RESIDENTIAL DEVELOPMENT,

CORNELSCOURT

DUBLIN 18

NATURA IMPACT STATEMENT

November 2021

Prepared for

Cornel Living Ltd.

by

Biosphere Environmental Services

29 La Touche Park, Greystones, Co. Wicklow

Tel: 01-2875249/087 2309906; E-mail: maddenbio20@gmail.com

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1. INTRODUCTION

1.1 Background

This Natura Impact Statement has been prepared by Dr. Brian Madden of BioSphere Environmental Services on behalf of Cornel Living Limited. The purpose of the report is to provide the information required to assist the competent planning authority to undertake a Screening Assessment and, if considered necessary, an Appropriate Assessment (AA). This will determine the effects, if any, on European sites designated for nature conservation by a proposed residential development at a site in Cornelscourt Village, Dublin 18.

The potential impacts on European sites, both as a result of the proposed development and in-combination with other plans and projects, are appraised in this report.

The requirements for an Appropriate Assessment are set out *under Article 6 of the EU Habitats Directive (92/34/EEC)*, transposed into Irish law through the *European Union (Birds and Natural Habitats) Regulations 2011-2015* and the *Planning and Development Act, 2000* (as amended).

The report is based on a site visit by Dr Brian Madden (3rd September 2021), review of technical reports which accompany the planning application, and a comprehensive literature review.

During the preparation of this report, the following technical documents have been reviewed:

- Preliminary Construction Management Plan. Residential Development, Cornelscourt, Dublin 18. Prepared by DBFL Consulting Engineers, September 2021.
- Infrastructure Design Report. Residential Development, Cornelscourt, Dublin 18. Prepared by DBFL Consulting Engineers, September 2021.

1.2 Statement of Authority

Brian Madden (BA. Mod. Hons., Ph.D., MCIEEM) qualified in Natural Sciences in the early 1980s and earned a doctorate degree from NUI in 1990 for research in peatland ecosystem processes. In the early 1990s, Brian worked as a Research Fellow on nuisance algal growths in Dublin Bay. Since the mid-1990s, Brian has managed BioSphere Environmental Services which specializes in Environmental Impact Assessment, Appropriate Assessment, and Nature Conservation related projects.

1.3 Regulatory Context

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna, better known as "The Habitats Directive", provides the framework for legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000. These are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79/409/EEC) (better known as "The Birds Directive").

Article 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect Natura 2000 sites (Annex 1.1). Article 6(3) establishes the requirement for Appropriate Assessment (see below).

> "*Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans and projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implication 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"*

This provision has been implemented in the context of the planning code under article 177V of the Planning and Development Act, 2000, as amended.

The Habitats Directive promotes a hierarchy of avoidance, mitigation and compensatory measures. First the project should aim to avoid any negative impacts on European sites by identifying possible impacts early in the planning stage, and designing the project in order to avoid such impacts. Second, mitigation measures should be applied, if necessary, during the AA process to the point, where no adverse impacts on the site(s) remain. If the project is still likely to result in adverse effects, and no further practicable mitigation is possible, then it is rejected. If no alternative solutions are identified and the project is required for imperative reasons of overriding public interest (IROPI test) under Article 6 (4) of the Habitats Directive, then compensation measures are required for any remaining adverse effect.

1.4 Stages of the Appropriate Assessment (AA)

This Appropriate Assessment Report / Natura Impact Statement has been prepared in accordance with the following guidance:

- *Appropriate Assessment of Plans and Projects in Ireland.* Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government, 2010 revision;
- *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 DG, 2002;
- *Managing Natura 2000 sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC.* Guidance issued by European Commission (21st November 2018).
- *Assessment of Plans and Projects in relation to Natura 2000 sites – (Revised) Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC.* Guidance issued by European Commission (28.9.2021 C(2021) 6913 final)
- *ANNEX to the Commission notice to the Assessment of Plans and Projects in relation to Natura 2000 sites – (Revised) Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC : Examples of Practices, Case Studies, Methods and National Guidance.* Issued by European Commission (28.9.2021 C(2021) 6913 final)
- OPR Practice Note PN01 Appropriate Assessment Screening for Development Management. March 2021.

There are up to four successive stages involved in the Appropriate Assessment process (European Commission 2002). The outcome at each stage determines whether the next stage in the process is required. The following describes each of the four stages:

Stage 1 – Screening

This is the first stage in the process and is carried out to determine the necessity for a more detailed Stage 2 Appropriate Assessment where potential impacts on European sites are deemed to be of significance. The following steps are involved in Stage 1 Screening:

- Description of the project and site characteristics (existing environment);
- Identification and description of Natura sites that could potentially be affected;
- Identification and description of potential impacts;
- Assessment of potential impacts;
- Exclusion of sites where no significant effects are foreseen.

Stage 2 – Appropriate Assessment

This stage involves the consideration of the impact on the integrity of the European site of the project, either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives.

Stage 3 – Assessment of Alternatives

The process which examines alternative ways of achieving the objectives of the plan or project that may avoid adverse impacts on the integrity of the European site.

Stage 4 – Assessment where no Alternative Solutions Exist and where Adverse Impacts Remain

The Habitats Directive promotes a hierarchy of avoidance, mitigation and compensatory measures. First, the project should aim to avoid any impacts on European sites by identifying possible impacts early in the process. If the possibility of any adverse effects on the integrity of any European Site, arising from the proposed development, either alone or in combination with other plans or projects cannot be excluded beyond a reasonable scientific doubt, and no further mitigation is practicable, development consent must be refused. If no alternative solutions are identified and the project is required for imperative reasons of overriding public interest (IROPI test) under article 6(4) of the Habitats Directive, then compensation measures are required for any remaining adverse effect.

2. SCREENING FOR APPROPRIATE ASSESSMENT

Screening determines whether appropriate assessment is necessary by examining:

1. Whether a plan or project can be excluded from AA requirements because it is directly connected with or necessary to the management of a Natura 2000 site;
2. Whether it is possible that the project may have a significant effect on a Natura 2000 site, either alone or in combination with other projects or plans, in view of the site's conservation objectives.

Screening involves the following:

i. Description of plan or project;
ii. Identification of relevant Natura 2000 sites, and compilation of information on their qualifying interests and conservation objectives;
iii. Assessment of likely effects – direct, indirect and cumulative – undertaken on the basis of available information as a desk study or field survey or primary research as necessary;
iv. Screening Statement with conclusions.

2.1 Description of the Site

The application site is largely a green field site of 2.15 ha located in the north of Cornelscourt Village, between Cabinteely and Foxrock (see Figure 1).

The site is bounded by the N11 Stillorgan Dual Carriageway to the north/east, the rear gardens of two-storey houses fronting onto Willow Grove to the east/south, a service station and a terrace of cottages (residential and commercial) to the south east fronting onto the Old

Bray Road to the south/west, and by a three-storey commercial building (AIB Bank) and associated car park to the north/west.

The site is currently undeveloped, other than a hardstanding area that was a former temporary car park in the north of the site. Grassland is the dominant habitat within the site (see Plate 1). Berms, now well vegetated, occur along the boundaries with the N11 and the adjoining AIB property.

The site generally falls gently from its western corner towards its eastern corner at a gradient of approximately 1/24.

There are no streams or open drains within the site. The site is within the WFD River Sub-basin the Carrickmines River. The Cabinteely Stream (EPA Code 1OC05) flows to the western side of the Old Bray Road, and joins the Carrickmines Stream south of Cabinteely Park. The Carrickmines continues eastwards and flows into the Shanganagh River. The Shanganagh enters the sea between Ballybrack and Shankill.

Overall, the site can be described as being within the urban fabric of Dublin for a long period and presently does not support any natural or semi-natural habitats.

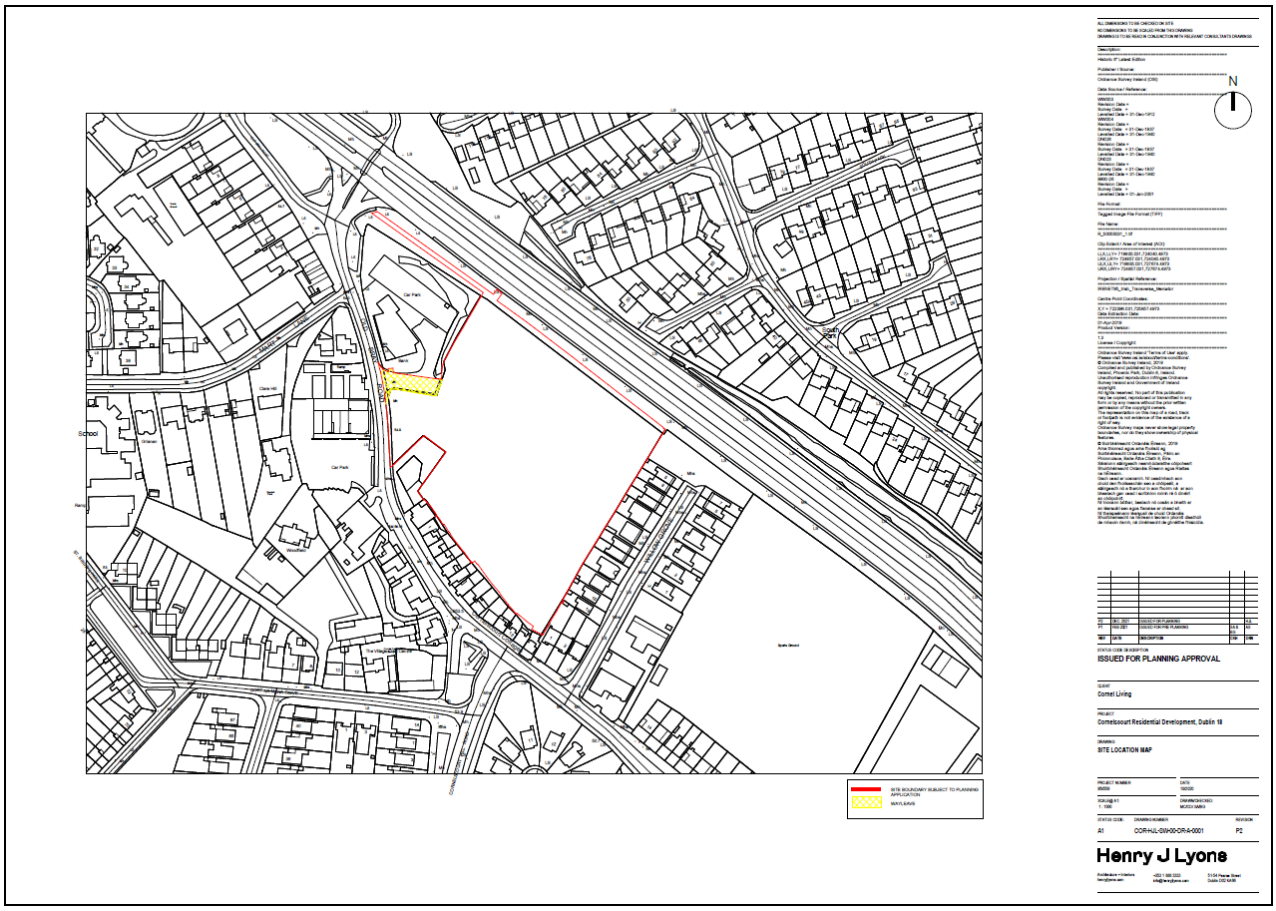

Figure 1 Location of Cornelscourt study site.

Plate 1 Grassland is the dominant habitat on site – this view is in a northeast direction towards Willow Grove. The grass sward here has been mowed. (September 2021)

2.2 Description of the Project

The proposed residential development provides for 419 no. Build-to-Rent dwellings on a site located at Cornelscourt Village, Dublin 18.

The proposed residential development comprises 412 no. apartment units (consisting of 294 no. one-bed apartments, 111 no. two-bed apartments, and 7 no. three-bed apartment units) and 7 no. three-bed houses. The proposed apartments are arranged in 5 no. Blocks which range in height from 4 no. storeys to 12 no. storeys over basement/podium level. The proposed houses are two storey in height.

The proposed development will be for long-term rental and will remain owned and operated by an institutional entity for a minimum period of not less than 15 years. The apartments benefit from a range of internal residential amenities and facilities provided throughout the scheme and include a gym; a variety of tenant amenity lounges including a concierge; a single storey multipurpose pavilion building within the communal courtyard between Blocks A and B; and a clearly defined range and hierarchy of public, communal, and private open spaces.

In addition, the proposed development provides a childcare facility (approximately 258sqm) with capacity for in the order of 50-60 children to serve the needs of the proposed development. A café/retail unit is proposed fronting onto the Old Bray Road (total 264sqm GFA).

Vehicular access to basement level will be via the existing vehicular access point from the Old Bray Road. A total of 237 no. car parking spaces (236 no. at basement level and 1 no. at ground level), 819 no. bicycle parking spaces (664 no. at basement level and 155 no. at ground level), and 10 motorcycle spaces (all at basement level), are proposed.

The proposed development includes on-site pump station integrated with an underground foul sewer balancing storage tank (approx. 2,150m^3), at the eastern corner of the site, together with all associated works.

The proposed development includes a new pedestrian connection along the N11, from the subject site to the N11/Old Bray Road junction, with the bus stop beyond, together with a number of future potential pedestrian and/or cycle connections to the Old Bray Road and Willow Grove.

The proposed development provides for all associated and ancillary infrastructure, landscaping, boundary treatments and development works on a total site of approximately 2.15 hectares.

2.3 Identification of European Sites and Potential for Significant Effects

In accordance with the European Commission Methodological Guidance (EC, 2021), consideration is given to European sites that could potentially be affected by the proposed project.

The "Guidance for Planning Authorities" (Department of Environment, Heritage and Local Government) notes the following in section 3.2.3 "Natura 2000 Sites":

"The second stage (of the AA Screening process) is an examination of what Natura 2000 sites might be affected. These sites should be identified and listed, bearing in mind the potential for a plan or project, whether it is within or outside a Natura 2000 site, to have direct, indirect or cumulative effects, and taking a precautionary approach so that a site is included if doubt exists".

The approach to screening is likely to differ somewhat between plans and projects, depending on scale and on the likely effects, but the following should be included:

1. *Any Natura 2000 sites within or adjacent to the plan or project area*
2. *Any Natura 2000 sites within the likely zone of impact of the plan or project. A distance of 15 km is currently recommended in the case of plans, and derives from UK guidance (Scott Wilson et al. 2006). For projects, the distance could be much less than 15 km, and in some cases less than 100 m, but this must be evaluated on a case-by-case basis with reference to the nature, size and location of the project, and the sensitivities of the ecological receptors, and the potential for in-combination effects.*
3. *Natura 2000 sites that are more than 15 km from the plan or project area depending on the likely impacts and the sensitivities of the ecological receptors, bearing in mind the precautionary principle. In the case of sites with water dependent habitats or species, and a plan or project that could affect water quality of quantity, for example, it may be necessary to consider the full extent of the upstream and/or downstream catchment."*

In accordance with Departmental Guidance, the possibility for impacts on European sites within a 15km radius of the subject site is considered. Taking the nature and scale of the proposed development into account, i.e. a residential development on a 2.15 ha site, and the location within a long established developed area of Dublin, impacts on designated sites at a distance greater than 15km are not anticipated. The distribution of such sites is shown in Figure 6.2 (and see http://webgis.npws.ie/npwsviewer/). The sites are listed in Table 6.1, along with their qualifying interests and a summary of linkages, if any, to the Cornelscourt area.

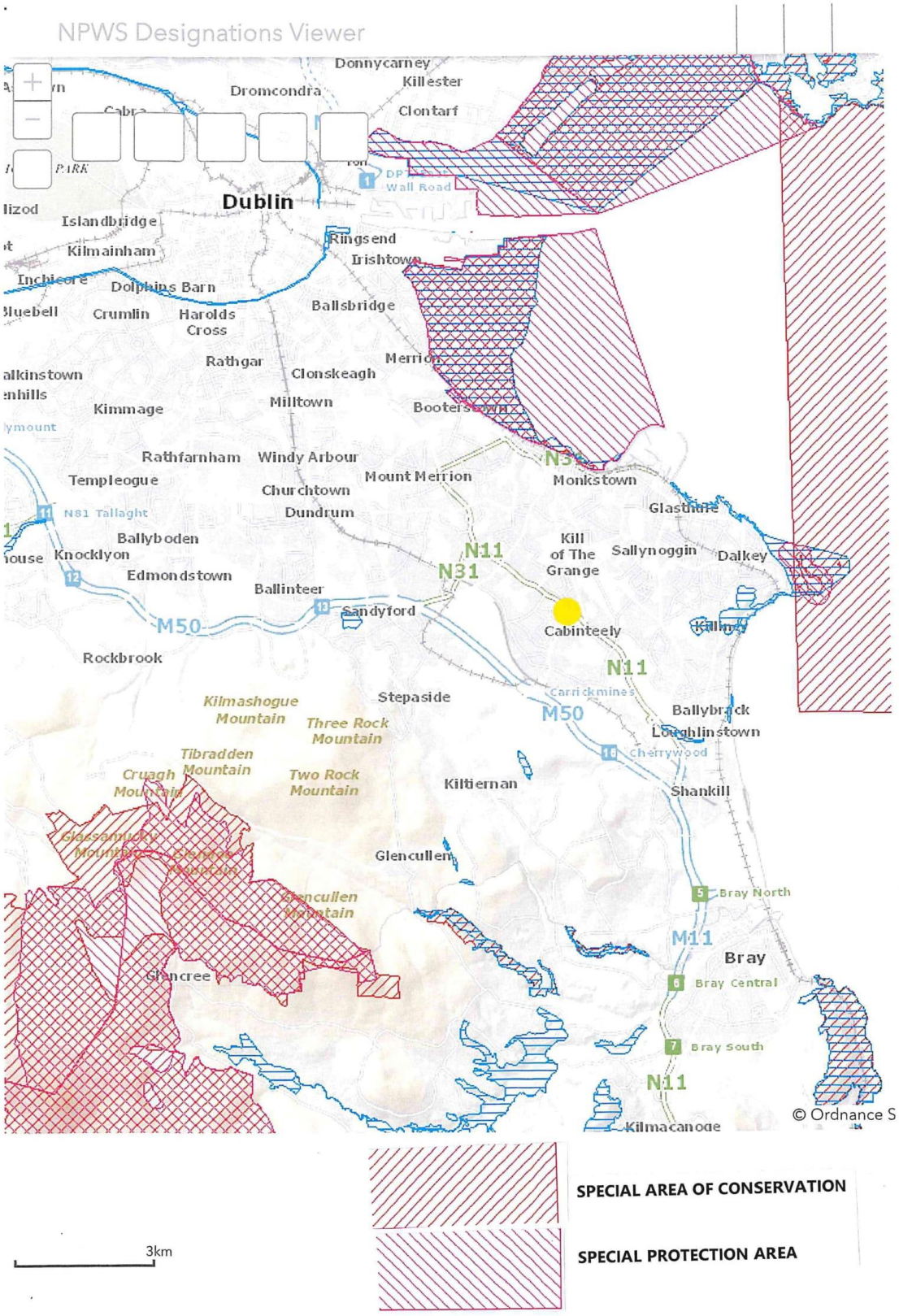

Figure 2. Location of Cornelscourt site (yellow dot) in relation to Special Areas of Conservation and Special Protection Areas.

Table 1. Relevant European sites, reasons for designation, and linkages

European Site	Reasons for designation (information correct as of 10th October 2021) (*denotes a priority habitat)	Source – Pathway – Receptor linkage
Rockabill to Dalkey Island SAC (site code 003000), c.6km to east of the Cornelscourt site;	1170 Reefs 1351 Harbour Porpoise (*Phocoena phocoena*) According to this SAC's site Conservation Objectives document (Version 1, dated 07th May 2013), for each of the listed QIs, the Conservation Objective is to maintain the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.	There will be no loss of habitat or disturbance to the qualifying interests of this SAC site as a result of the proposed development. However, as the Cornelscourt area drains naturally to Killiney Bay, (via the Carrickmines/Shanganagh River system) there is a theoretical hydrological linkage between the subject site and the Rockabill to Dalkey Island SAC. In the absence of mitigation, pollutants generated on site could reach the waters of the SAC and potentially have effects on the qualifying interests of the SAC.
South Dublin Bay SAC (site code 000210) c.3 km (straight line distance) to north of Cornelscourt site	1140 Mudflats and sandflats not covered by seawater at low tide The following habitats are listed as Qualifying Interests on the NPWS website, but are not included in the Conservation Objectives document: 1210 Annual vegetation of drift lines 1310 Salicornia and other annuals colonising mud and sand 2110 Embryonic shifting dunes According to this SAC's site Conservation Objectives document (Version 1, dated 22nd August 2013), for the listed QI, the Conservation Objective is to maintain the favourable conservation condition of the Annex I habitat for which the SAC has been selected.	There will be no loss of habitat or disturbance to the qualifying interests of this SAC site as a result of the proposed development. However, as the Cornelscourt area drains naturally to Killiney Bay, (via the Carrickmines/Shanganagh River system) there is a theoretical hydrological linkage between the subject site and the South Dublin Bay SAC. In the absence of mitigation, pollutants generated on site could reach the waters of the SAC and potentially have effects on the qualifying interests of the SAC.
North Dublin Bay SAC (site code 000206) c.9 km (straight line	1140 Mudflats and sandflats not covered by seawater at low tide 1210 Annual vegetation of drift lines 1310 Salicornia and other annuals colonising mud and sand	There will be no loss of habitat or disturbance to the qualifying interests of this SAC site as a result of the proposed development. However, as the Cornelscourt area drains naturally to Killiney Bay, (via

European Site	**Reasons for designation (information correct as of 10th October 2021) (*denotes a priority habitat)**	**Source – Pathway – Receptor linkage**
distance) to north of Cornelscourt site	1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) 1410 Mediterranean salt meadows (*Juncetalia maritimi*) 2110 Embryonic shifting dunes 2120 Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)* 2190 Humid dune slacks 1395 Petalwort (*Petalophyllum ralfsii*) According to this SAC's site Conservation Objectives document (Version 1, dated 06th November 2013), for each of the listed QIs, the Conservation Objective is to maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.	the Carrickmines/Shanganagh River system) there is a theoretical hydrological linkage between the subject site and the North Dublin Bay SAC. In the absence of mitigation, pollutants generated on site could reach the waters of the SAC and potentially have effects on some of the qualifying interests of the SAC.
Howth Head SAC (site code 000202), c.13 km to north of Cornelscourt site	1230 Vegetated sea cliffs of the Atlantic and Baltic coasts 4030 European dry heaths According to this SAC's site Conservation Objectives document (Version 1, dated 06th December 2016), for each of the listed QIs, the Conservation Objective is to maintain the favourable conservation condition of the Annex I habitats for which the SAC has been selected.	There will be no loss of habitat or disturbance to the qualifying interests of this SAC site as a result of the proposed development. On the basis of the geographical separation and the absence of any connectivity, hydrological or otherwise, possible Source-Pathway-Receptor hydrological linkages have not been identified between the proposed development site and the Howth Head SAC.
Wicklow Mountains SAC (site code 0002122) c.10km to southwest of Cornelstown site	Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110] Natural dystrophic lakes and ponds [3160] Northern Atlantic wet heaths with Erica tetralix [4010] European dry heaths [4030] Alpine and Boreal heaths [4060] Calaminarian grasslands of the Violetalia calaminariae [6130] Species-rich Nardus grasslands, on siliceous substrates in mountain	There will be no loss of habitat or disturbance to the qualifying interests of this SAC site as a result of the proposed development. On the basis of the geographical separation and the absence of any connectivity, hydrological or otherwise, possible Source-Pathway-Receptor hydrological linkages have not been identified between the proposed development site and the Wicklow Mountains SAC.

European Site	Reasons for designation (information correct as of 10th October 2021) (*denotes a priority habitat)	Source – Pathway – Receptor linkage
	areas (and submountain areas, in Continental Europe) [6230] Blanket bogs (* if active bog) [7130] Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani) [8110] Calcareous rocky slopes with chasmophytic vegetation [8210] Siliceous rocky slopes with chasmophytic vegetation [8220] Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] Lutra lutra (Otter) [1355] According to this SAC's site Conservation Objectives document (Version 1, 2017), for each of the listed QIs, the Conservation Objective is to maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.	
Knocksink Woods SAC (site code 000725) c. 8 km to south of Cornelscourt site	Petrifying springs with tufa formation (Cratoneurion) [7220] Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] According to this SAC's site Conservation Objectives document (Generic Version 8, 2021), for each of the listed QIs, the Conservation Objective is to maintain or restore the favourable conservation condition of the Annex I habitat(s) for which the SAC has been selected.	There will be no loss of habitat or disturbance to the qualifying interests of this SAC site as a result of the proposed development. On the basis of the geographical separation and the absence of any connectivity, hydrological or otherwise, possible Source-Pathway-Receptor hydrological linkages have not been identified between the proposed development site and the Knocksink Woods SAC.
Ballyman Glen SAC (site code 000713) c. 8 km to south-southeast of Cornelscourt site	Petrifying springs with tufa formation (Cratoneurion) [7220] Alkaline fens [7230] According to this SAC's site Conservation Objectives document (Version 1, June 2019), for each of the listed QIs, the Conservation Objective is to maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.	There will be no loss of habitat or disturbance to the qualifying interests of this SAC site as a result of the proposed development. On the basis of the geographical separation and the absence of any connectivity, hydrological or otherwise, possible Source-Pathway-Receptor hydrological linkages have not been identified between the proposed development site and the Ballyman Glen SAC.

European Site	**Reasons for designation (information correct as of 10th October 2021) (*denotes a priority habitat)**	**Source – Pathway – Receptor linkage**
Bray Head SAC (site code 000714) c.12 km SE of the Cornelscourt site	Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] European dry heaths [4030] According to this SAC's site Conservation Objectives document (Version 1, April 2017), for each of the listed QIs, the Conservation Objective is to maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.	There will be no loss of habitat or disturbance to the qualifying interests of this SAC site as a result of the proposed development. On the basis of the geographical separation and the absence of any connectivity, hydrological or otherwise, possible Source-Pathway-Receptor hydrological linkages have not been identified between the proposed development site and the Bray Head SAC.
Dalkey Island SPA (site code 004172), c.6km to east of the Cornelscourt site;	Roseate Tern (Sterna dougallii) [A192] Common Tern (Sterna hirundo) [A193] Arctic Tern (Sterna paradisaea) [A194] According to this SPA's site Conservation Objectives document (Generic Version 8.0, 2021), for each of the listed SCIs, the Conservation Objective is to maintain the favourable conservation condition of the species and wetland habitat for which the SPA has been selected.	There will be no loss of habitat or disturbance to the Special Conservation Interests of this SPA site as a result of the proposed development. The Cornelscourt site does not provide suitable habitat to support any of the Special Conservation Interests of the SPA. On the basis of the geographical separation and the absence of any connectivity, hydrological or otherwise, possible Source-Pathway-Receptor hydrological linkages have not been identified between the proposed development site and the Dalkey Island SPA.
South Dublin Bay and River Tolka Estuary SPA (site code 004024) c.3 km (straight line distance) north of Cornelscourt site	A144 Sanderling (*Calidris alba*) A157 Bar-tailed Godwit (*Limosa lapponica*) A149 Dunlin (*Calidris alpina*) A162 Redshank (*Tringa totanus*) A179 Black-headed Gull (*Chroicocephalus ridibundus*) A143 Knot (*Calidris canutus*) A192 Roseate Tern (*Sterna dougallii*) A046 Light-bellied Brent Goose (*Branta bernicla hrota*) A141 Grey Plover (*Pluvialis squatarola*)	There will be no loss of habitat or disturbance to the Special Conservation Interests of this SPA site as a result of the proposed development. The Cornelscourt site does not provide suitable habitat to support any of the Special Conservation Interests of the SPA. However, as the Cornelscourt area drains naturally to Killiney Bay, (via the Carrickmines/Shanganagh River system) there is a theoretical hydrological linkage between the subject site and the South Dublin Bay and River Tolka Estuary SPA.

European Site	Reasons for designation (information correct as of 10th October 2021) (*denotes a priority habitat)	Source – Pathway – Receptor linkage
	A130 Oystercatcher (*Haematopus ostralegus*) A194 Arctic Tern (*Sterna paradisaea*) A193 Common Tern (*Sterna hirundo*) A137 Ringed Plover (*Charadrius hiaticula*) A999 Wetlands According to this SPA's site Conservation Objectives document (Version 1, dated 9th March 2015), for each of the listed SCIs, the Conservation Objective is to maintain the favourable conservation condition of the species and wetland habitat for which the SPA has been selected.	In the absence of mitigation, pollutants generated on site could reach the waters of the SPA and potentially have effects on the Special Conservation Interests of the SPA.
North Bull Island SPA (site code 004006) c. 8 km straight line distance from HSQ site	A160 Curlew (*Numenius arquata*) A149 Dunlin (*Calidris alpina*) A157 Bar-tailed Godwit (*Limosa lapponica*) A162 Redshank (*Tringa totanus*) A179 Black-headed Gull (*Chroicocephalus ridibundus*) A144 Sanderling (*Calidris alba*) A156 Black-tailed Godwit (*Limosa limosa*) A143 Knot (*Calidris canutus*) A169 Turnstone (*Arenaria interpres*) A054 Pintail (*Anas acuta*) A046 Light-bellied Brent Goose (*Branta bernicla hrota*) A048 Shelduck (*Tadorna tadorna*) A052 Teal (*Anas crecca*) A141 Grey Plover (*Pluvialis squatarola*) A056 Shoveler (*Anas clypeata*) A130 Oystercatcher (*Haematopus ostralegus*) A140 Golden Plover (*Pluvialis apricaria*) A999 Wetlands According to this SPA's site Conservation Objectives document	There will be no loss of habitat or disturbance to the Special Conservation Interests of this SPA site as a result of the proposed development. The Cornelscourt site does not provide suitable habitat to support any of the Special Conservation Interests of the SPA. However, as the Cornelscourt area drains naturally to Killiney Bay, (via the Carrickmines/Shanganagh River system) there is a theoretical hydrological linkage between the subject site and the North Bull Island SPA. In the absence of mitigation, pollutants generated on site could reach the waters of the SPA and potentially have effects on the Special Conservation Interests of the SPA.

European Site	**Reasons for designation (information correct as of 10th October 2021) (*denotes a priority habitat)**	**Source – Pathway – Receptor linkage**
	(Version 1, dated 9th March 2015), for each of the listed SCIs, the Conservation Objective is to maintain the favourable conservation condition of the species and wetland habitat for which the SPA has been selected.	
Howth Head Coast SPA (site code 004113), c.14 km to northeast of Cornelscourt site	Kittiwake (Rissa tridactyla) [A188] According to this SPA's site Conservation Objectives document (Generic Version 8.0, 2021), for each of the listed SCIs, the Conservation Objective is to maintain the favourable conservation condition of the species and wetland habitat for which the SPA has been selected.	There will be no loss of habitat or disturbance to the Special Conservation Interests of this SPA site as a result of the proposed development. The Cornelscourt site does not provide suitable habitat to support any of the Special Conservation Interests of the SPA. On the basis of the geographical separation and the absence of any connectivity, hydrological or otherwise, possible Source-Pathway-Receptor hydrological linkages have not been identified between the proposed development site and the Howth Head Coast SPA.
Wicklow Mountains SPA (site code 004040) c. 10 km southwest of Cornelscourt site	Merlin (Falco columbarius) [A098] Peregrine (Falco peregrinus) [A103] According to this SPA's site Conservation Objectives document (Generic Version 8.0, 2021), for each of the listed SCIs, the Conservation Objective is to maintain the favourable conservation condition of the species and wetland habitat for which the SPA has been selected.	There will be no loss of habitat or disturbance to the Special Conservation Interests of this SPA site as a result of the proposed development. The Cornelscourt site does not provide suitable habitat to support any of the Special Conservation Interests of the SPA. On the basis of the geographical separation and the absence of any connectivity, hydrological or otherwise, possible Source-Pathway-Receptor hydrological linkages have not been identified between the proposed development site and the Wicklow Mountains SPA.

2.4 Potential Impacts in the Absence of Mitigation

Impacts are considered in the context of the **Source-Pathway-Receptor** (S-P-R) conceptual model for environmental management risk assessment. This provides a systematic means of determining and evaluating the nature, effect and extent of exposure a vulnerable receptor may experience in relation to a particular hazard. For a risk to exist there must be a source (or hazard or pressure), a pathway, and a receptor (or target) (Daly, 2004). An environmental hazard is an event, or continuing process, which if realised will lead to circumstances having the potential to degrade, directly or indirectly, the quality of the environment (Royal Society, 1992). A pathway is a route by which a particle of water, substance or contaminant moves through the environment and comes into contact with, or otherwise, affects a receptor (Environment Agency, 2001). No prevention or avoidance measures (commonly referred to as “mitigation measures”) have been taken account of in this screening assessment.

2.4.1 Direct impacts on habitats and/or species during construction and operational phases

The site for the proposed residential development at Cornelscourt is separated from the identified European sites by (straight line) distances of between 3 km and 14 km.

On this basis, it can be concluded with full certainty that there could be no direct impacts, such as loss of habitat or physical disturbance of habitats or species, by the construction and/or operation phases of the proposed residential development on any European designated site.

2.4.2 Potential Impacts by water discharges during construction and operational phases

Assessment of the hydrological environment allows Source-Pathway-Receptor linkages to be identified. If no S-P-R linkages are identified, then there is no risk to identified receptors.

As already noted, the natural drainage of the Cornelscourt area is to a network of streams which link into the Loughlinstown / Shanganagh River system. The Shanganagh River enters the sea between Shankill and Ballybrack in Killiney Bay.

An existing 225mm diameter surface water drain is located adjacent to the site’s eastern corner (at northern end of Willow Grove). This pipeline outfalls to the east via a crossing under the N11, South Park and Clonkeen College and ultimately discharges to the Deansgrange Stream. This pipe is expected to provide a suitable surface water outfall for the proposed development.

During the Construction Phase, potential sources for water pollution from the construction site to local drains and watercourses include:

- Suspended solids derived from soil excavation and movement within site.

- Run-off from wet cement surfaces which can result in alkaline water with high pH.
- Leakages and spillages of hydrocarbons
- Removal of area impacted hydrocarbons adjacent to filling station

During the Operation Phase, in the absence of mitigation potential leakage of petrol/diesel fuel from vehicles in parking areas could result in the entry of petroleum products to local watercourses.

For this project, a hydrological pathway has been identified from the proposed development site to the following European sites (as summarised in Table 1):

Rockabill to Dalkey Island SAC

In the absence of mitigation, the input of potential pollutants to the local rivers and ultimately the Killiney Bay area could have potential effects on the following qualifying interests of the SAC:

- Reefs [1170]
- Harbour porpoise [1351]

South Dublin Bay SAC

In the absence of mitigation, the input of potential pollutants to the South Dublin Bay SAC, via the local rivers and ultimately the Killiney Bay and Dublin Bay area, could have potential effects on the following qualifying interests of the SAC:

- 1140 Mudflats and sandflats not covered by seawater at low tide
- 1310 Salicornia and other annuals colonising mud and sand

It is considered unlikely that input of potential pollutants could have any effect on the other qualifying interests for this SAC as all are above the level of high tide.

North Dublin Bay SAC

In the absence of mitigation, the input of potential pollutants to the South Dublin Bay SAC, via the local rivers and ultimately the Killiney Bay and Dublin Bay area, could have potential effects on the following qualifying interests of the SAC:

- 1140 Mudflats and sandflats not covered by seawater at low tide
- 1310 Salicornia and other annuals colonising mud and sand
- 1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)
- 1410 Mediterranean salt meadows (*Juncetalia maritimi*)

It is considered unlikely that input of potential pollutants could have any effect on the other qualifying interests for this SAC as all are above the level of high tide.

South Dublin Bay and River Tolka Estuary SPA

In the absence of mitigation, the input of potential pollutants to the South Dublin Bay and the River Tolka Estuary SPA could have potential effects on the following Special Conservation Interests of the SPA:

- A149 Dunlin (*Calidris alpina*)
- A157 Bar-tailed Godwit (*Limosa lapponica*)
- A162 Redshank (*Tringa totanus*)
- A179 Black-headed Gull (*Chroicocephalus ridibundus*)
- A144 Sanderling (*Calidris alba*)
- A143 Knot (*Calidris canutus*)
- A169 Turnstone (*Arenaria interpres*)
- A046 Light-bellied Brent Goose (*Branta bernicla hrota*)
- A141 Grey Plover (*Pluvialis squatarola*)
- A130 Oystercatcher (*Haematopus ostralegus*)

The qualifying interest, A999 Wetlands, could also be potentially affected. However, it is unlikely that the three tern species listed as SCIs for this SPA would be affected as the terns feed mainly offshore and use the SPA largely for roosting.

North Bull Island SPA

In the absence of mitigation, the input of potential pollutants to the North Bull Island SPA could have potential effects on the following Special Conservation Interests of the SPA:

- A160 Curlew (*Numenius arquata*)
- A149 Dunlin (*Calidris alpina*)
- A157 Bar-tailed Godwit (*Limosa lapponica*)
- A162 Redshank (*Tringa totanus*)
- A179 Black-headed Gull (*Chroicocephalus ridibundus*)
- A144 Sanderling (*Calidris alba*)
- A156 Black-tailed Godwit (*Limosa limosa*)
- A143 Knot (*Calidris canutus*)
- A169 Turnstone (*Arenaria interpres*)
- A054 Pintail (*Anas acuta*)
- A046 Light-bellied Brent Goose (*Branta bernicla hrota*)
- A048 Shelduck (*Tadorna tadorna*)
- A052 Teal (*Anas crecca*)
- A141 Grey Plover (*Pluvialis squatarola*)
- A056 Shoveler (*Anas clypeata*)
- A130 Oystercatcher (*Haematopus ostralegus*)
- A140 Golden Plover (*Pluvialis apricaria*)

The qualifying interest, A999 Wetlands, could also be potentially affected.

For the above listed sites, the significance of potential effects would be dependent on the magnitude and duration of the pollution event, as well as local currents and tidal states at the time of the event.

In the absence of mitigation, it is considered that the conservation objectives of the qualifying interests/special conservation interests for the below listed European sites, could potentially be affected, as a Pathway exists between Source and Receptor.

Rockabill to Dalkey Island SAC

South Dublin Bay SAC

North Dublin Bay SAC

South Dublin Bay and River Tolka Estuary SPA

North Bull Island SPA

For the following SAC sites, there are no Pathways between Source (subject site) and Receptor (SAC) (see Table 1):

Howth Head SAC

Wicklow Mountains SAC

Knocksink Woods SAC

Ballyman Glen SAC

Bray Head SAC

On this basis, even in the absence of any measures in place at the proposed development site which are intended to avoid or reduce harmful environmental effects of the proposed project, risks to the qualifying interests of these 5 no. SAC sites have not been identified.

Risks to the Special Conservation Interests for the following three SPA sites (as listed in Table 1) have not been identified. These are as follows:

Dalkey Island SPA

Howth Head Coast SPA

Wicklow Mountains SPA

The SCIs for the Dalkey Island SPA and the Howth Head Coast SPA are terns (3 species) and Kittiwake respectively – these are offshore and marine feeding species which use the SPAs largely for nesting purposes. There is no pathway between the subject site and the Wicklow Mountains SPA. It is noted that the subject site does not have habitats which could potentially support any of the SCIs of these three SPAs.

On this basis, even in the absence of any measures in place at the proposed development site which are intended to avoid or reduce harmful environmental effects of the proposed project, risks to the qualifying interests of these 3 no. SPA sites have not been identified.

For eight of the listed European sites (namely Howth Head SAC, Wicklow Mountains SAC, Knocksink Woods SAC, Ballyman Glen SAC, Bray Head SAC, Dalkey Island SPA, Howth Head Coast SPA, Wicklow Mountains SPA) it can be shown objectively, with full scientific certainty, that there are no pathways between the application site (Source) and the European sites (Receptors) and hence no potential for risk to the qualifying interests as a result of the proposed development. It is concluded that these eight European sites can be screened out at this stage.

However, for five European sites (namely Rockabill to Dalkey Island SAC, South Dublin Bay SAC, North Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA) there is potential for contaminated water emanating from the application site to enter water courses and ultimately the aquatic and intertidal environments of these sites during the construction and (to a lesser extent) operational phases of the proposed development. The significance of any subsequent effect on the qualifying interests/special conservation interests of the Natura 2000 sites would vary depending on the type of pollutant, as well as the magnitude and duration of the event. As the conservation objectives of the five identified Natura 2000 sites could potentially be affected adversely, measures are required to avoid or reduce harmful effects of the proposed project (i.e. mitigation measures). Therefore, as the risk of potential significant effects on these European sites cannot be ruled out, Section 3 of this report provides information to allow the competent authority to carry out a Stage 2 Appropriate Assessment in respect of the proposed development.

3. INFORMATION FOR STAGE 2 – APPROPRIATE ASSESSMENT

The report on screening for Appropriate Assessment presented in Section 2 of this report concludes that potential impacts on five identified European sites may arise as a result of the proposed development, during the construction and/or operational phases.

Surface and storm water drainage from the area of the application site is to local watercourses which discharge into Killiney Bay and ultimately may mix with waters further offshore and in the Dublin Bay system.

During the Construction Phase, potential sources for water pollution from the construction site to local drains and watercourses include:

- Suspended solids derived from soil excavation and movement within site.
- Run-off from wet cement surfaces which can result in alkaline water with high pH.
- Leakages and spillages of hydrocarbons.

During the Operation Phase, there will be general run-off to the local surface drainage system from roofs and hard surfaces, with potential for leakage of petrol/diesel fuel from vehicles.

For this project, hydrological pathways from the proposed development site to the following European sites have been identified. The sites are:

Rockabill to Dalkey Island SAC

South Dublin Bay SAC

North Dublin Bay SAC

South Dublin Bay & River Tolka Estuary SPA

North Bull Island SPA

In the absence of mitigation, the input of potential pollutants to the marine and intertidal environments of these sites could have potential effects on the various qualifying interests and Special Conservation Interests of the European sites (as discussed in section 2.4.2).

Mitigation measures will be implemented during the construction and operation phases of the development to avoid or reduce potential harmful effects on the relevant interests of these European sites.

3.1 Surface water management and pollution control – construction phase

All works carried out as part of the construction works will comply with all Statutory Legislation including the Local Government (Water Pollution) Acts, 1977 to 2007.

The Preliminary Construction Management Plan (CMP) prepared by DBFL Consulting Engineers outlines (specifically in Sections 4 & 5) the measures which will be in force for the duration of construction phase to ensure protection of surface waterbodies and the control of potential pollutants generated on site - while this sets out the primary construction and management strategy the Contractor will prepare a final Construction Management Plan to build upon the preliminary plan and the Plan will remain a live document and will be subject to updates as necessary for the duration of the project.

A main purpose of the Plan is to ensure that storm water and wastewater runoff is managed and that there is no off-site environmental impact caused by overland storm water flows.

The following measures will be put in place by the Contractor during the construction phase to ensure protection of surface waterbodies. These measures are in compliance with the following relevant CIRIA guidance documents:

• Control of Water Pollution from Construction Sites, Guidance for consultants and contractors (C532) (2001); and

• Environmental Good Practice on Site Guide (4th edition, 2015) (C741).

Stripping of topsoil and excavations

Site development works will include stripping of topsoil and excavation of subsoil layers. These activities will be carried out in a controlled and carefully managed way and coordinated with the proposed staging for the development. The following measures will be implemented:

- At any given time, the extent of topsoil strip (and consequent exposure of subsoil) will be limited to the immediate vicinity of active work areas
- Topsoil stockpiles will be protected for the duration of the works and not located in areas where sediment laden runoff may enter existing surface water drains
- Topsoil stockpiles will also be located so as not to necessitate double handling

- The duration that subsoil layers are exposed to the effects of weather will be minimized
- Disturbed subsoil layers will be stabilized as soon as practicable (e.g. backfill of drainage trench excavations)
- Stockpiles of excavated subsoil material will be protected for the duration of the works, stockpiles of subsoil material will be located separately from topsoil stockpiles
- Typical seasonal weather variations will be taken account of when planning stripping of topsoil and excavations with an objective of minimizing soil erosion

Removal of hydrocarbons adjacent to filling station

An area of the site adjacent to the neighbouring filling station (adjacent to the western boundary) has been impacted by hydrocarbons. Investigation within the hydrocarbon impacted area confirms that the reduction in degree of impact moving downgradient and away from the filling station suggests that the impact is related to the filling station.

Two locations have been identified where these materials should be excavated and removed from site in the event of residential development. These materials should be classified as and disposed of as hazardous. All subsoil impacted by hydrocarbons which are affected by the proposed development is to be remove.

The natural subsoils outside the impacted area have been assessed and are suitable for removal to a suitably licenced inert facility.

The Contractor is to provide a Method Statement (to be agreed prior to commencing any works on site) for works in the vicinity of areas impacted by hydrocarbons including but not limited to details of:

- Their proposed specialist sub-contractors
- Proposals for containment of contamination,
- Proposal for removal of hydrocarbons from dewatered groundwater prior to discharge
- Co-ordination of contamination removal with other site works
- Proposed licenced waste receiving facility
- Compliance with relevant legislation including HSA publications and the Waste Management Act.

Management of suspended solids in run-off

Any temporary storage of spoil, hardcore, crushed concrete or similar material will be located as far as possible from any surface water drains and also stored in receptacles where possible. In order to minimise the risk of contamination, the stockpiled material will be removed off-site as soon as possible. Surface water drain gratings in areas near or close to where stockpiles are located will be covered by appropriate durable polyurethane covers or similar.

There will be no direct pumping of silt-ladened water from the works to any watercourse or drain. All water from excavations must be treated by infiltration over lands or via sediment retention ponds, silt fencing and silt traps etc. It is imperative that all waters discharged from the site will have been treated beforehand to remove contaminants.

Concrete run-off

- Concrete batching will take place off site, wash down and wash out of concrete trucks will take place off site and any excess concrete is not to be disposed of on site
- Pumped concrete will be monitored to ensure there is no accidental discharge
- Mixer washings are not to be discharged into surface water drains

Accidental spills and leaks

- All oils, fuels and other chemicals will be stored in a secure bunded hardstand area
- Refuelling and servicing of construction machinery will take place in a designated hardstand area which is also remote from any surface water inlets (when not possible carry out such activities off site)
- A response procedure will be put in place to deal with any accidental pollution events and spillage kits will be available and construction staff will be familiar with the emergency procedures and use of the equipment

Monitoring

In addition to vigilance on a daily basis to ensure that all environmental planning conditions are being adhered to, weekly checks will be carried out on site by relevant personnel to ensure that the surface water drains are operating efficiently and that all dirty water is being treated appropriately prior to discharge from site.

A written log of site inspections will be maintained, and any significant spill incidents will be recorded for root cause investigation purposes and updating procedures to ensure incidents do not re-occur.

Overview

With best practice construction methods adhered to during the construction phase, it is considered that the risk of contaminated water emanating from the application site and discharging to local drains and watercourses, and ultimately to the offshore environment and associated European sites, is not significant.

3.2 Surface water management and pollution control – operation phase

Surface water

During the operational phase, measures will be taken to ensure that contaminated surface

water run-off does not enter local drains and ultimately local watercourses. This will ensure protection of both the watercourses and the designated sites which have links to the site (see Table 1).

An existing 225mm diameter surface water drain is located adjacent to the site's eastern corner (at northern end of Willow Grove). This pipeline outfalls to the east via a crossing under the N11, South Park and Clonkeen College and ultimately discharges to the Deansgrange Stream. This pipe is expected to provide a suitable surface water outfall for the proposed development.

Surface drainage arrangements for the operation of the development are outlined in the Infrastructure Design Report (prepared by DBFL, September 2021). The report notes that the site's surface water management infrastructure has been designed in accordance with the Greater Dublin Strategic Drainage Study. It is also noted that the proposed development has been designed in accordance with the principals of Sustainable Urban Drainage System (SuDS). The overall strategy aims to provide an effective system to mitigate the adverse effects of urban storm-water runoff on the environment by reducing runoff rates, volumes and frequency, reducing pollutant concentrations in storm-water, contributing to amenity, aesthetics and biodiversity enhancement and allow for the maximum collection of rainwater for re-use where possible. In addition, SuDS features aim to replicate the natural characteristics of rainfall runoff for any site by providing control of run-off at source and this has been achieved by the current proposals. SuDS features proposed include:

- Green Roof – The proposed build-up will be an extensive type with 100mm minimum construction depth and sedum planting.
- Green Areas Over Podium –Soft landscaped podium areas will have typical soil depths of up to 450mm to facilitate grassed areas, plants, shrubs and trees i.e. similar to a deep intensive green roof build up.
- Permeable Paving Over Podium – Free draining material within the build-up and will reduce the flow rate from these areas.
- Roof Areas Draining Via SuDS – Houses located along the site's south-eastern boundary (adjacent to Willow Grove) drain via filter drains and a bioretention area respectively.
- Permeable Paved Areas Draining via SUDS – Aggregate / filter material used in the permeable paving and tree pits slow run-off at source.
- Soft Landscaped / Grassed Areas – Slows run-off at source.
- Attenuation of the 30 and 100 year return period storms within Stormtech Attenuation Chambers.
- Installation of a vortex flow control devices (Hydrobrake or equivalent), limiting surface water discharge from the site to 8.36 l/sec/ha
- Surface water discharge will also pass via a Class 1 full retention fuel / oil separator (sized in accordance with permitted discharge from the site)

Run-off from the proposed development will be controlled / attenuated using vortex flow control devices (Hydrobrake or equivalent). The location of proposed attenuation systems is shown in the DBFL Infrastructure Design Report. As noted, prior to discharge to the

downstream surface water network, the attenuated water will pass a final Class 1 fuel / oil separator.

Overview of surface water treatment

SuDS measures are the most effective measures which can be applied to the site and these measures are effective in treating rainfall on the site to GDSDS and CIRIA criterion. On this basis it is considered that there is no significant potential for the operational phase of the project to cause significant adverse effects on any qualifying interest or special conservation interest of a European site.

Foul drainage

The existing drainage infrastructure is located adjacent to the site's eastern corner. The site falls from its south-west corner towards its north-east corner forming a single foul drainage catchment. The proposed foul drainage network will comprise a series of 225mm diameter pipes. Foul drainage flows from the Cornelscourt area are directed to the Shanganagh WWTP.

A pre-connection enquiry to Irish Water has received a positive response (dated 4th October 2021), noting:

> "*Based upon the details you have provided with your pre-connection enquiry and on our desk top analysis of the capacity currently available in the Irish Water network(s) as assessed by Irish Water, we wish to advise you that your proposed connection to the Irish Water network(s) can be facilitated at this moment in time*".

Irish Water has indicated that an on-site pumping station and storage tank is required to store foul drainage flows from the development during periods of heavy rainfall or when the combined sewer is under pressures. Stored drainage flows are then returned to proposed 300 diameter combined sewer which outfalls from the site's eastern corner, towards northern end of Willow Grove and onwards along the verge adjacent to the N11 prior to discharge to a manhole approx. 240m from the eastern corner of the site.

The on-site pump station is to be integrated within a 2,150 m^3 balancing storage tank (located in the eastern corner of the site). An 825mm diameter combined sewer is also proposed, traversing the site from the entrance at Old Bray Road to the 2,150 m^3 balancing storage tank (located in the eastern corner of the site). Both the balancing storage tank and the combined sewer traversing the site have been designed to facilitate a future possible upgrade of the Foxrock catchment by Irish Water should it be considered necessary.

The foul drainage network for the proposed development has been designed following best practice and in accordance with the following guidelines:

- Irish Water Code of Practice for Wastewater Infrastructure
- Department of the Environment's Building Regulations "Technical Guidance Document Part H Drainage and Waste Water Disposal"
- BS EN 752: 2008 Drain and Sewer Systems Outside Buildings
- IS EN 12056: Part 2 (2000) Gravity Drainage Systems Inside Buildings

3.3 Analysis of "In-combination" Effects

The Habitats Directive requires competent authorities to make an appropriate assessment of any plan or project which is likely to have a significant effect alone or in-combination with other plans and projects.

The present assessment has considered the possibility for impacts by the proposed residential development at Cornelscourt on European sites within a 15 km radius.

The proposed foul sewer balancing tank will connect to the existing foul sewer, at an existing manhole located approximately 240m east of the site along the boundary with the N11, via a new 300mm diameter combined sewer. This 300mm diameter combined sewer will be delivered in conjunction with Irish Water as part of the connection agreement for the proposed development site. Similarly, the proposed water connection will connect to the existing 9' water via a 200mm diameter watermain. This 200mm diameter watermain will be delivered in conjunction with Irish Water as part of the connection agreement for the proposed development site.

While the service connections referenced above do not form part of this application and will be delivered separately in conjunction with Irish Water, the works have been assessed as part of the cumulative impact of the proposed development. It is considered that when the proposed residential development (as discussed in this report) is considered with the overall service connections 'project', there would not be any significant impacts on ecological interests of the local area or further afield.

Recent planning permissions achieved in the immediate vicinity of the subject site are summarised below. This planning history review demonstrates that there is limited permitted development in the immediate vicinity of the site. The projects identified involve the following:

- Cornelscourt Shopping Centre (Reg. ref. D21A/0823)
- The Mart, Old Bray Road & Mart Lane (Reg. D20A/0884 ABP-311428-21)
- Magic Carpet Centre (Reg. ref. D20A/0882)
- 19 Willow Grove (Reg. ref. D20B/2359)
- 5 Willow Grove (Reg. ref. D18B/0024)
- 12 Willow Grove (Reg. ref. D16B/0272)

Due to the nature and scale of these projects, all of which involve existing built sites (inc. 3 no. residences on Willow Grove), it is considered that the proposed residential development (as discussed in this report) would not give rise to significant in-combination impacts when considered with these 6 no. projects.

In a wider context, the Cornelscourt site is located in a long-established developed area of Dublin, with a range of residential, commercial, educational and industrial developments, as well as public infrastructure, in all directions around the site for at least several kilometres. Construction, re-development and maintenance projects are on-going, with all subject to planning approval.

As it can be demonstrated objectively that the proposed residential project at Cornelscourt will not have any significant ecological effects, direct or indirect, on the local ecology or any designated site for conservation, it can be concluded that when other projects are considered along with the proposed development there will not be any in-combination effect on the ecology of the area.

Overall, the in-combination impacts during the construction and operation phases of the proposed project are considered to be not significant.

4. CONCLUSION

This Natura Impact Statement has considered the potential impacts of a proposed residential project at a site in Cornelscourt village on the integrity of relevant European sites.

This report concludes on the best scientific evidence that it can be clearly demonstrated that no elements of the project (subject to appropriate mitigation measures) will result in any effect on the integrity or Qualifying Interests/Special Conservation Interests of any relevant European site, either on their own or in-combination with other plans or projects, in light of their conservation objectives.

It is considered that this Natura Impact Statement provides sufficient relevant information to allow the Competent Authority to carry out a Stage 1 AA Screening, and if necessary a Stage 2 Natura Impact / Appropriate Assessment, and to reach a determination that the proposed development will not affect the integrity of any of the relevant European sites under Article 6 of the Habitats Directive (92/43/EEC) in light of their conservation objectives.

5. REFERENCES

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APPENDIX 1

SITE SYNOPSES

Site Name: Rockabill to Dalkey Island SAC

Site Code: 003000

This site includes a range of dynamic inshore and coastal waters in the western Irish Sea. These include sandy and muddy seabed, reefs, sandbanks and islands. This site extends southwards, in a strip approximately 7 km wide and 40 km in length, from Rockabill, running adjacent to Howth Head, and crosses Dublin Bay to Frazer Bank in south Co. Dublin. The site encompasses Dalkey, Muglins and Rockabill islands.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[1170] Reefs

[1351] Harbour Porpoise (*Phocoena phocoena*)

Reef habitat is uncommon along the eastern seaboard of Ireland due to prevailing geology and hydrographical conditions. Expansive surveys of the Irish coast have indicated that the greatest resource of this habitat within the Irish Sea is found fringing offshore islands which are concentrated along the Dublin coast. A detailed survey of selected suitable islands has shown areas with typical biodiversity for this habitat both intertidally and subtidally. Species recorded in the intertidal included *Fucus spiralis*, *Fucus serratus*, *Pelvetia canaliculata*, *Ascophyllum nodosum*, *Semibalanus balanoides* and *Necora puber*. Subtidally, a wide range of species include *Laminaria hyperborea*, *Flustra folicacea*, *Alaria esculenta*, *Halidrys siliquosa*, *Pomatocereos triqueter*, *Alcyonium digitatum*, *Metridium senile*, *Caryophyllia smithii*, *Tubularia indivisa*, *Mytilus edulis*, *Gibbula umbilcalis*, *Asterias rubens*, and *Echinus esculentus*. These reefs are subject to strong tidal currents with an abundant supply of suspended matter resulting in good representation of filter feeding fauna such as sponges, anemones and echinoderms.

The area selected for designation represents a key habitat for the Annex II species Harbour Porpoise within the Irish Sea. Population survey data show that porpoise occurrence within the site boundary meets suitable reference values for other designated sites in Ireland. The species occurs year-round within the site and comparatively high group sizes have been recorded. Porpoises with young (i.e. calves) are observed at favourable, typical reference values for the species. Casual and effort-related sighting rates from coastal observation stations are significant for the east coast of Ireland and the latter appear to be relatively stable across all seasons. The selected site contains a wide array of habitats believed to be important for Harbour Porpoise including inshore shallow sand and mudbanks and rocky reefs scoured by strong current flow. The site also supports Common Seal and Grey Seal, for which terrestrial haul-out sites occur in immediate proximity to the site. Bottle-nosed Dolphins has also occasionally been recorded in the area. A number of other marine mammals have been recorded in this area including Minke, Fin and Killer Whales and Risso's and Common Dolphins.

The coastal environment of Co. Dublin is a very significant resource to birds with some nationally and internationally important populations. Of particular note in this site are the large number of terns (Arctic, Common and Roseate) known to use Dalkey Island as a staging area (approx. 2,000) after breeding. Other

seabirds commonly seen include Kittiwake, Razorbill, Guillemot, Puffin, Fulmar, Shag, Cormorant, Manx Shearwater, Gannet and gulls.

This site is of conservation importance for reefs, listed on Annex I, and Harbour Porpoise, listed on Annex II, of the E.U. Habitats Directive.

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 site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[1140] Tidal Mudflats and Sandflats
[1210] Annual Vegetation of Drift Lines
[1310] Salicornia Mud
[1330] Atlantic Salt Meadows
[1410] Mediterranean Salt Meadows
[2110] Embryonic Shifting Dunes
[2120] Marram Dunes (White Dunes)
[2130] Fixed Dunes (Grey Dunes)*
[2190] Humid Dune Slacks
[1395] Petalwort (Petalophyllum ralfsii)

North Bull 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 Sand Couch (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), Common Bird's-foot-trefoil (Lotus corniculatus), Common Restharrow (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 glutinosa). The water table is very near the surface and is only slightly brackish. Saltmarsh Rush (Juncus maritimus) is the dominant species, with Meadowsweet (Filipendula ulmaria) and Devil's-bit Scabious (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), Common 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 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, the rushes Juncus maritimus and J. gerardi are dominant. Towards the tip of the island, the saltmarsh grades naturally into fixed dune vegetation.

The habitat 'annual vegetation of drift lines' is found in places, along the length of Dollymount Strand, with species such as Sea Rocket (Cakile maritima), Oraches (Atriplex spp.) and Prickly Saltwort (Salsola kali).

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. Beaked Tasselweed (Ruppia maritima) occurs in this area, along with some Narrow-leaved Eelgrass (Zostera angustifolia). Dwarf Eelgrass (Z. noltii) also occurs in Sutton Creek. Common 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 which are legally protected under the Flora (Protection) Order, 1999 have been recorded on the North Bull Island. These are Lesser Centaury (Centaurium pulchellum), Red Hemp-nettle (Galeopsis angustifolia) and Meadow Saxifrage (Saxifraga granulata). Two further species listed as threatened in the Red Data Book, Wild Clary/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 still present. 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 Goose 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; Black-tailed 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 and 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 (from the Orders Diptera, Hymenoptera and Hemiptera).

The main land uses 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 site holds good examples of nine 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.

Version date: 12.08.2013 000206_Rev13.Doc

SITE NAME: SOUTH DUBLIN BAY SAC

SITE CODE: 000210

This site lies south of the River Liffey in Co. Dublin, 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. 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.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[1140] Tidal Mudflats and Sandflats

The bed of Dward Eelgrass (Zostera noltii) found below Merrion Gates 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.

Several small, sandy beaches with incipient dune formation occur in the northern and western sectors of the site, notably at Poolbeg, Irishtown and Merrion/ Booterstown. The formation at Booterstown is very recent. Drift line vegetation occurs in association with the embryonic and incipient fore dunes. Typically drift lines occur in a band approximately 5 m wide, though at Booterstown this zone is wider in places. The habitat occurs just above the High Water Mark and below the area of embryonic dune. Species present are Sea Rocket (Cakile maritima), Frosted Orache (Atriplex laciniata), Spear-leaved Orache (A. prostrata), Prickly Saltwort (Salsola kali) and Fat Hen (Chenopodium album). Also occurring is Sea Sandwort (Honkenya peploides), Sea Beet (Beta vulgaris subsp. maritima) and Annual Sea-blite (Suaeda maritima). A small area of pioneer saltmarsh now occurs in the lee of an embryonic sand dune just north of Booterstown Station. This early stage of saltmarsh development is here characterised by the presence of pioneer stands of glassworts (Salicornia spp.) occurring below an area of drift line vegetation. As this is of very recent origin, it covers a small area but ample areas of substrate and shelter are available for the further development of this habitat.

Lugworm (Arenicola marina), Cockles (Cerastoderma edule) and annelids and other 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), Dunlin (2628) and Redshank (356) (average winter peaks 1996/97 and 1997/98). Up to 100 Turnstones are usual in the south bay during winter. Brent Goose regularly occur in numbers of international importance (average peak 299). Bar-tailed Godwit (565), a species listed on Annex I of the E.U. 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.

At 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.

Version date: 12.08.2013 000210_Rev13.Doc South Dublin Bay

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.

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

SITE NAME : SANDYMOUNT STRAND/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 winter/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