Dublin Bay SAC. Table 22 of this report assessed the status of this habitat within both SACs as 'favourable'.

In June 2018 Irish Water applied for (and subsequently received) planning permission for works to the Ringsend Wastewater Treatment (WwTP) facility. As part of this application an Environmental Impact Assessment Report (EIAR) was submitted. Sections 5 and 6 of this EIAR related to Marine Biodiversity and Terrestrial Biodiversity respectively and each contained a section on the 'do-nothing scenario'. These review the effects to biodiversity in Dublin Bay in the absence of the upgrade works and so are relevant to this response. Extracts from these sections include:

"*If the Proposed WwTP Component is not constructed, the nutrient and suspended solid loads from the plant into Dublin Bay will continue at the same levels and the impact of these loadings should maintain the same level of effects on marine biodiversity. […]*

If the status quo is maintained there will be little or no change in the majority of the intertidal faunal assemblages found in Dublin Bay which would likely continue to be relatively diverse and rich across the bay *[our emphasis]. Previous studies suggest that the outer and south bays are largely unaffected by the nutrient inputs from the WwTP at Ringsend and from the Liffey and Tolka rivers. Therefore, the sandy communities found in those areas will likely remain dominated by the same assemblage of Nepthys, tellinids and other pollution-sensitive species, albeit subjected to natural spatial and seasonal variations.*

However, the areas in the Tolka Estuary and North Bull Island channel will continue to be affected by the cumulative nutrient loads from the river Liffey and Tolka and the effluent from the Ringsend WwTP. These areas will likely continue to be colonised by opportunistic taxa tolerant of organic enrichment. There is a possibility that an increase in the nutrient outputs from the plant due to the operational overload and storm water discharges could result in a decline in the biodiversity of these communities as a result of low oxygen availability caused by increased organic enrichment. Considering the existing situation, it is possible that through the future oversupply of DIN to the area impacted by the existing outfall, benthic production could be adversely impacted due to hypoxic or even anoxic conditions. An increase in the cover of opportunistic macroalgae could lead to further deterioration in the lagoons in the North Bull as they add to the organic load on the benthos and further increase the BOD. These events, although localised, could deteriorate the biological status for Dublin Bay as a whole. ***Nonetheless, it is unlikely, as existing historical data suggests that pollution in Dublin Bay has had little or no effect on the composition and richness of the benthic macroinvertebrate fauna*** *[our emphasis]. Although a localised decline could occur, it is not envisaged to be to a scale that could pose a threat to the shellfish, fish, bird or marine mammal populations that occur in the area. (section 5.7.1) […]*

If there is no change to the treatment process at Ringsend WwTP then the terrestrial environment adjacent to the site will remain largely unchanged *[our emphasis]. […]*

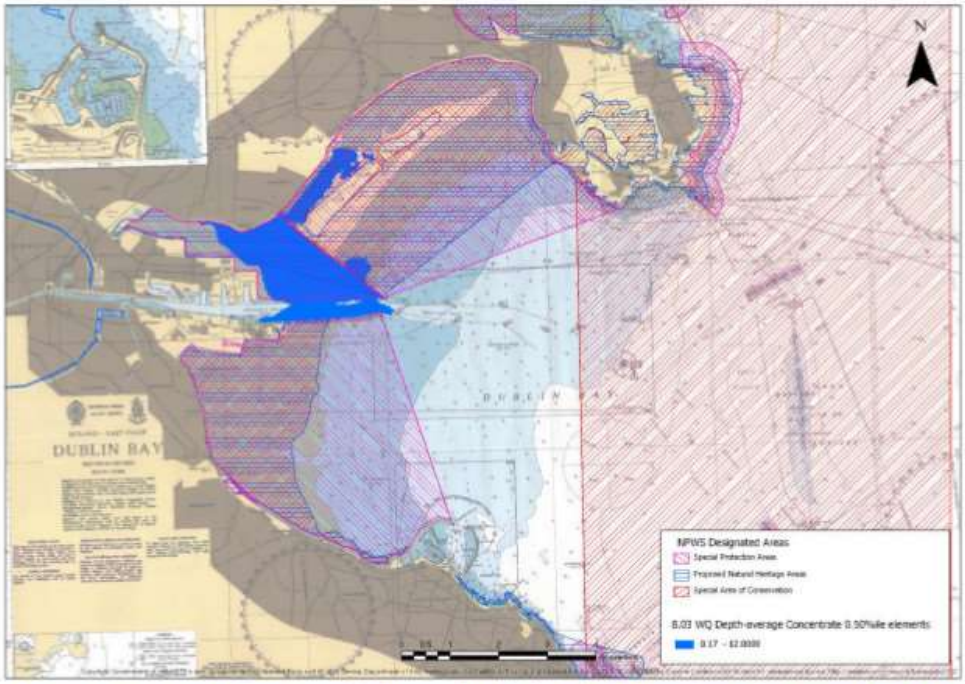

Figure 5-16: Extent of the Zone of Influence (in blue) of the effluent from the Proposed WwTP Component on the predicted modelled output for Winter depth averages 50%ile for Dissolved Inorganic Nitrogen (DIN)

Figure 5 – Extract from the EIAR prepared by Irish Water (2018) showing the zone of influence of the Ringsend WWTP outfall pipe.

If the Proposed WwTP Component is not implemented, there will be little or no change in the majority of the intertidal faunal assemblages found in Dublin Bay which would likely continue to be relatively diverse and rich across the bay […]. The sandy communities found in South Dublin Bay will likely remain dominated by the same

assemblage of the polychaete worm Nepthys caeca, Cockle Cerastoderma edula, tellinids and other pollution-sensitive species, albeit subjected to natural spatial and seasonal variations. ***Bird populations in these areas will be unaffected by the discharge from the WwTP*** *[our emphasis].*

If the Proposed WwTP Component is not implemented, there is a possibility that an increase in the nutrient outputs from the plant due to operational overload and storm water discharges could result in a decline in the biodiversity of invertebrate communities in the Tolka Estuary and North Bull Island channel as a result of low oxygen availability caused by increased organic enrichment. An increase in the cover of opportunistic macroalgae could lead to further deterioration in the lagoons in the North Bull as they add to the organic load on the benthos and further increase the BOD. These events, although localised, could deteriorate the biological status for Dublin Bay as a whole. ***It is unlikely that they would have any significant impact on the waterbird populations that forage on invertebrates in Dublin Bay*** *[our emphasis] (section 6.5.1).*"

A graphic from the EIAR prepared by Irish Water in 2018 showed the zone of influence of the discharge from the Ringsend WwTP and this indicated that effects from the discharge do not extend to the south side of the bay. This is reproduced in figure 5.

The development site is composed of artificial ground/hard standing and does not provide suitable habitat for regularly occurring populations of wetland, wintering or wading birds which are qualifying interests of SPAs within the zone of influence of this project (i.e. Baldoyle Bay SPA, Malahide Estuary SPA, North Bull Island SPA or the North-West Irish Sea SPA). A series of surveys for wintering birds has been carried out by Bryan Deegan between October 2023 and March 2024. This recorded the presence of two species which are qualifying interests of Natura 2000 sites within the zone of influence of the development: Black-headed Gull and Herring Gull. The report (which is submitted under separate cover) states:

Black-headed gull and herring gull are species listed under conservation objectives of Northwest Irish Sea SPA that were recorded foraging on and flying over the site outline. These species' occurred foraging in low numbers on site (<5 ind.) which is considered insignificant in relation to the conservation objectives of this SPA. The highest number of individuals of these species' to fly over the site outline in a single survey was 9 and 43 respectively, which is considered insignificant in relation to the conservation objectives of this SPA.

Black-headed gull was recorded both flying over and foraging within the site outline and is listed as a conservation objective of the nearby North Bull Island SPA. This species occurred foraging in low numbers on site (<5 ind.) which is considered insignificant in relation to the conservation objectives of this SPA. The highest number of individuals to fly over the site outline in a single survey was 9 individuals, which is considered insignificant in relation to the conservation objectives of this SPA.

Herring gull was recorded within the site outline and is listed as a conservation objective of Ireland's Eye SPA. This species occurred foraging in low numbers on site (<5 ind.) which is considered insignificant in relation to the conservation objectives of this SPA. The highest number of individuals to fly over the site outline in a single survey was 9 individuals, which is considered insignificant in relation to the conservation objectives of this SPA.

Black-headed gull is also listed as a conservation objective of South Dublin Bay and River Tolka Estuary SPA. This species occurred foraging in low numbers on site (<5 ind.) which is considered insignificant in relation to the conservation objectives of this

SPA. The highest number of individuals to fly over the site outline in a single survey was 9 individuals, which is considered insignificant in relation to the conservation objectives of this SPA.

No species listed under the conservation objectives of Baldoyle Bay SPA, Howth Head Coast SPA or Malahide Estuary SPA were recorded within the survey area.

Recent data estimates that the coastal breeding populations of Black-headed Gull and Herring Gull in the Republic of Ireland have increased by 135% and 98% respectively between 2000 to 2015-21 (Burnell et al., 2023). Bird surveys carried out in March 2024 occurred during the nesting season. No indication of nesting was recorded for these two species within the development site boundary.

4.0 Step 4: Determination of Significance

In order for an effect to occur there must be a pathway between the source (the development site) and the receptor (the SAC or SPA). Where a pathway does not exist an impact cannot occur.

4.1 Habitat loss

The development site is approximately 1.3km from the boundary of the nearest Natura 2000 site: Baldoyle Bay SPA/SAC. The intervening land is occupied by urban development and transport links, as well as some open land. Because of the distance separating these areas there is no pathway for loss or disturbance of habitats in any Natura 2000 site, or other semi-natural habitats that may act as ecological corridors or stepping stones for important species associated with the qualifying interests of Natura 2000 sites.

No significant effects are likely to arise to Natura 2000 sites from this source.

4.2 Habitat disturbance

The development site is approximately 1.3km from the boundary of the Baldoyle Bay SAC/SPA, and 2.3km to the North Dublin Bay SAC/North Bull Island SPA. Because of this significant distance separating these areas there is no pathway for indirect loss or disturbance of habitats within any Natura 2000 site or other semi-natural habitats that may act as ecological corridors for important species associated with their qualifying interests.

Wetland, wading or wintering birds are known to feed on amenity grassland areas which are located at various points around Dublin City. No such areas are known from the Clongriffin area.

Wintering bird surveys recorded two species which are qualifying interests for Natura 2000 sites within the zone of influence of the project: Black-headed Gull and Herring Gull. These birds were noted to be feeding and/or flying over the site in small numbers (<5 individuals). No breeding was recorded. These are not significant numbers in the context of the conservation objectives of Natura 2000 sites given that the nature of the habitat on the development site is not of high value and amble foraging ground is available across open, amenity and agricultural areas in this vicinity. This development is not likely to result in any ex-situ impacts.

No significant effects are likely to arise to Natura 2000 sites from this source.

4.3 Pollution during normal operation - wastewater

There is an indirect pathway between the development site and Natura 2000 sites in Dublin Bay.

While the issues at Ringsend wastewater treatment plant are being dealt with in the medium-term evidence suggests that some nutrient enrichment is benefiting wintering birds for which SPAs have been designated in Dublin Bay (Nairn & O'Hallaran eds, 2012). Additional loading to this plant arising from the operation of this project are not significant as there is no evidence that pollution through nutrient input is affecting the conservation objectives of any of the Natura 2000 sites in Dublin Bay.

No significant effects are likely to arise to Natura 2000 sites from this source.

4.4 Pollution during normal operation – surface water

The integration of SUDS into the project design will ensure that no changes will occur to the quantity or quality of surface water run-off. These are standard measures which are included in all development projects and are not included here to avoid or reduce an effect to any Natura 2000 site. There are therefore not mitigation measures in an AA context. No significant effects can occur to Natura 2000 sites from this source.

No significant effects are likely to arise to Natura 2000 sites from this source.

4.5 Pollution during construction

During the construction phase there will be earth works however the likelihood of sediment, or other construction pollutants entering the River Mayne, entrained in rain run-off, is low. This is due to the separation (c.180m) between the river and the construction site. No works are to be undertaken at the River Mayne. While sediment can be detrimental to the ecological quality in rivers, the same is not the case for estuaries and tidally influenced habitats, which rely on vast quantities of sediment for their functioning.

No significant effects are likely to arise to Natura 2000 sites from this source.

4.6 Abstraction

There is no pathway between this abstraction point on the River Liffey and any Natura 2000 site. As such water that is abstracted for this plant cannot impact upon Natura areas. This impact is therefore not significant.

5.0 Analysis of Other Plans and Projects

Individual effects from one-off developments or plans may not in themselves be significant. However, these may become significant when combined with similar, multiple effects elsewhere. These are sometimes known as cumulative impacts but in AA terminology are referred to as 'in combination' effects.

In terms of the conservation objectives of the SACs and SPAs, maintaining the extent and condition of important habitats and species populations is vital.

The catchment of the Mayne River has undergone some land use change in recent years from farmland to built development. The area around the development site is

now largely devoted to residential development. The Santry/Mayne River catchment has been identified as 'priority area for restoration' by the EPA.

The cumulative effects of this type of urban growth can arise from replacing permeable ground with hard surfaces. This can result in deterioration of water quality, primarily from the run-off of particulate matter and hydrocarbon residues (Mason, 1996). To combat this effect the Greater Dublin Strategic Drainage Study was published in 2005. This aims to ensure that new developments integrate sustainable drainage systems (SUDS) to maintain natural, or 'green field' rates of surface water run-off while also improving water quality in rivers. This development is fully complaint with these SUDS principles. Measures include permeable paving to the on-street car spaces and extensive sedum green roof to both blocks, shown on the roof plans, as well as urban tree pits to all the street trees.

This project can be seen alongside other residential projects which are permitted and/or under construction, as well as those currently in planning. This includes permitted Strategic Housing Developments to the west of the railway line and significant new development to the east of the railway line. Specifically ABP References 311016; 310418; 316617; 248970 and 313177 (although the latter was refused permission). These are shown in figure 4.

The proposed development takes place within the administrative area of Dublin City Council but is close to Fingal. Future developments in this area are planned for under relevant development plans, such as the Dublin City Development Plan 2022 – 2028 and the Fingal County Development Plan 2023-2029. In each case the planning authority has carried out an AA of their plan and concluded that the implementation would not result in adverse effects to the integrity of Natura 2000 sites.

Figure 4 – Planning applications in the vicinity of the development site

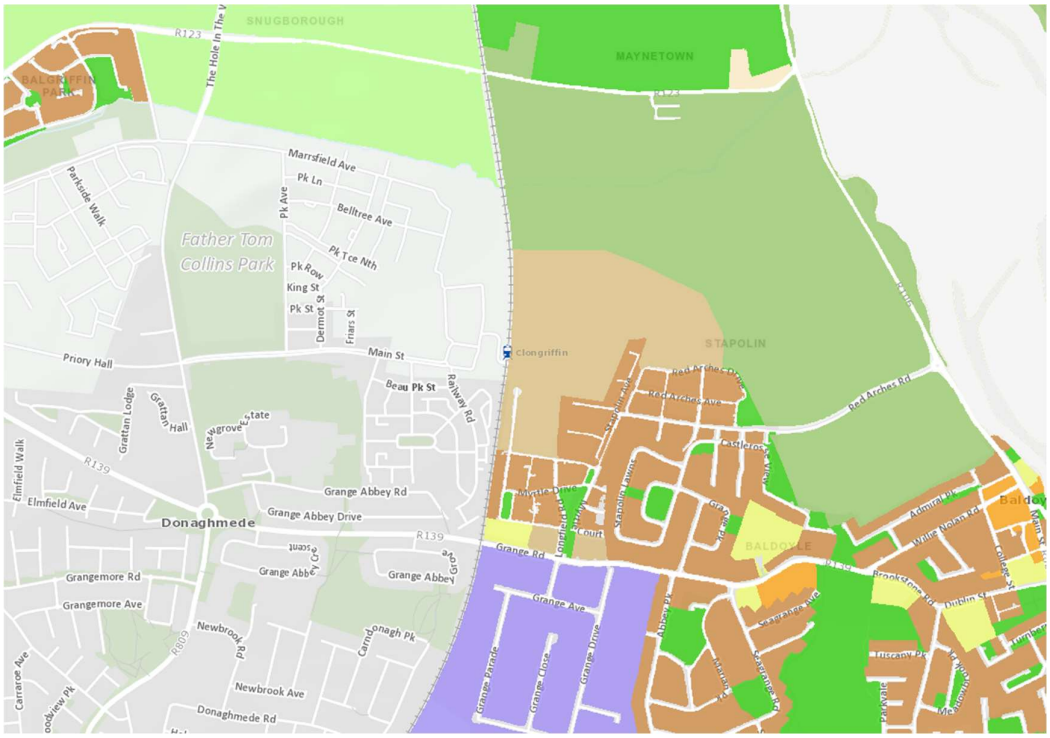

Figure 5 – Extract from Fingal County Development Plant showing proposed zoning for new residential development (light brown) to the east of the Clongriffin railway station.

The growth of population in the Dublin area is placing pressure on wastewater treatment infrastructure and plans are underway to increase capacity at Ringsend as well as providing new treatment facilities in the north of the county, as detailed in the Fingal County Development Plan. New capacity will reduce pressure on the Ringsend plant and enhance compliance rates with pollution standards. Current compliance issues are not believed to be resulting in significant effects to Natura 2000 sites in Dublin Bay or elsewhere.

There are no plans or projects which are likely to result in significant 'in combination' effects to Natura 2000 sites.

6.0 Conclusion and Finding of No Significant Effects

This report presents a Stage 1 Appropriate Assessment Screening for the proposed development, outlining the information required for the competent authority to screen for appropriate assessment and to determine whether or not the proposed development, either alone or in combination with other plans and projects, in view of best scientific knowledge, is likely to have a significant effect on any Natura 2000 or European site.

No significant effects are likely to arise from this project to Natura 2000 sites in Dublin Bay: the North Dublin Bay SAC, South Dublin Bay SAC, the North Bull Island SPA, the South Dublin Bay and River Tolka Estuary SPA, North West Irish Sea SPA or in Baldoyle Bay: Baldoyle Bay SAC or Baldoyle Bay SPA.

In carrying out this AA screening, mitigation measures have not been taken into account. Standard best practice construction measures which could have the effect of mitigating any effects on any European Sites have similarly not been taken into account.

On the basis of the screening exercise carried out above, it can be concluded that significant effects are not likely to arise to any Natura 2000 sites, whether arising from the project itself or in combination with other plans and projects. This conclusion is based on the best available scientific knowledge.

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