South Dublin County

Habitats Directive Assessment

Screening of the Draft

Corkagh Changing-rooms Pavilion
at
Corkagh Park (Outer Ring Road),
Clondalkin, Dublin 22
for

Appropriate Assessment

in accordance with the requirements of
Article 6(3) of the EU Habitats Directive

October 2015

CONTENTS

SECTION 1

1.1 INTRODUCTION

This document represents South Dublin County Council's Appropriate Assessment (AA) Screening Report for the changing-rooms Pavilion in Corkagh Park, Clondalkin, Dublin 22 in South Dublin County. This report has been prepared in accordance with the requirements of Article 6(3) of the Habitats Directive (Directive 92/43/EEC).

Council directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna – 'The Habitats Directive' was transposed into Irish law by the European Community (Natural Habitats) Regulations 1997 (S.I. No. 94/1997).

Article 6 (3) of the 'Habitats' Directive 92/43/EEC states that;
Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the sites 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.

Article 6(4) states:
'if, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of economic or social nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted. Where the site concerned hosts a priority natural habitat type and/or a priority species the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.

Article 6(3) therefore requires that an "appropriate assessment" be undertaken for any plan or project which is not necessary for the management of a Natura 2000 site and which has the potential to have an impact on the integrity of a Natura 2000 site *i.e.* a Special Area of Conservation (SAC) or a Special Protection Area for Birds (SPA), or on the conservation objectives of such a site.

Within the area of South Dublin County, there are two areas designated as SACs: Glenasmole Valley SAC and a portion of the larger Wicklow Mountains SAC that extends into the county area. There is also one SPA - a portion of the Wicklow Mountains SPA. These three Natura 2000 sites are all located in the Dublin Mountains, bordering with County Wicklow.

In effect, the Commission's ruling requires a robust and thorough application by all consent authorities, including planning authorities, of the requirement to undertake an appropriate assessment of the ecological implications of any plan or project, whether within or outside of a designated site, which may impact upon its stated conservation objectives.

1.2 METHODOLOGY

This Screening Statement for Appropriate Assessment has been prepared with regard to the following guidance documents where relevant:

- *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* (European Commission Environment Directorate General, 2001)

- *Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC* (EC Environment Directorate General, 2000)

- *Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities Circular* NPW 1/10 & PSSP 2/10

- *Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities.* (Department of Environment, Heritage and Local Government, 2010 revision)

- *Guidelines for Good Practice, Appropriate Assessment of Plans under Article 6(3) Habitats Directive* (International Workshop on Assessment of Plans under the Habitats Directive, 2011)

- *Guidance Document on Article 6(4) of the Habitats Directive 92/43/EEC.* Clarification of the Concepts of Alternative Solutions, Imperative Reasons of Over-riding Public Interest, Compensatory Measures, Overall Coherence. Opinion of the European Commission (European Commission, January 2007)

There are four stages in an Appropriate Assessment as outlined in the European Commission Guidance Document (2001), summarised below:

• Stage 1: Screening

The first step to establishing if an appropriate assessment is required is referred to as 'screening' and its purpose is to determine on the basis of a preliminary assessment and objective criteria if the plan or project, alone or in combination with other plans or projects, could have a significant effect on a Natura 2000 site in view of the sites conservation objectives. The process identifies any likely impacts upon a Natura 2000 Site, either alone or in combination with other projects or plans, and considers whether these impacts are likely to be significant.

• Stage 2: Appropriate Assessment

This step considers the impact of the project or plan on the integrity of the Natura 2000 Site, either alone or in combination with other plans or projects, to the site's structure and function and its conservation objectives. Additionally, where there are deemed to be adverse impacts, an assessment of the potential mitigation of those impacts is considered.

• Stage 3: Alternative Solutions

This stage examines alternative means of achieving the objectives of the project or plan that aim to avoid adverse impacts on the integrity of the Natura 2000 site.

• Stage 4: Imperative Reasons of Overriding Public Interest
This stage is the main derogation process outlined in Article 6(4) which examines whether there are imperative reasons of overriding public interest (IROPI) for allowing a plan or project which will have adverse effects on the integrity of a Natura 2000 site to proceed.

This screening exercise was based on a desk-top study drawing on information sources which included the following: NPWS on-line data for Natura 2000 sites; Ordnance Survey of Ireland mapping and aerial photography; geological, hydrological and soils data available from GSI; water quality data (EPA and SDCC); in-house data arising from site visits to proposed Project lands.

The current documents present the results of the first of these four stages *i.e.* Screening, to determine if the changing-rooms Pavilion in Corkagh Park, Clondalkin will or will not have an impact on a Natura 2000 site. Its conclusion that significant impacts on Natura 2000 sites will not occur as a result of this Project, resulted in the screening process terminating at Stage 1.

SECTION 2 SCREENING MATRIX

2.1 DESCRIPTION OF THE PLAN OR PROJECT

2.1.1 Context

South Dublin County Council intends to construct a changingrooms pavilion to serve the football pitches within this section of the Corkagh Park adjacent to the outer ring road. The development is proposed adjacent to existing car-parking for users of the pavilion/pitches and the park. (Figure 1)

Fig.1. An aerial view of the proposed development site showing the existing condition with the N7 in the right bottom corner of the image, the outer ring road to the left of the image and the proposed site west of the two fishponds with access from the small roundabout pictured. (Source of this image: screenshot from googlemaps 2015)

The project proposes the construction of a pavilion to accommodate 6 team changing rooms with w.c. and shower facilities, 1 referee changing room including w.c. and accessible shower facilities, an accessible w.c., and storage facilities for the teams. This will allow the removal of existing containers on site used by teams to store portable goals, nets, etc.

This report addresses the design and conservation aspects of the project. It provides a comprehensive description of the site, the proposals and their impacts. It should be read in conjunction with the drawings prepared for Part 8 consider by South Dublin County Council.

The vision for the site can be summarised as follows:

- To create a high quality sustainable public amenity.
- To eliminate informal storage/changing facilities in containers.
- To contribute to and enhance the use of the parks as a public amenity

2.1.2 Location and description of the Project site

The site is located within the Corkagh Park, in an area where existing football pitches are established alongside the Outer Ring Road. This section of the Corkagh Park includes rivers and watercourses flowing past two fishponds which feature as an amenity within the park.

The site for the pavilion is adjacent to a small parking area accessed easily from the outer ring road and the siting of future access roads to these lands have been considered in siting the pavilion to maintain its position adjacent the playing pitches.

The site for the pavilion is immediately North of this stretch of the River Camac which is situated 15 metres away.

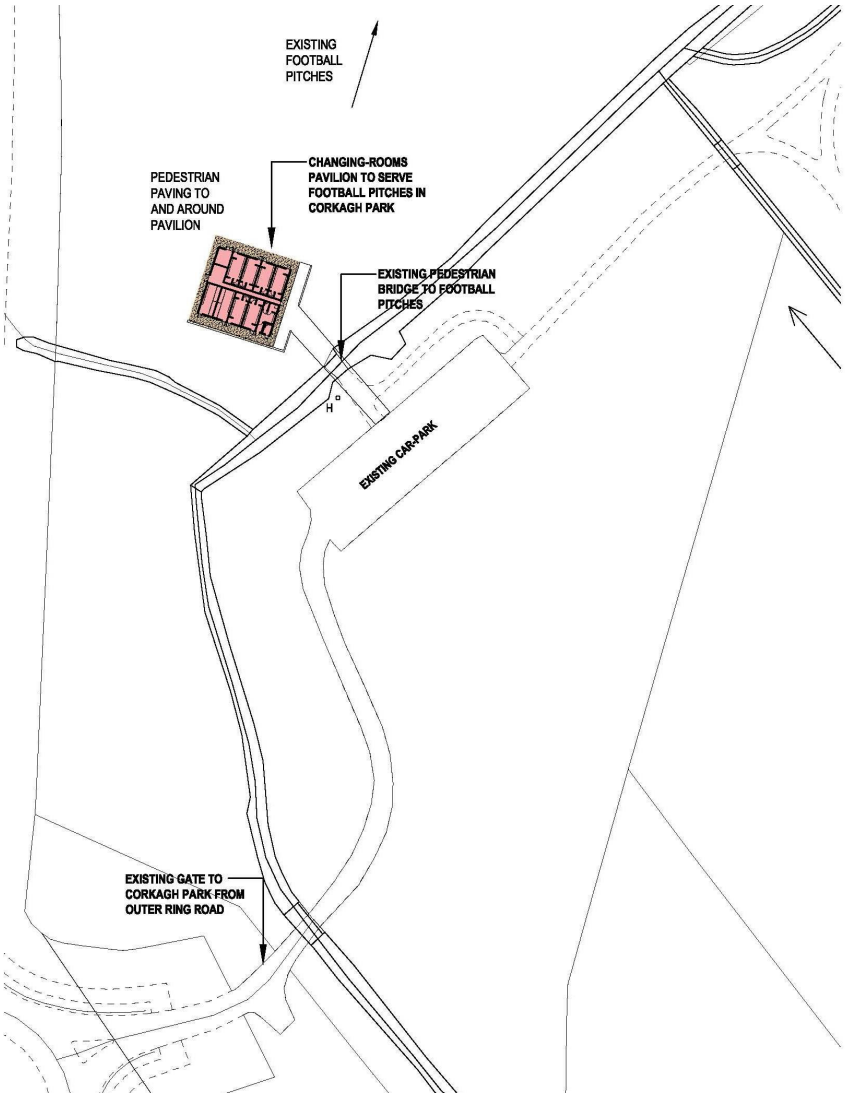


Fig. 2 A plan of the proposed development of Changing-room pavilion

The site for the pavilion building is located to the North/North West of the River Camac, East of the outer ring road and to the South of the existing football pitches. This locates the pavilion clear of the playing fields, within good access of utilities including existing public foul water sewers. Foul Drainage from the new building will drained to the existing public foul sewer which runs adjacent to North bank of the Camac in this location. Surface water will be drained and attenuated in the green space to the North of the pavilion, 40 metres from the river and away from the direction of the river.

The proposed site is also clear of trees and no trees or hedges will be impacted to achieve development.

Fig. 3. An aerial view of the proposed development site for the pavilion. The pedestrian bridge just visible crossing the river North of the carpark will provide access to the pavilion (Source of this image: Screenshot from Googlemaps 2015)

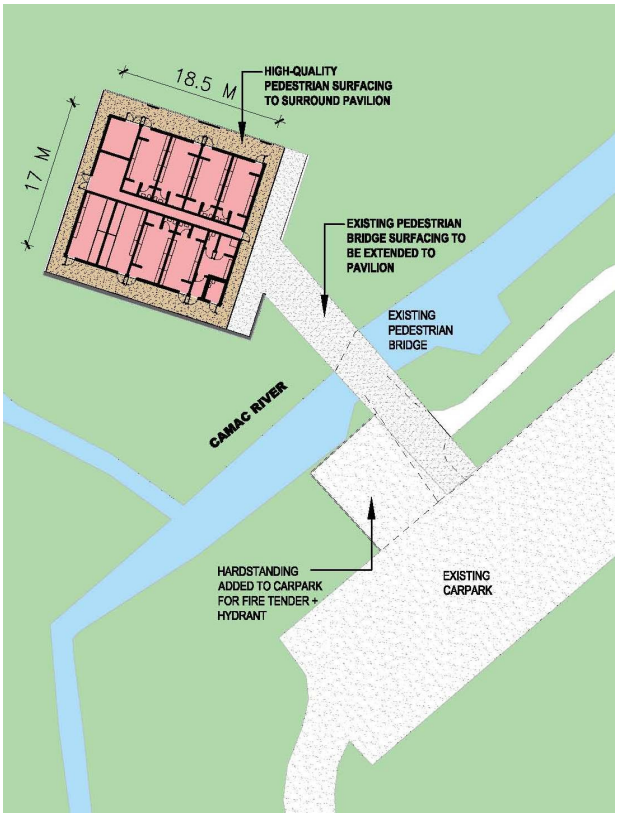


Fig 4. Proposed plan of pavilion sited across the existing pedestrian bridge from the carpark

2.1.3 Structure and Content of the Corkagh Pavilion Project Report

The purpose of the project report is to explain the rationale behind the choice of the specific location of the development and actions taken while considering the initial design choices in avoiding impact on the natural environment in so much as is possible while achieving the development of this community amenity.

The siting of the pavilion within the park is in the interests of fulfilling its intended purposes to serve the adjacent playing fields and to control the storage of equipment, and eliminate/minimise the unauthorised parking of vehicles. The specific location within the park is beneficial to ensuring effective disposal of foul water and short lengths of civil works for access to utilities. It is also outside the CFRAMS forecast flood areas in this immediate area.

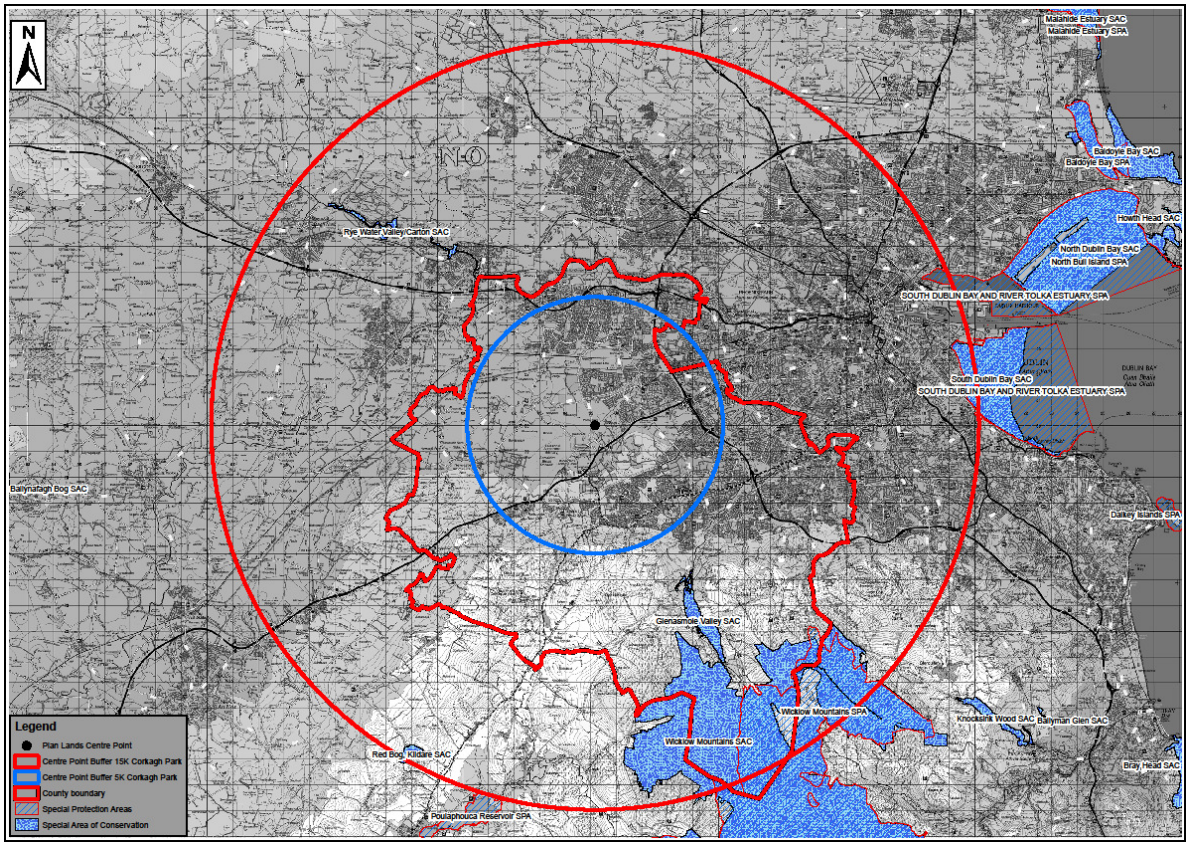
The proximity of the proposed pavilion to the car-parking allows for fire tender access to within a limited distance of the pavilion while still siting the facility within the same space as the pitches it is serving. This location is also appropriate for future development as it will remain directly accessible the pitches when the future access road to the Corkagh development lands is constructed.

2.2 ASSESSMENT OF RELEVANCE OF PROPOSED PLAN TO NATURA 2000 SITES

The Corkagh Pavilion is not directly connected with or necessary to the management of Natura 2000 sites in South Dublin County or elsewhere.

Best practice recommends assessing Natura 2000 sites located within 15km of a proposed plan or project (see Figure 3). These Natura 2000 sites are listed in Table 1.

Figure 5 Relevance of Natura 2000 sites to The Corkagh Pavilion Project Lands



For The Corkagh Pavilion lands, the sites of relevance requiring screening assessment are the following:

- three Natura 2000 sites within South Dublin County (Glenasmole Valley SAC, Wicklow Mountains SAC, and Wicklow Mountains SPA)
- Two additional sites in Wicklow (Wicklow Mountains SAC, & Poulaphouca Reservoir SPA)
- Two sites in Dunlaoghaire/Rathdown (Knocksink Wood SAC, Ballyman Glen SAC)
- Two sites in County Kildare (Rye Water/Carton SAC & Red Bog, Kildare SAC)
- The suite of Natura 2000 sites located downstream of the Project lands in Dublin Bay (North Dublin Bay SAC, South Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA, and North Bull Island SPA)

There are no Natura 2000 sites located either within or directly adjacent to the proposed Project lands.

TABLE 1. Natura 2000 sites ***within 15km*** of the proposed The Corkagh Pavilion Project site.

Natura 2000 sites within South Dublin County	**Site Code**	**Other Natura 2000 sites within 15km of proposed Project site**	**Site Code**
Glenasmole Valley SAC Wicklow Mountains SAC Wicklow Mountains SPA	001209 002122 004040	North Dublin Bay SAC South Dublin Bay SAC South Dublin Bay and River Tolka Estuary SPA North Bull Island SPA	000206 000210 004024 004006
		Rye Water Valley/Carton SAC, Co. Kildare Red Bog, Kildare SAC	001398 000397
		KnocksinkWood SAC Ballyman Glen SAC Poulaphouca Reservoir SPA	000725 000713 004006

For the Natura 2000 sites located within County Wicklow and County Kildare, there are no direct ecological or hydrological links (source-pathway-receptors) between the proposed Project lands and these Natura 2000 sites. Negative impacts on these sites are therefore highly unlikely by virtue of distance from The Corkagh Pavilion Project site and the absence of source-pathway-receptors.

Within South Dublin County, The Corkagh Pavilion Project lands are also distant from the Glenasmole Valley SAC, being approximately 8km North of the SAC. The Project Lands are also approximately 14km North of the Wicklow Mountains SAC and Wicklow Mountains SPA. As The Corkagh Pavilion Project Lands are located at such a distance, and in a separate river catchment area to these three Natura 2000 sites, there are no relevant source-pathway-receptors connecting the Project lands to these Natura 2000 sites. Negative impacts on these Natura 2000 sites are therefore also highly unlikely.

Surface water drainage is facilitated via a county-wide surface water drainage system which ultimately discharges into Dublin Bay. The 9b foul trunk Sewer services the plan lands which in turn runs into the Grand Canal Trunk Sewer (GCTS); this sewer flows into the wastewater treatment works in Ringsend. A possible hydrological connection is therefore deemed to exist between the Project lands and the Dublin Bay Natura 2000 sites by virtue of the Camac River located nearby and the foul and surface water drainage systems in the Clondalkin area which eventually discharge into Dublin Bay.

The Council is cognisant of the need to ensure the requisite wastewater treatment provision to allow for development growth without which the development would conflict with the requirements of the Urban Wastewater Treatment Directive which requires the collection and high level treatment of wastewater, specifically those to be discharged to sensitive waters such as Dublin Bay (the terms of the recent EPA operating license reinforce this aspect).

AVOIDANCE OF IMPACTS

The preparation of The Corkagh Pavilion Project was an iterative process which worked to inform the development of appropriate policies and objectives from the earliest stages of the plan's preparation process. As a result, there are a number of policies and objectives in place that relate to general environmental protection throughout the proposed Project lands.

The relevance of the proposed Project to the Natura 2000 network was assessed above in Section 2.2 where the only potentially relevant impact was seen to arise from a hydrological link (via the Camac River, the surface water drainage system and the Grand Canal Trunk ***Sewer***) that exists between the Project lands and the Dublin Bay Natura 2000 sites.

The full range of policies and objectives contained within the South Dublin County Council Development Plan 2010 – 2016 will also apply to all development proposals such as the The Corkagh Pavilion Project. The SDCC County Development Plan contains a number of policies and objectives that relate to the protection of the environment, landscape, water quality, and Natura 2000 sites. The protection of SACs and pNHAs is specifically referred to in Policy LHA 6 of the CDP:

> **Policy LHA 6**: *It is the policy of the Council to protect and preserve areas designated or proposed as Special Areas of Conservation (E.U. Habitats Directive) and proposed Natural Heritage Areas*'.

In addition, the requirements for appropriate assessment of potential impacts on Natura 2000 sites are detailed in Policy LHA 7:

> **Policy LHA 7:** *It is the policy of the Council that projects giving rise to significant direct, indirect or secondary impacts on Natura 2000 sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects shall not be permitted on the basis of this Plan (either individually or in combination with other plans or projects); Except as provided for in Article 6(4) of the Habitats Directive, viz.There must be:*
>
> *(a) No alternative solution available;*
> *(b) Imperative reasons of overriding public interest for the plan to proceed and*
> *(c) Adequate compensatory measures in place.*
>
> *All subsequent plan-making and adoption of plans arising from this Plan will be screened for the need to undertake Appropriate Assessment under Article 6 of the Habitats Directive. Where relevant, projects will be screened for the need to undertake Appropriate Assessment under Article 6 of the Habitats Directive.*

A range of other policies in the County Development Plan 2010-2016 relate to water quality and waste water treatment, all of which aim to eliminate or reduce the potential for deterioration of water quality, both ground water and surface water (see Appendix 3). In particular, Policy WD2 of the County development Plan specifically relates to the requirement that sufficient capacity in public waste water treatment must precede development.

> **Policy WD 2** Wastewater Treatment Plants and Wastewater Collection Systems

It is the policy of the Council that development shall be preceded by sufficient capacity in the public wastewater treatment plants and appropriate extensions in the existing public wastewater collection systems.

For The Corkagh Pavilion Project, its broad objectives were assessed to determine whether or not the potential existed for these to have a significant negative impact on the Natura 2000 network. The nature of the proposed development centres on the construction of a modular park building consisting of 10 modules combined to provided team changing rooms (6 no.), referee's and accessible facilities and storage and ancillary plant to service building.

The proposed pavilion is such that it will not impact on the river and its associated habitats. To reinforce protection of the nearby Camac River, a bund wall will be included in the design to minimise any surface water flowing towards the river. The lighting will be kept to a minimum as this building will be primarily used in daylight hours, and the lighting will be for fire egress and security purposes.
Therefore, it is unlikely to impact on the river Camac, other watercourses, and their associated habitats, by virtue of disturbance, contamination, light pollution, etc.

The nature and extent of these proposed Project activities, in conjunction with the over-arching policies in the County development Plan 2010-2016 which act to protect the County's environment (including Natura 2000 sites) are highly unlikely to result in negative impacts on Natura 2000 sites at a distance of over 15km from The Corkagh Pavilion Project site.

Adherence to these County Development Plan's protective policies and objectives (relevant objectives listed in Appendix 3), will therefore act to avoid significant downstream impacts on Natura 2000 sites.

2.3 OTHER INSTRUMENTS CONSIDERED

The proposed The Corkagh Pavilion Project was considered in the context of a range of other higher level measures, all of which assist in mitigating any potential impacts of the proposed plan. These include the following National Plans, Regional Plans and Local Plans: Sustainable Development – A Strategy for Ireland (1997); National Spatial Strategy 2002-2020; National Climate Change Strategy, 2000; National Heritage Plan (2002); The Planning System and Flood Risk Management Guidelines 2009; Regional Planning Guidelines 2010 – 2020: A Platform For Change And Transport 21; Sustainable Residential Development In Urban Areas 2009; The Retail Planning Strategy For The Greater Dublin Area (2008-2016); South Dublin County Council Development Plan 2010 – 2016; Green City Guidelines' (UCD Urban Institute Ireland 2008).

SECTION 3 DESCRIPTION OF NATURA 2000 SITES

There are no Natura 2000 sites located within the proposed Corkagh Pavilion Project site. The Natura 2000 sites located within 15km of the Project site are listed in Table 1. There is also a proposed Natural Heritage Area (pNHA) in the vicinity of the Project lands. The Grand Canal pNHA (Site Code: 002104) is located c.3km to the north of the Project site. There are no other designated biodiversity areas in the vicinity of the proposed The Corkagh Pavilion Project site which have a recognised National, European Union or International protection status.

Full site descriptions of the Natura 2000 sites, downstream of the development lands, listed in Table 1 are provided in Appendix 1. A summary of the main elements of interest for each of these sites follows:

South Dublin Bay SAC (Site Code 000210) lies south of the River Liffey and extends from the South Wall to the west pier at Dun Laoghaire (See Appendix for full site description). It is a fine example of a coastal system with extensive sand and mudflats. South Dublin Bay is also an internationally important bird site.

Draft Conservation Objectives:

1. To maintain the Annex 1 habitats for which the cSAC has been selected at favourable conservation status: - Mudflats and sandflats not covered by seawater at low tide.
2. To maintain the extent, species richness and biodiversity of the entire site.
1 To establish effective liaison and co-operation with landowners, legal users and relevant authorities.

South Dublin Bay and River Tolka Estuary SPA (Site Code 4024) comprises a substantial part of Dublin Bay. It includes the intertidal area between the River Liffey and Dun Laoghaire, and the estuary of the River Tolka to the north of the River Liffey, as well as Booterstown Marsh. A portion of the shallow marine waters of the bay is also included (See Appendix for full site description).

The site is an important site for wintering waterfowl, being an integral part of the internationally important Dublin Bay complex. It is of international importance for Light-bellied Brent Goose and of national importance for nine other waterfowl species. As an autumn tern roost, it is also of international importance. Furthermore, the site supports a nationally important colony of Common Tern. All of the tern species using the site are listed on Annex I of the E.U. Birds Directive, as are Bartailed Godwit and Mediterranean Gull.

Main Conservation Objective:
To maintain the special conservation interests for the SPA at favourable conservation status – Light-bellied Brent Goose, Oystercatcher, Ringed Plover, Golden Plover, Knot, Sanderling, Dunlin, Bar-tailed Godwit, Redshank, Black-headed Gull, Roseate Tern, Common Tern, Arctic Tern, and Wetland and
Waterbirds.

SECTION 4 ASSESSMENT OF POTENTIAL IMPACTS

4.1 ASSESSMENT OF PROPOSED CORKAGH PAVILION PROJECT

In Section 2.2 (Assessment of relevance of proposed Plan to Natura 2000 Sites), a potential hydrological link was identified as being the primary source-pathway-receptor between the proposed Project site and Natura 2000 sites – primarily the Dublin Bay Natura 2000 sites. No other hydrological or ecological links to other Natura 2000 sites within 15km of the Project lands was identified as posing a potential threat. This hydrological link via the Camac River and the County's surface water drainage system thereby potentially provides a vehicle for the transfer of negative impacts to these Natura 2000 sites downstream of the Project lands which rely on water quality for the maintenance of their conservation objectives.

An assessment of the extent and nature of the proposed Project was undertaken and no significant impacts were identified.

The proposed Project was assessed following the factors as listed: - size and scale; land-take; distance from the Natura 2000 site or key features of the site; resource requirements (water abstraction etc.); emissions (disposal to land, water, or air); excavation requirements); transportation requirements; duration of construction, operation, decommissioning, etc.; habitat area; disturbance to key species; habitat or species fragmentation; species density; changes in key indicators of conservation value (water quality etc.); climate change; key relationships that define the structure of the site; key relationships that determine the function of the site.

The nature and extent of the works proposed, in conjunction with the over-arching policies of the South Dublin County Development Plan 2010-2016 within which framework The Corkagh Pavilion Project is placed, all serve to ensure that no significant negative impact arises from the proposed Plan.

4.2 CUMULATIVE IMPACTS

The National Spatial Strategy 2002-2020 and the National Development Plan 2007-2013 set the national planning framework within which the proposed Corkagh Pavilion Project has been prepared. Within South Dublin County itself, the County Development Plan 2010-2016 provides the local framework within the regional approach of the Regional Planning Guidelines 2010-2020. These documents have been subject to screening for Appropriate Assessment to ensure no significant impacts are likely. The proposed Corkagh Pavilion Project has been prepared taking the objectives and policies of these plans into account.

The assessment for the proposed Corkagh Pavilion Project indicates there will be no significant impacts arising from this plan. In relation to potential cumulative impacts from the proposed Project in conjunction with other plans and projects, it is a requirement that each of these, in addition to the proposed Project itself, will all be subject to screening for appropriate assessment to ensure there will be no significant negative impact on Natura 2000 sites. Taken together, adherence to this required approach will ensure no cumulative impacts will arise from these plans.

SECTION 5 CONCLUSIONS

This screening report has evaluated the proposed Corkagh Pavilion Project to determine whether or not significant negative impacts on Natura 2000 sites are likely to arise by virtue of the Plan's implementation. The report finds that the Plan has been formulated to ensure that developments and effects arising from the Plan, either individually or in combination with other plans and projects, shall not give rise to significant effects on the integrity of any Natura 2000 site.

The Appropriate Assessment procedure for this proposed Plan is therefore concluded at this Screening Stage and a detailed (Stage 2) Appropriate Assessment is not required.

Appendix 1

Natura 2000 descriptions (as listed in Table 1)

SITE SYNOPSIS
SITE NAME : NORTH DUBLIN BAY SAC
SITE CODE : 000206

This site covers the inner part of north Dublin Bay, the seaward boundary extending from the Bull Wall lighthouse across to the Martello Tower at Howth Head. The North Bull Island is the focal point of this site. The island is a sandy spit which formed after the building of the South Wall and Bull Wall in the 18th and 19th centuries. It now extends for about 5 km in length and is up to 1 km wide in places.

A well-developed and dynamic dune system stretches along the seaward side of the island. Various types of dunes occur, from fixed dune grassland to pioneer communities on foredunes. Marram Grass (*Ammophila arenaria*) is dominant on the outer dune ridges, with Lyme Grass (*Leymus arenarius*) and Sea Couchgrass (*Elymus farctus*) on the foredunes. Behind the first dune ridge, plant diversity increases with the appearance of such species as Wild Pansy (*Viola tricolor)*, Kidney Vetch (*Anthyllis vulneraria*), Bird's-foot Trefoil (*Lotus corniculatus*), Rest Harrow (*Ononis repens*), Yellow Rattle (*Rhinanthus minor*) and Pyramidal Orchid (*Anacamptis pyramidalis*). In these grassy areas and slacks, the scarce Bee Orchid (*Ophrys apifera*) occurs.

About 1 km from the tip of the island, a large dune slack with a rich flora occurs, usually referred to as the 'Alder Marsh' because of the presence of Alder trees (*Alnus* spp). The water table is very near the surface and is only slightly brackish. Saltmarsh Rush (*Juncus maritimus*) is the dominant species, with Meadow Sweet (*Filipendula ulmaria*) and Devil's-bit (*Succisa pratensis*) being frequent. The orchid flora is notable and includes Marsh Helleborine (*Epipactis palustris*), Common Twayblade (*Listera ovata*), Autumn Lady's-tresses (*Spiranthes spiralis*) and Marsh orchids (*Dactylorhiza* spp.)

Saltmarsh extends along the length of the landward side of the island. The edge of the marsh is marked by an eroding edge which varies from 20 cm to 60 cm high. The marsh can be zoned into different levels according to the vegetation types present. On the lower marsh, Glasswort (*Salicornia europaea*), Saltmarsh Grass (*Puccinellia maritima*), Annual Sea-blite (*Suaeda maritima*) and Greater Sea-spurrey (*Spergularia media*) are the main species. Higher up in the middle marsh Sea Plantain (*Plantago maritima*), Sea Aster (*Aster tripolium*), Sea Arrowgrass (*Triglochin maritima*) and Sea Pink (*Armeria maritima*) appear. Above the mark of the normal high tide, species such as Scurvy Grass (*Cochlearia officinalis*) and Sea Milkwort (*Glaux maritima*) are found, while on the extreme upper marsh, Sea Rushes (*Juncus maritimus* and *J. gerardii*) are dominant. Towards the tip of the island, the saltmarsh grades naturally into fixed dune vegetation.

The island shelters two intertidal lagoons which are divided by a solid causeway. The sediments of the lagoons are mainly sands with a small and varying mixture of silt and clay. The north lagoon has an area known as the "*Salicornia* flat", which is dominated by *Salicornia dolichostachya*, a pioneer Glasswort species, and covers about 25 ha. Tassel Weed (*Ruppia maritima)* occurs in this area, along with some Eelgrass (*Zostera angustifolia*). Eelgrass (*Z. noltii*) also occurs in Sutton Creek. Cordgrass (*Spartina anglica*) occurs in places but its growth is controlled by management.

Green algal mats (*Enteromorpha* spp., *Ulva lactuca*) cover large areas of the flats during summer. These sediments have a rich macrofauna, with high densities of Lugworms (*Arenicola marina*) in parts of the north lagoon. Mussels (*Mytilus edulis*) occur in places,

along with bivalves such as *Cerastoderma edule*, *Macoma balthica* and *Scrobicularia plana*. The small gastropod *Hydrobia ulvae* occurs in high densities in places, while the crustaceans *Corophium volutator* and *Carcinus maenas* are common. The sediments on the seaward side of North Bull Island are mostly sands. The site extends below the low spring tide mark to include an area of the sublittoral zone.

Three Rare plant species legally protected under the Flora Protection Order 1987 have been recorded on the North Bull Island. These are Lesser Centaury (*Centaurium pulchellum*), Hemp Nettle (*Galeopsis angustifolia*) and Meadow Saxifrage (*Saxifraga granulata*). Two further species listed as threatened in the Red Data Book, Wild Sage (*Salvia verbenaca*) and Spring Vetch (*Vicia lathyroides*), have also been recorded. A rare liverwort, *Petalophyllum ralfsii,* was first recorded from the North Bull Island in 1874 and has recently been confirmed as being still present there. This species is of high conservation value as it is listed on Annex II of the E.U. Habitats Directive. The North Bull is the only known extant site for the species in Ireland away from the western seaboard.

North Dublin Bay is of international importance for waterfowl. During the 1994/95 to 1996/97 period the following species occurred in internationally important numbers (figures are average maxima): Brent Geese 2,333; Knot 4,423; Bar-tailed Godwit 1,586. A further 14 species occurred in nationally important concentrations - Shelduck 1505; Wigeon 1,166; Teal 1,512; Pintail 334; Shoveler 239; Oystercatcher 2,190; Ringed Plover 346; Grey Plover 816; Sanderling 357; Dunlin 6,238; Blacktailed Godwit 156; Curlew 1,193; Turnstone 197 and Redshank 1,175. Some of these species frequent South Dublin Bay and the River Tolka Estuary for feeding and/or roosting purposes (mostly Brent Goose, Oystercatcher, Ringed Plover, Sanderling, Dunlin).

The tip of the North Bull Island is a traditional nesting site for Little Tern. A high total of 88 pairs nested in 1987. However, nesting attempts have not been successful since the early 1990s. Ringed Plover, Shelduck, Mallard, Skylark, Meadow Pipit and Stonechat also nest. A well-known population of Irish Hare is resident on the island The invertebrates of the North Bull Island have been studied and the island has been shown to contain at least seven species of regional or national importance in Ireland (Orders Diptera, Hymenoptera, Hemiptera).

The main landuses of this site are amenity activities and nature conservation. The North Bull Island is the main recreational beach in Co Dublin and is used throughout the year. Much of the land surface of the island is taken up by two golf courses. Two separate Statutory Nature Reserves cover much of the island east of the Bull Wall and the surrrounding intertidal flats. The site is used regularly for educational purposes.

North Bull Island has been designated a Special Protection Area under the E.U. Birds Directive and it is also a statutory Wildfowl Sanctuary, a Ramsar Convention site, a Biogenetic Reserve, a Biosphere Reserve and a Special Area Amenity Order site. This site is an excellent example of a coastal site with all the main habitats represented. The holds good examples of ten habitats that are listed on Annex I of the E.U. Habitats Directive; one of these is listed with priority status. Several of the wintering bird species have populations of international importance, while some of the invertebrates are of national importance. The site contains a numbers of rare and scarce plants including some which are legally protected. Its proximity to the capital city makes North Dublin Bay an excellent site for educational studies and research.
23.11.1999

SITE SYNOPSIS
SITE NAME: SOUTH DUBLIN BAY
SITE CODE: 000210

This site lies south of the River Liffey and extends from the South Wall to the west pier at Dun Laoghaire. It is an intertidal site with extensive areas of sand and mudflats, a habitat listed on Annex I of the E.U. Habitats Directive. The sediments are predominantly sands but grade to sandy muds near the shore at Merrion gates. The main channel which drains the area is Cockle Lake.

There is a bed of Eelgrass (*Zostera noltii*) below Merrion Gates which is the largest stand on the east coast. Green algae (*Enteromorpha* spp. and *Ulva lactuca*) are distributed throughout the area at a low density. Fucoid algae occur on the rocky shore in the Maretimo to Dún Laoghaire area. Species include *Fucus spiralis, F. vesiculosus, F. serratus, Ascophyllum nodosum* and *Pelvetia canaliculata.* Lugworm (*Arenicola marina*) and Cockles (*Cerastoderma edule*) and other annelids and bivalves are frequent throughout the site. The small gastropod *Hydrobia ulvae* occurs on the muddy sands off Merrion Gates. South Dublin Bay is an important site for waterfowl. Although birds regularly commute between the south bay and the north bay, recent studies have shown that certain populations which occur in the south bay spend most of their time there. The principal species are Oystercatcher (1215), Ringed Plover (120), Sanderling (344) and Dunlin (2628), Redshank (356) (average winter peaks 1996/97 and 1997/98). Up to 100 Turnstones are usual in the south bay during winter. Brent Geese regularly occur in numbers of international importance (average peak 299). Bar-tailed Godwit (565), a species listed on Annex I of the EU Birds Directive, also occur.

Large numbers of gulls roost in South Dublin Bay, e.g. 4,500 Black-headed Gulls in February 1990; 500 Common Gulls in February 1991. It is also an important tern roost in the autumn, regularly holding 2000-3000 terns including Roseate Terns, a species listed on Annex I of the E.U. Birds Directive. South Dublin Bay is largely protected as a Special Protection Area.

t low tide the inner parts of the south bay are used for amenity purposes. Baitdigging is a regular activity on the sandy flats. At high tide some areas have windsurfing and jet-skiing.
This site is a fine example of a coastal system with extensive sand and mudflats, a habitat listed on Annex I of the E.U. Habitats Directive. South Dublin Bay is also an internationally important bird site.
25.2.2000

SITE SYNOPSIS
SITE NAME: SOUTH DUBLIN BAY AND RIVER TOLKA ESTUARY SPA
SITE CODE: 004024

The South Dublin Bay and River Tolka Estuary SPA comprises a substantial part of Dublin Bay. It includes the intertidal area between the River Liffey and Dun Laoghaire, and the estuary of the River Tolka to the north of the River Liffey, as well as Booterstown Marsh. A portion of the shallow marine waters of the bay is also included.

In the south bay, the intertidal flats extend for almost 3 km at their widest. The sediments are predominantly well-aerated sands. Several permanent channels exist, the largest being Cockle Lake. A small sandy beach occurs at Merrion Gates, while some bedrock shore occurs near Dun Laoghaire. The landward boundary is now almost entirely artificially embanked.

There is a bed of Dwarf Eelgrass (*Zostera noltii*) below Merrion Gates which is the largest stand on the east coast. Green algae (*Enteromorpha* spp. and *Ulva lactuca*) are distributed throughout the area at a low density. The macro-invertebrate fauna is well-developed, and is characterised by annelids such as Lugworm (*Arenicola marina*), *Nephthys* spp. and Sand Mason (*Lanice conchilega*), and bivalves, especially Cockle (*Cerastoderma edule*) and Baltic Tellin (*Macoma balthica*). The small gastropod Spire Shell (*Hydrobia ulvae*) occurs on the muddy sands off Merrion Gates, along with the crustacean *Corophium volutator*. Sediments in the Tolka Estuary vary from soft thixotrophic muds with a high organic content in the inner estuary to exposed, well-aerated sands off the Bull Wall. The site includes Booterstown Marsh, an enclosed area of saltmarsh and muds that is cut off from the sea by the Dublin/Wexford railway line, being linked only by a channel to the east, the Nutley stream. Sea water incursions into the marsh occur along this stream at high tide. An area of grassland at Poolbeg, north of Irishtown Nature Park, is also included in the site.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Light-bellied Brent Goose, Oystercatcher, Ringed Plover, Golden Plover, Grey Plover, Knot, Sanderling, Dunlin, Bar-tailed Godwit, Redshank, Black-headed Gull, Roseate Tern, Common Tern and Arctic Tern. The E.U. Birds Directive pays particular attention to wetlands, and as these form part of the SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

The site is an important site for wintering waterfowl, being an integral part of the internationally important Dublin Bay complex – all counts for wintering waterbirds are mean peaks for the five year period 1995/96-99/2000. Although birds regularly commute between the south bay and the north bay, recent studies have shown that certain populations which occur in the south bay spend most of their time there. An internationally important population of Light-bellied Brent Goose (525) occurs regularly and newly arrived birds in the autumn feed on the Eelgrass bed at Merrion. Light-bellied Brent Goose is also known to feed on the grassland at Poolbeg.

The site supports nationally important numbers of a further nine species: Oystercatcher (1,263), Ringed Plover (161), Golden Plover (1,452), Grey Plover (183), Knot (1,151), Sanderling (349), Dunlin (2,753), Bar-tailed Godwit (866) and Redshank (713). Other species occurring in smaller numbers include Great Crested Grebe (21), Curlew (397) and Turnstone (75).

South Dublin Bay is a significant site for wintering gulls, especially Black-headed Gull (3,040), but also Common Gull (330) and Herring Gull (348). Mediterranean Gull is also recorded from here, occurring through much of the year, but especially in late inter/spring and again in late summer into winter. Both Common Tern and Arctic Tern breed in Dublin Docks, on a man-made mooring structure known as the E.S.B. dolphin – this is included within the site. Small numbers of Common Tern and Arctic Tern were recorded nesting on this dolphin in the 1980s. A survey of the dolphin in 1999, recorded Common Tern nesting here in nationally important numbers (194 pairs). This increase was largely due to the ongoing management of the site for breeding terns. More recent data highlights this site as one of the most important Common Tern sites in the country with over 400 pairs recorded here in 2007.

The south bay is an important tern roost in the autumn (mostly late July to September). Birds also use the Dalkey Islands to the south. The origin of many of the birds is likely to be the Dublin breeding sites (Rockabill and the Dublin Docks) though numbers suggest that the site

is also used by birds from other sites, perhaps outside the state. More than 10,000 terns have been recorded, consisting of Common, Arctic and Roseate terns. The wintering birds within this site are now well-monitored. More survey, however, is required on the wintering gulls and the autumn terns.

Booterstown Marsh supports an important population of Borrer's Saltmarsh-grass (*Puccinellia fasciculata*), a rare, Red Data Book species that is listed on the Flora (Protection) Order, 1999.

The South Dublin Bay and River Tolka Estuary SPA is of international importance for Light-bellied Brent Goose and of national importance for nine other waterfowl species. As an autumn tern roost, it is also of international importance. Furthermore, the site supports a nationally important colony of Common Tern. All of the tern species using the site are listed on Annex I of the E.U. Birds Directive, as are Bartailed Godwit and Mediterranean Gull.
1.5.2008

SITE SYNOPSIS
SITE NAME: NORTH BULL ISLAND SPA
SITE CODE: 004006

This site covers all of the inner part of north Dublin Bay, with the seaward boundary extending from the Bull Wall lighthouse across to Drumleck Point at Howth Head. The North Bull Island sand spit is a relatively recent depositional feature, formed as a result of improvements to Dublin Port during the 18th and 19th centuries. It is almost 5 km long and 1 km wide and runs parallel to the coast between Clontarf and Sutton. Part of the interior of the island has been converted to golf courses.

A well-developed and dynamic dune system stretches along the seaward side of the island. Various types of dunes occur, from fixed dune grassland to pioneer communities on foredunes. Marram Grass (*Ammophila arenaria*) is dominant on the outer dune ridges. Species of the fixed dunes include Wild Pansy (*Viola tricolor*), Kidney Vetch (*Anthyllis vulneraria*), Bird's-foot Trefoil (*Lotus corniculatus*), Pyramidal Orchid (*Anacamptis pyramidalis*) and, in places, the scarce Bee Orchid (*Ophrys apifera*). A feature of the dune system is a large dune slack with a rich flora, usually referred to as the 'Alder Marsh' because of the presence of Alder (*Alnus glutinosa*) trees. The water table is very near the surface and is only slightly brackish. Sea Rush (*Juncus maritimus*) is the dominant species, with Meadowsweet (*Filipendula ulmaria*) and Devil's-bit Scabious (*Succisa pratensis*) being frequent. The orchid flora is notably diverse in this area.

Saltmarsh extends along the length of the landward side of the island and provides the main roost site for wintering birds in Dublin Bay. On the lower marsh, Glasswort (*Salicornia europaea*), Common Saltmarsh-grass (*Puccinellia maritima*), Annual Seablite (*Suaeda maritima*) and Greater Sea-spurrey (*Spergularia media*) are the main species. Higher up in the middle marsh Sea Plantain (*Plantago maritima*), Sea Aster (*Aster tripolium*), Sea Arrowgrass (*Triglochin maritima*) and Thrift (*Armeria maritima*) appear. Above the mark of the normal high tide, species such as Common Scurvygrass (*Cochlearia officinalis*) and Sea Milkwort (*Glaux maritima*) are found, while on the extreme upper marsh, Sea Rush and Saltmarsh Rush (*Juncus gerardi*) are dominant.

The island shelters two intertidal lagoons which are divided by a solid causeway. These lagoons provide the main feeding grounds for the wintering waterfowl. The sediments of the lagoons are mainly sands with a small and varying mixture of silt and clay. Tasselweed (*Ruppia maritima*) and small amounts of Eelgrass (*Zostera* spp.) are found in the lagoons. Common Cord-grass (*Spartina anglica*) occurs in places. Green algal mats (*Enteromorpha* spp., *Ulva lactuca*) are a feature of the flats during summer. These sediments have a rich macro-invertebrate fauna, with high densities of Lugworm (*Arenicola marina*) and Ragworm (*Hediste diversicolor*). Mussels (*Mytilus edulis*) occur in places, along with bivalves such as *Cerastoderma edule*, *Macoma balthica* and *Scrobicularia plana*. The small gastropod *Hydrobia ulvae* occurs in high densities in places, while the crustaceans *Corophium volutator* and *Carcinus maenas* are common. The sediments on the seaward side of North Bull Island are mostly sands and support species such as Lugworm and the Sand Mason (*Lanice conchilega*). The site includes a substantial area of the shallow marine bay waters.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Light-bellied Brent Goose, Shelduck, Teal, Pintail, Shoveler, Oystercatcher, Ringed Plover, Golden Plover, Grey Plover, Knot, Sanderling, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew, Redshank, Turnstone and Black-headed Gull. The site is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

The North Bull Island SPA is of international importance for waterfowl on the basis that it regularly supports in excess of 20,000 waterfowl. It also qualifies for international importance as the numbers of three species exceed the international threshold – Light-bellied Brent Goose (1,548), Black-tailed Godwit (367) and Bartailed Godwit (1,529) (all waterfowl figures given are average maxima for the five winters 1995/96 to 1999/00). The site is the top site in the country for both of these species. A further 14 species have populations of national importance – Shelduck (1,259), Teal (953), Pintail (233), Shoveler (141), Oystercatcher (1,784), Ringed Plover (139), Golden Plover (1,741), Grey Plover (517), Knot (2,623), Sanderling (141), Dunlin (3,926), Curlew (937), Redshank (1,431) and Turnstone (157). The populations of Pintail and Knot are of particular note as they comprise more than 10% of the respective national totals.

Species such as Grey Heron, Cormorant, Wigeon, Goldeneye, Red-breasted Merganser and Greenshank are regular in winter in numbers of regional or local importance. Gulls are a feature of the site during winter, especially Black-headed Gull (2,196). Common Gull (332) and Herring Gull (331) also occur here. While some of the birds also frequent South Dublin Bay and the River Tolka Estuary for feeding and/or roosting purposes, the majority remain within the site for much of the winter. The wintering bird populations have been monitored more or less continuously since the late 1960s and the site is now surveyed each winter as part of the larger Dublin Bay complex.

The North Bull Island SPA is a regular site for passage waders, especially Ruff, Curlew Sandpiper and Spotted Redshank. These are mostly observed in single figures in autumn but occasionally in spring or winter. The site formerly had an important colony of Little Tern but breeding has not occurred in recent years. Several pairs of Ringed Plover breed, along with Shelduck in some years. Breeding passerines include Skylark, Meadow Pipit, Stonechat and

Reed Bunting. The island is a regular wintering site for Short-eared Owl, with up to 5 present in some winters.

The site has five Red Data Book vascular plant species, four rare bryophyte species, and is nationally important for three insect species. The rare liverwort, *Petalophyllum ralfsii*, was first recorded from the North Bull Island in 1874 and its presence here has recently been re-confirmed. This species is of high conservation value as it is listed on Annex II of the E.U. Habitats Directive. A well-known population of Irish Hare is resident on the island

The main landuses of this site are amenity activities and nature conservation. The North Bull Island is one of the main recreational beaches in Co. Dublin and is used throughout the year. Two separate Statutory Nature Reserves cover much of the island east of the Bull Wall and the surrounding intertidal flats. North Bull Island is also a Wildfowl Sanctuary, a Ramsar Convention site, a Biogenetic Reserve, a Biosphere Reserve and a Special Area Amenity Order site. Much of the SPA is also a candidate Special Area of Conservation. The site is used regularly for educational purposes and there is a manned interpretative centre on the island.

The North Bull Island SPA is an excellent example of an estuarine complex and is one of the top sites in Ireland for wintering waterfowl. It is of international importance on account of both the total number of waterfowl and the individual populations of Lightbellied Brent Goose, Black-tailed Godwit and Bar-tailed Godwit that use it. Also of significance is the regular presence of several species that are listed on Annex I of the E.U. Birds Directive, notably Golden Plover and Bar-tailed Godwit, but also Ruff and Short-eared Owl.

22.5.2008

Appendix 2

Identification of Natura 2000 Sites and their Relevance to the Proposed Project Site

Site Name and Code	Distance from Proposed Plan	Natura 2000 Features of Interest	Do any potential source-pathway-receptor links exist between the proposed development and the Natura 2000 site?
North Dublin Bay SAC (000206)	>15 km	Mudflats and sandflats not covered by seawater at low tide Annual vegetation of drift lines Salicornia and other annuals colonizing mud and sand Spartina swards (Spartinion maritimae) Atlantic salt meadows (Glauco-Puccinellietalia maritimae) Petalwort (Petalophyllum ralfsii) Mediterranean salt meadows (Juncetalia maritimi) Embryonic shifting dunes Shifting dunes along the shoreline with Ammophila arenaria (white dunes) Fixed coastal dunes with herbaceous vegetation (grey dunes) Humid dune slacks	While a potential hydrological link connects the proposed Project lands to this Dublin Bay Natura 2000 site, the overarching policies and objectives outlined in the South Dublin County Development Plan 2010-2016 in relation to water supply, ground water and surface water quality, waste water treatment, and capacity of Ringsend Waste Water treatment plant, will together ensure no significant impact arises from the Project site.
South Dublin Bay SAC (000210)	> 10km	Mudflats and sandflats not covered by seawater at low tide	While a potential hydrological link connects the proposed Project lands to this Dublin Bay Natura 2000 site, the overarching policies and objectives outlined in the South Dublin County Development Plan 2010-2016 in relation to water supply, ground water and surface water quality,

			waste water treatment, and capacity of Ringsend Waste Water treatment plant, will together ensure no significant impact arises from the Project site.
South Dublin Bay and River Tolka Estuary SPA (004024)	>10 km	Light-bellied Brent Goose (Branta bernicla hrota) Oystercatcher (Haematopus ostralegus) Ringed Plover (Charadrius hiaticula) Golden Plover (Pluvialis apricaria) Knot (Calidris canutus) Sanderling (Calidris alba) Dunlin (Calidris alpina) Bar-tailed Godwit (Limosa lapponica) Redshank (Tringa totanus) Black-headed Gull (Larus ridibundus) Roseate Tern (Sterna dougallii) Common Tern (Sterna hirundo) Arctic Tern (Sterna paradisaea) Wetlands & Waterbirds	While a potential hydrological link connects the proposed Project lands to this Dublin Bay Natura 2000 site, the overarching policies and objectives outlined in the South Dublin County Development Plan 2010-2016 in relation to water supply, ground water and surface water quality, waste water treatment, and capacity of Ringsend Waste Water treatment plant, will together ensure no significant impact arises from the Project site.

North Bull Island SPA (004006)	>15 km	Light-bellied Brent Goose (Branta bernicla hrota) Shelduck (Tadorna tadorna) Teal (Anas crecca) Pintail (Anas acuta) Shoveler (Anas clypeata) Oystercatcher (Haematopus ostralegus) Golden Plover (Pluvialis apricaria) Grey Plover (Pluvialis squatarola) Knot (Calidris canutus) Sanderling (Calidris alba) Dunlin (Calidris alpina) Black-tailed Godwit (Limosa limosa) Bar-tailed Godwit (Limosa lapponica) Curlew (Numenius arquata) Redshank (Tringa totanus) Turnstone (Arenaria interpres) Black-headed Gull (Larus ridibundus) Wetlands & Waterbirds	While a potential hydrological link connects the proposed Project lands to this Dublin Bay Natura 2000 site, the overarching policies and objectives outlined in the South Dublin County Development Plan 2010-2016 in relation to water supply, ground water and surface water quality, waste water treatment, and capacity of Ringsend Waste Water treatment plant, will together ensure no significant impact arises from the Project site.

Appendix 3

List of County Development Plan objectives and policies that are relevant to water protection in South Dublin County.

Policy LHA 21 River and Stream Management
It is the policy of the Council to implement a strategy (prepared on a regional basis) for the management of rivers and streams throughout the County.

Policy LHA 22 Watercourses
It is the policy of the Council to protect, maintain, improve and enhance the natural and organic character of the watercourses in the County and to promote access, walkways and other recreational uses of their associated public open space, subject to a defined strategy of nature conservation and flood protection.

2.3.4 Strategy: The strategy of the Council for the development of Water Supply and Drainage in the County is as follows:
• Continue the sustainable development and improvement of the water supply and foul drainage systems throughout the County to meet the anticipated water and drainage requirements of the area.
• Protect surface water catchments and manage catchment areas where appropriate to protect the surface water drainage infrastructure of the County.
• Implement the provisions of national policy and legislation in the control of water pollution.
• Ensure that existing and proposed developments are not subject to undue risk of flooding.
• Conserve treated water by active leakage detection, non-domestic metering and development of infrastructure.
• Actively pursue and resolve water leakage.

Policy WD 1 Water Supply and Drainage
It is the policy of the Council to co-operate with adjoining authorities to continue the sustainable development and improvement of the water supply and drainage systems throughout the County to meet the anticipated water and drainage requirements of the area, in accordance with the recommendations set out in the 'Greater Dublin Strategic Water Supply Study' and the 'Greater Dublin Strategic Drainage Study', and the proposed 'Dublin Region Water Services Strategic Plan' when adopted.

Policy WD 2 Wastewater Treatment Plants and Wastewater Collection Systems
It is the policy of the Council that development shall be preceded by sufficient capacity in the public wastewater treatment plants and appropriate extensions in the existing public wastewater collection systems.

Policy WD 3 Quality of Surface Water and Groundwater

It is the policy of the Council that the ongoing development of the County shall be undertaken in such a way as not to compromise the quality of surface water (and associated habitats and species) and groundwater.

Policy WD 4 Soil and Groundwater Contamination
It is the policy of the Council to require adequate and appropriate investigations to be carried out into the nature and extent of any soil and groundwater contamination and the risks associated with site development work, where brownfield development is proposed.

Policy WD 5 Water Quality Management Plans
It is the policy of the Council to promote the implementation of water quality management plans for ground and surface waters in the county as part of the implementation of the EU Water Framework Directive, and in accordance with the policies and objectives and programme of measures of the Eastern River Basin Management Plan and any further amendments.

Policy WD 6 Sustainable Urban Drainage Systems (SuDS)
It is the policy of the Council to ensure that all development proposals incorporate Sustainable Urban Drainage Systems (SuDS).

Policy WD 7 *Storm Overflows*
It is the policy of the Council to minimise the number and frequency of storm overflows of sewage to watercourses and to establish, in co-operation with the adjoining local authorities, a consistent approach to the design, improvement and management of these intermittent discharges to ensure that the needs of the Region's receiving waters are met in a cost effective manner.

Policy WD 8 Water Pollution Abatement Measures
It is the policy of the Council to implement the provisions of water pollution abatement measures in accordance with National and EU Directives and legislative requirements in conjunction with other agencies as appropriate.

Policy WD 9 Bohernabreena Reservoirs and Catchment Area
It is the policy of the Council to protect the Bohernabreena Reservoirs and catchment area, cSAC and buffer zone, in the interests of public health and to restrict development in the catchment.

Policy EE 15 Natural Features in Enterprise Priority Areas

It is the policy of the Council where existing streams, watercourses, are located on land zoned for Enterprise Priority One, Enterprise Priority Two and Enterprise Priority Three purposes they should be protected and incorporated within the overall design for the area, thereby contributing to and connecting into the overall green network policy for the County. Riparian corridors should be kept free from development and be used as amenity for workers and visitors on the site, taking due care to protect and enhance the corridor's native biodiversity resource.

Policy EE 33 Sustainable Development of Agricultural Diversification
It is the policy of the Council to support the sustainable development of agriculture and agriculture diversification, such as organic foods, rural tourism and small to medium-sized enterprises subject to the retention of the holding for primarily agricultural use and the proper planning and sustainable development of the area including protecting and maintaining biodiversity, wildlife habitats, water quality, rural landscape character, scenic amenities and nature conservation.

Policy EE 35 Rural Related Enterprises
It is the policy of the Council to facilitate the development of acceptable rural related enterprises, including equine enterprises, in accordance with the terms of Zoning Objective 'B' (to protect and improve rural amenity and to provide for the development of agriculture) and to minimise pollution from agricultural sources by means of development management and water pollution legislation and regulations.

4.1.2 Additional Protection Measures - Planning Conditions

The Planning Authority has not granted permission for any development within the two SACs. However, in order to ensure that there are no direct, indirect, or cumulative impacts on the SACs and that their conservation status of the protected habitats are maintained and that their listed conservation objectives are adhered to, the following measures will be strictly applied for all planning applications within the sensitive areas above and adjacent to the County's two SACs in the Dublin Mountains.

- All planning applications received by the Planning Authority for these areas will be subject to rigorous Appropriate Assessment screening and full AA investigation where required. Where impacts are seen to be likely, or where reasonable doubt exists to potential for impact, no application will be allowed to proceed.

- Appropriate Assessments will be based upon contemporary scientific data regarding hydrology and ecology wherever appropriate.

- For any permitted development, strict conditions will apply regarding the type, installation, monitoring, and servicing of all newly-granted waste water treatment systems in the catchment area of the two SACs.

Policy H33 (see Section 4.1) which refers to one-off rural housing in this area, also reinforces the necessity to have due regard in any application in this sensitive area, to the requirements for assessment as demanded under the Habitats Directive.