

Screening Report for
Appropriate Assessment
of a proposed student residence
development at University College Dublin,
Dublin 4

Compiled by OPENFIELD Ecological Services

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1.0 Introduction

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. This target was not met but 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'. In 2011 the Irish Government incorporated the goals set out in this strategy, along with its commitments to the conservation of biodiversity under national and EU law, in the second national biodiversity action plan (Dept. of Arts, Heritage and the Gaeltacht, 2011).

The main policy instruments for conserving biodiversity in Ireland have been the Birds Directive of 1979 and the Habitats Directive of 1992. 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. 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" (EC, 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 'good conservation status' exists for their SPAs and SACs and specifically that Article 6(3) of the Directive is met. Article 6(3) requires that an 'appropriate assessment' (AA) be carried out for these sites where projects, plans or proposals are likely to have an effect. In some cases this is obvious from the start, for instance where a road is to pass through a designated site. However, where this is not the case, a preliminary screening must first be carried out to determine whether or not a full AA is required.

2.0 The Purpose of this document

This document provides a screening report of a proposed student accommodation development on a site on the UCD campus, Belfield, Dublin 4, and its potential effects in relation to Natura 2000 sites (SACs and SPAs). The lands are currently occupied by a combination of car parking areas, buildings and playing pitches.

This document will assess whether effects to the Natura 2000 network are likely to occur in accordance with Article 6(3) of the Habitats Directive and the Planning and Development (Amendment) Act, 2010.

It should be noted that under the European Communities (Birds and Natural Habitats Regulations) 2011 it is the relevant competent authority, in this case Dublin City Council, which carries out any AA or screening for AA. This report therefore aids in that decision.

3.0 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 significantly affecting Natura 2000 sites-Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*' (Oxford Brookes University, 2001). Chapter 3, part 1, of this document deals specifically with screening while Annex 2 provides the template for the screening/finding of no significant effects report matrices to be used.

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

Step 1: Management of the Site

This determines whether the project is necessary for the conservation management of the site in question.

Step 2: Description of the Plan

This step describes the aspects of the plan that may have an impact on the Natura 2000 network.

Step 3: Characteristics of the Natura Site

This process identifies the conservation aspects of the Natura site and determines whether negative impacts can be expected as a result of the plan. This is done through a literature survey and consultation with relevant stakeholders if necessary – particularly the National Parks and Wildlife Service (NPWS). 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.

Step 4: Assessment of Significance

Assessing whether an effect is likely to occur is dependent on the conservation objectives which have been set for that that Natura site.

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 recently published guidelines for Local Authorities from the Department of the Environment, Heritage and Local Government (DoEHLG, 2009).

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.

Screening Template as per Annex 2 of EU methodology:

This plan is not necessary for the management of any Natura 2000 site and so Step 1 as outlined above is not relevant.

4.0 Brief description of the project

The subject proposal is for the construction, and subsequent occupation, of student accommodation on the site of about 11.7 hectares. This will include over 3,000 bed spaces arranged over six blocks and a range of amenity services including playing pitch, passive open space, gym and health centre. One basement car park will provide 637 parking spaces.

The site location is shown in figures 1 and 2.

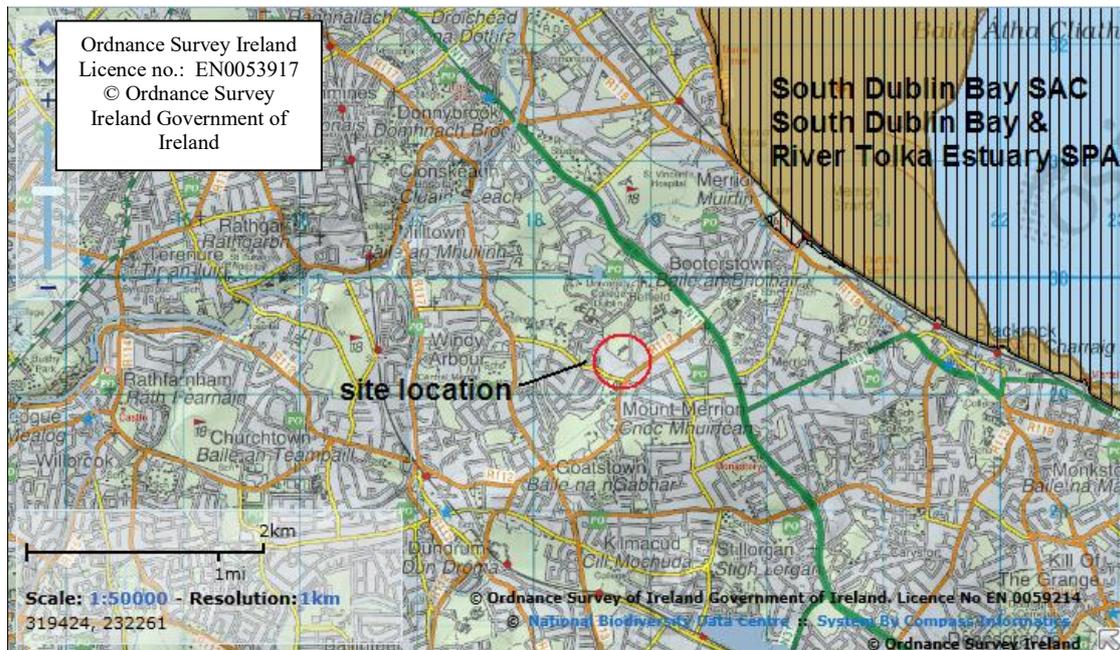


Figure 1 – Site location (red circle). The boundary of the SAC is shown in tan while that of the SPA is in vertical lines (from www.biodiversityireland.ie).

The site is not located within or directly adjacent to any Natura 2000 area (SAC or SPA). This part of Dublin lies within the suburban zone of the city while historic mapping shows buildings in this area for many years. Current land use in the vicinity is predominantly associated with college life. The site is not within the catchment of any significant river. The www.wfdireland.ie website shows a number of small streams in this area which enter Dublin Bay at Booterstown marsh, to the north-east of the site.

This site was visited for this study in February 2016 and although this is outside the optimal period for general habitat survey for a study of this nature it is essential that pathways between the site and protected areas be identified. In this regard, a full assessment was possible. The site boundary superimposed upon habitats that were identified is given in figure 2.

The development will see the loss of car parking and amenity grassland areas as well as approximately 120m of native hedgerow. Construction and demolition waste will be removed by a licenced contractor. The construction phase will see new blocks of student accommodation being built using standard material as well as all associated drainage infrastructure.

Currently the surface water run-off from the site passes to the public drains with no attenuation.

A new surface water drainage network is to be constructed for this development and be separate from the foul sewerage network. This will comply with Sustainable Drainage Systems (SUDS) principles which will provide on-site storage and attenuation prior to discharge to the Elm Park stream. Run-off will be regulated by a flow-limiting device while a Class I interceptor will remove oil and grit residues. This system will be fully compliant with the Greater Dublin Strategic Drainage Study (GDSDS). In separating

surface flow from the foul sewer it will relieve pressure on the municipal wastewater treatment plant.



Figure 2 – Boundary of UCD site (in red line). Note there are no Natura 2000 areas in this view (from www.bing.com).

Freshwater supply for Dublin City originates from the Poulaphouca Reservoir.

Foul effluent from the proposed development will be sent to the municipal treatment plant at Ringsend. Emissions from the plant are currently not in compliance with the Urban Wastewater Treatment Directive. Irish Water, the authority in charge of the wastewater treatment network, has prioritised the enhancement of the Ringsend plant in its Proposed Capital Investment Programme 2014-2016. Irish Water is currently finalising proposals to increase the capacity of the plant from 1.64 million PE (population equivalent) to 2.15 million PE. This being done on a phased basis with some elements nearing completion, however full compliance is not anticipated until 2021. The new development is likely to result in a decrease in the wastewater loading to this plant as it will divert storm water to the Elm Park Stream.

The proposed site layout is presented in figure 3.



Figure 3 – proposed site layout

5.0 Brief description of 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 area. For projects of this nature an initial 2km radius is normally examined (IEA, 1995). There are two Natura 2000 areas within this radius: the South Dublin Bay and River Tolka Estuary SPA (site code: 4024); and the South Dublin Bay SAC (0210). The distance to the boundary of these areas is just approximately 1.6km. 2km has been chosen arbitrarily and impacts can occur at distances greater than this. The Poulaphouca Reservoir, from which drinking water supply for this development will originate, is designated as a SPA (site code: 4063). For this reason, it is considered to fall within the zone of influence of this project. These are considered to be the only Natura 2000 areas within the zone of influence of the development as pathways do not exist to other areas.

The South Dublin Bay SAC (side code: 0210) is concentrated on the intertidal area of Sandymount Strand. It has one qualifying interest which is mudflats and sandflats not covered by seawater at low tide.

Tidal mudflats (habitat code: 1140) is an intertidal habitat characterised by fine silt and sediment. Most of the area in Ireland is of favourable status however water quality and fishing activity, including aquaculture, are negatively affecting some areas. At a national scale it is assessed as of 'intermediate' status (NPWS, 2013).

The South Dublin Bay and Tolka Estuary SPA (side code: 4024) includes most of the intertidal areas in Dublin Bay but not including those around Bull Island. 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.

Bird counts from 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 1 shows the most recent count data available¹.

Table 1 – Annual count data for Dublin Bay from the Irish Wetland Birds Survey (IWeBS)

Year	2010/11	2011/12	2012/13	2013/14	2014/15	Mean
Count	27,931	30,725	30,021	35,878	33,486	31,608

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 bernicla hrota*; Black-tailed godwit *Limosa limosa*; Knot *Calidris canutus* and Bar-tailed godwit *L. lapponica*.

Table 2 lists the features of interest for this SPA.

Table 2 – Features of interest for the South Dublin Bay & Tolka Estuary SPA in (EU code in square parenthesis)

Species	Status ²
Light-bellied Brent Goose <i>Branta bernicla hrota</i> [A046]	Amber (Wintering)
Oystercatcher <i>Haematopus ostralegus</i> [A130]	Amber (Breeding & Wintering)
Ringed Plover <i>Charadrius hiaticula</i> [A137]	Green
Grey Plover <i>Pluvialis squatarola</i> [A140]	Amber (Wintering)
Knot <i>Calidris canutus</i> [A143]	Amber (Wintering)
Sanderling <i>Calidris alba</i> [A144]	Green
Dunlin <i>Calidris alpina</i> [A149]	Red (Breeding & Wintering)
Bar-tailed Godwit <i>Limosa lapponica</i> [A157]	Amber (Wintering)
Redshank <i>Tringa totanus</i> [A162]	Red (Breeding & Wintering)

¹ <https://fl.caspio.com/dp.asp?AppKey=f4db3000060acbd80db9403f857c>

² Colhoun & Cummins, 2013. *Birds of Conservation Concern in Ireland 2014-2019*

Black-headed Gull	<i>Croicocephalus ridibundus</i> [A179]	Red (Breeding)
Roseate Tern	<i>Sterna dougallii</i> [A192]	Amber (Breeding)
Common Tern	<i>Sterna Hirundo</i> [A193]	Amber (Breeding)
Arctic Tern	<i>Sterna paradisaea</i> [A194]	Amber (Breeding)
Wetlands & Waterbirds [A999]		

- **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.

At its nearest point, the Poulaphouca Reservoir is located approximately 22km from the site of the proposed development. Its 'features of interest' include the Greylag Goose *Anser anser* and the Lesser Black-backed Gull *Larus fuscus*.

Whether the integrity of either the SAC or SPAs is likely to be significantly affected must be measured against their 'conservation objectives'. Specific conservation objectives have been set for some of these areas. For the South Dublin Bay SAC (NPWS, 2013) the objectives relate to habitat area, community extent, community structure and community distribution within the qualifying interest. There is no objective in relation to water quality.

For the South Dublin Bay & Tolka Estuary SPA (NPWS, 2015) the conservation objectives for each bird species relates to maintaining a population trend that is stable or increasing, and maintaining the current distribution in time and space.

For the Poulaphouca Reservoir SPA, generic conservation objectives have been published by the NPWS and are stated as:

To maintain or restore the favourable conservation condition of the Annexed habitats/species for which the SAC or SPA has been selected. (NPWS, 2015).

In a generic sense 'favourable conservation status' of a habitat is achieved when:

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

While the 'favourable conservation status' of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long - term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is 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.

6.0 Data collected to carry out the assessment

Describe the individual elements of the plan (either alone or in combination with other plans or projects) likely to give rise to impacts on the SAC:

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. Total counts from IWeBS are shown in table 2.

The site is predominantly composed of artificial habitats with buildings and other areas of hard standing, although there is some open space and trees. It is located in a built-up area of Dublin city albeit with some features, such as woodlands, being of value to nature. It is connected to a number of Natura 2000 areas via wastewater, surface water and freshwater supply.

The EU's Water Framework Directive (WFD) stipulates that all water bodies must attain 'good ecological status' by 2015. This includes estuarine waters and Dublin Bay is located within the Eastern River Basin District. In 2009 a management plan was published to address pollution issues and includes a 'programme of measures' which must be completed. This plan was approved in 2010 (ERBD, 2010). The coastal water in Dublin Bay is assessed as 'unpolluted' (from www.epa.ie). This classification indicates that water quality downstream of the Custom House is currently meeting the requirements of the WFD. The UCD site is not within the catchment of any river that is monitored by the EPA.

Of the species listed in table 1 three: Dunlin, Redshank and Black-headed Gull are listed as of high conservation concern, and on BirdWatch Ireland's red list (Colhoun & Cummins, 2013).

- Dunlins do not breed on the east coast of Ireland while their winter range, which includes a number of coastal and wetland areas across the country, has declined by over 50% between 1994/5 and 2008/09. The reason for this decline is unclear.
- Wintering Redshank numbers in Ireland have changed little since the early 1980s while their breeding sites, based around wetlands west of the River Shannon and some eastern coastal areas, has fallen by 55% in 40 years. This can be attributed to habitat loss from agricultural intensification and drainage.
- Black-headed Gulls remain a frequent winter presence and their red listing relates to their breeding status only. This has seen a 55% decline in 40 years for reasons which are not clear but may relate to loss of nesting sites, predation, food depletion or drainage. They are not recorded as breeding in the Dublin area. (Balmer et al., 2013).

Of relevance to this study is it noted that although declines in these species cannot always be attributed to clear causes, there is no evidence that water quality issues have been a factor.

7.0 The Assessment of Significance of Effects

Describe how the project or plan (alone or in combination) is likely to affect the Natura 2000 site.

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.

The proposed development is not located within, or adjacent to, any SAC or SPA.

At its closest point the site is approximately 1.6km away (as the crow flies) from the boundary of the Natura 2000 areas within Dublin Bay. In reality however this distance is greater as the hydrological pathway follows the course of the drainage network to the Ringsend plant (wastewater) or local stream. There is no direct pathway to the Tolka estuary from this development as it lies to the north of the River Liffey. Because of the distance separating the site and the SPA/SAC there is no pathway for loss or disturbance of important habitats or important species associated with the features of interest of the SPA.

There is a pathway from the site via surface and wastewater flows to Dublin Bay, via local streams and the Ringsend plant respectively. However there is no evidence that poor water quality is currently negatively affecting the conservation objectives of Natura 2000 areas in Dublin Bay. For each feature of interest (i.e. bird species) there are two conservation objectives for the SPA:

1. Population trend: long term population trend stable or increasing
2. Distribution: no significant decrease in the range, timing or intensity of use [...] other than that occurring from natural patterns of variation.

Water quality is not listed as a conservation objective for this SPA. Nor is water quality listed as a conservation objective for the SAC. There is some evidence that elevated levels of nutrients is in fact benefiting wintering bird populations by fuelling primary production (Nairn & O'Halloran, eds, 2012). Research from Lough Neagh in Northern Ireland suggests that improvements to water quality there has resulted in dramatic declines in the populations of wintering ducks (Tomankova et al., 2013). In other estuaries nutrient enrichment can lead to carpets of the green alga *Ulva sp.* which is detrimental for some bird species. There are no data to suggest that this is occurring to an excessive extent in Dublin Bay. Pollution is undesirable however and it is considered that the increase in loading at the Ringsend treatment plant arising from this project will be negligible. However such effects can act 'in combination' with myriad other sources of wastewater from throughout the catchment and so must be given due consideration under the AA methodology.

The Ringsend plant is licenced to discharge treated effluent by the EPA (licence number D0034-01) and is now managed by Irish Water. 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, including at the subject site. The Annual Environmental Report for 2015, the most recent available, indicated that there were a number of exceedences of the emission limit values set under the Urban Wastewater Treatment Directive and these can be traced to pulse inflows arising from wet weather. The AER states that this has had a negative impact upon the receiving water near the outfall. Upgrading works planned by Irish Water are now expected to be completed by 2021.

The impact of this project is considered **not be significant** based on two points:

1. There is no evidence that pollution through nutrient input is affecting the conservation objectives of the South Dublin Bay and River Tolka Estuary SPA.
2. Accepting that pollution is undesirable, regardless of the conservation objectives of the SPA, and would be contrary to the aims of the Water Framework Directive, then the upgrading works at Ringsend wastewater treatment plant and implementation of the Greater Dublin Strategic Drainage Study (GSDSDS) will address future capacity demand.

Discharges of wastewater and surface water from this project cannot result in significant effects to SACs or SPAs in Dublin Bay.

During the construction phase, there is a risk to water quality due to the toxic nature of many construction materials (particularly concrete) and the release of sediment. This can affect aquatic life in streams and river but will be controlled through best practice site management. However, because of the distance to Natura 2000 areas, the temporary nature of construction works, and the nature of the estuarine habitats (which rely on large quantities of deposited sediment), significant effects to the SAC and SPA in Dublin Bay are not likely to occur. A construction management plan (CMP) has been prepared which details how pollution will be prevented, and which shows where working compounds are to be located. This has been prepared in accordance the guidelines from Inland Fisheries Ireland (2016) and is attached as an addendum to this report.

There is no evidence that abstraction is affecting the conservation objectives for Greylag Geese or Black-headed Gulls at the Poulaphouca Reservoir. Nationally the Greylag Goose has undergone a significant increase over 30 years in its wintering population in Ireland. The recently published *Bird Atlas 2007-11* shows that there has been an decrease in the Poulaphouca numbers however. This source suggests that the decline, which also occurred in a

number of other sites in Ireland, “may be linked with a northerly redistribution of the Icelandic wintering population” (Balmer et al., 2013).

The subject site is located in an urban environment close to significant noise and artificial light sources such as roads. Given this context it cannot contribute to potential disturbance impacts to species or habitats of conservation significance in Dublin Bay.

Are there other projects or plans that together with the project or plan being assessed could affect the site?

Implementation of the WFD will ensure that improvements to water quality in Dublin Bay are maintained. Environmental water quality can be impacted by the effects of surface water run-off from areas of hard standing. These impacts are particularly pronounced in urban areas and can include pollution from particulate matter and hydrocarbon residues, and downstream erosion from accelerated flows during flood events. In this case SUDS and other attenuation measures are proposed, so that no impacts to surface water quality/quantity will occur.

In March 2005 the Greater Dublin Drainage Study (GDDS) was published as a policy document designed to provide for future drainage infrastructure. The implementation of this policy will see broad compliance with environmental and planning requirements in an integrated manner. This is likely to result in a long-term improvement to the quality and quantity of storm water run-off in the capital.

The completion of upgrade works at Ringsend, a priority for Irish Water, will see greater compliance with quality standards of effluent and so an expected improvement in water quality in Dublin Bay.

There are no effects which could act in combination with the subject proposal to result in significant effects to Natura areas.

List of agencies consulted

Nature conservation observations were sought from the Development Applications Unit of the Department of Arts, Heritage and the Gaeltacht. A response to this was received on April 14th 2016 (reference GPre00071/2016). This was principally concerned with local biodiversity issues of relevance to the Environmental Impact Statement which accompanies this application. There were no site-specific comments pertaining to the AA process.

8.0 Conclusion and Finding of No Significant Effects

This project has been screened for AA under the appropriate methodology. It has found that significant effects are not likely to arise, either alone or in combination with other plans or projects that would result in significant effects to the integrity of the Natura 2000 network.

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