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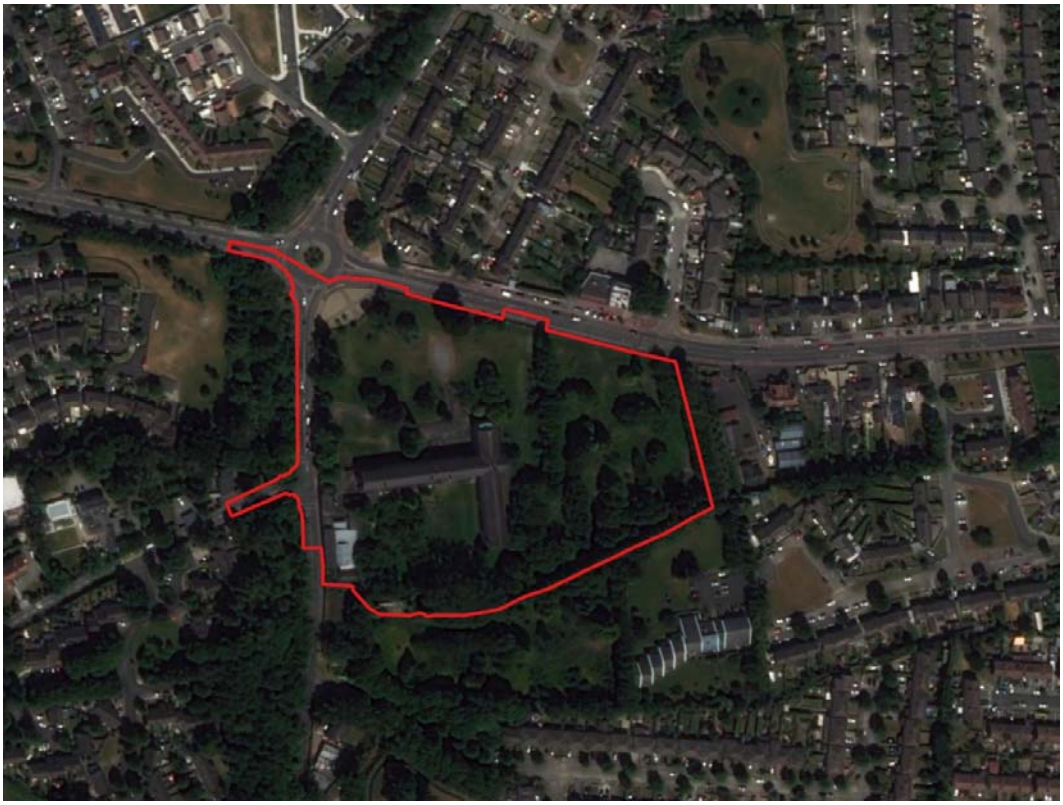
Marine & Environmental Consultancy

Natura Impact Statement - Information for a Stage 2 (Natura Impact Statement) AA for a proposed LRD at Taylors Lane, Ballyboden, Dublin 16.



29th March 2023

Prepared by: Bryan Deegan (MCIEEM) of Altemar Ltd.
On behalf of: Shannon Homes Dublin Unlimited Company

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Document Control Sheet			
Project	Natura Impact Statement - Information for a Stage 2 (Natura Impact Statement) AA for a Proposed LRD at Taylors Lane, Ballyboden, Dublin 16.		
Report	Appropriate Assessment Screening		
Date	29th March 2023		
Version	Author	Reviewed	Date
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Introduction

The following Natura Impact Statement (NIS) has been prepared by **Altemar Ltd.** the request of Shannon Homes Dublin Unlimited Company for a proposed Large-scale Residential Development (LRD) at Taylors Lane, Ballyboden, Dublin 16.

An Appropriate Assessment is an assessment of the potential effects of a proposed project or plan, on its own, or in combination with other plans or projects, on one or more European sites. European sites are those sites designated as Special Areas of Conservation (SAC) or Special Protection Areas (SPA). An AA Screening was carried out for the proposed project and concluded that '*Acting on a strictly precautionary basis, an NIS is required in respect of the effects of the project on the South Dublin Bay SAC, North Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA, and North Bull Island SPA because it cannot be excluded on the basis of best objective scientific information following screening, in the absence of control or mitigation measures that the plan or project, individually and/or in combination with other plans or projects, will have a significant effect on the named European Site/s.*

A NIS or Stage 2 Appropriate Assessment is not required for the effects of the project on all other listed Natura sites above because it can be excluded on the basis of the best objective scientific information following screening that the plan or project, individually and/or in combination with other plans or projects, will have a significant effect on the European Site/s.'

This Natura Impact Statement examines whether the project, either alone, or in combination with other plans and projects, in the view of best scientific knowledge and in view of the sites' conservation objectives, will adversely affect the integrity of the European sites.

Altemar Ltd.

Since its inception in 2001, Altemar has been delivering ecological and environmental services to a broad range of clients. Operational areas include residential, infrastructural, renewable, oil & gas, private industry, local authorities, EC projects and State/semi-State Departments. Bryan Deegan is the managing director of Altemar. Bryan is an environmental scientist and marine biologist with 28 years' experience working in Irish terrestrial and aquatic environments, providing services to the State, Semi-State and industry. Bryan Deegan (MCIEEM) holds a MSc in Environmental Science, BSc (Hons.) in Applied Marine Biology, NCEA National Diploma in Applied Aquatic Science and a NCEA National Certificate in Science (Aquaculture). Bryan Deegan carried out all elements of this Appropriate Assessment Screening.

Background to the Appropriate Assessment

The Habitats Directive 92/43/EEC (together with the Birds Directive (2009/1477/EC)) forms the cornerstone of Europe's nature conservation policy. The Directive protects over 1000 animals and plant species and over 200 "habitat types" which are of European importance. In the Habitats Directive, Articles 3 to 9 provide the legislative means to protect habitats and species of European Community interest through the establishment and conservation of an EU-wide network of conservation sites (NATURA, 2000). These are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under 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 European sites (Annex 1.1). Article 6(3) establishes the requirement for Appropriate Assessment:

"Any plan or project not directly connected with or necessary to the management of the [EUROPEAN] 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 component 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."

As outlined in "Managing European sites, The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC" (European Commission, 21 November 2018) *"The purpose of the appropriate assessment is to assess the implications of the plan or project in respect of the site's conservation objectives, either individually or in combination with other plans or projects. The conclusions should enable the competent authorities to ascertain whether the plan or project will adversely affect the integrity of the site concerned. The focus of the appropriate assessment is therefore specifically on the species and/or the habitats for which the European site is designated."*

As outlined in the EC guidance document on Article 6(4) (January 2007)[1]:

"Appropriate assessments of the implications of the plan or project for the site concerned must precede its approval and take into account the cumulative effects which result from the combination of that plan or project with other plans or projects in view of the site's conservation objectives. This implies that all aspects of the plan or project which can, either individually or in combination with other plans or projects, affect those objectives must be identified in the light of the best scientific knowledge in the field.

Assessment procedures of plans or projects likely to affect European sites should guarantee full consideration of all elements contributing to the site integrity and to the overall coherence of the network, both in the definition of the baseline conditions and in the stages leading to identification of potential impacts, mitigation measures and residual impacts. These determine what has to be compensated, both in quality and quantity. Regardless of whether the provisions of Article 6(3) are delivered following existing environmental impact assessment procedures or other specific methods, it must be ensured that:

- *Article 6(3) assessment results allow full traceability of the decisions eventually made, including the selection of alternatives and any imperative reasons of overriding public interest.*
- *The assessment should include all elements contributing to the site's integrity and to the overall coherence of the network as defined in the site's conservation objectives and Standard Data Form, and be based on best available scientific knowledge in the field. The information required should be updated and could include the following issues:*
    - *Structure and function, and the respective role of the site's ecological assets;*
    - *Area, representativity and conservation status of the priority and nonpriority habitats in the site;*
    - *Population size, degree of isolation, ecotype, genetic pool, age class structure, and conservation status of species under Annex II of the Habitats Directive or Annex I of the Birds Directive present in the site;*
    - *Role of the site within the biographical region and in the coherence of the European network; and,*
    - *Any other ecological assets and functions identified in the site.*
- *It should include a comprehensive identification of all the potential impacts of the plan or project likely to be significant on the site, taking into account cumulative impacts and other impacts likely to arise as a result of the combined action of the plan or project under assessment and other plans or projects.*
- *The assessment under Article 6(3) applies the best available techniques and methods, to estimate the extent of the effects of the plan or project on the biological integrity of the site(s) likely to be damaged.*
- *The assessment provides for the incorporation of the most effective mitigation measures into the plan or project concerned, in order to avoid, reduce or even cancel the negative impacts on the site.*
- *The characterisation of the biological integrity and the impact assessment should be based on the best possible indicators specific to the European assets which must also be useful to monitor the plan or project implementation."*

[1] European Commission. (2007).Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission;

Stages of the Appropriate Assessment

This Appropriate Assessment screening was undertaken in accordance with the European Commission Methodological Guidance on the provision of Article 6(3) and 6(4) of the 'Habitats' Directive 92/43/EEC (EC, 2001), Part XAB of the Planning and Development Act 2000, as amended, in addition to the December 2009 publication from the Department of Environment, Heritage and Local Government; 'Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities' and the European Communities (Birds and Natural Habitats) Regulations 2011. In order to comply with the above Guidelines and legislation, the Appropriate Assessment process must be structured as follows:

1) Screening stage:
    - Description of plan or project, and local site or plan area characteristics;
    - Identification of relevant European sites, and compilation of information on their qualifying interests and conservation objectives
    - Identification and description of individual in combination effects likely to result from the proposed project;
    - Assessment of the likely significance of the effects identified above. Exclusion of sites where it can be objectively concluded that there will be no likely significant effects; and,

      Conclusions
2) Appropriate Assessment (Natura Impact Statement):
    - Description of the European sites that will be considered further;
    - Identification and description of potential adverse impacts on the conservation objectives of these sites likely to occur from the project or plan; and,
    - Mitigation Measures that will be implemented to avoid, reduce or remedy any such potential adverse impacts
    - Assessment as to whether, following the implementation of the proposed mitigation measures, it can be concluded, beyond all reasonable scientific doubt, that there will be no adverse impact on the integrity of the relevant European Site in light of its conservation objectives"
    - Conclusions.

If it can be demonstrated during the AA screening phase (Stage 1), that the proposed project will not have a significant effect, whether alone or in combination with other plans or projects, on the conservation objectives of a European site, then no further AA (Stage 2) will be required. It is important to note that there is a requirement to apply a precautionary approach to AA screening. Therefore, where effects are possible, certain or unknown at the screening stage, AA will be required.

In addition, it should be noted that Article 6(3) of the Habitats Directive must be interpreted as meaning that, in order to determine whether it is necessary to carry out, subsequently, an AA of the implications, for a site concerned, of a plan or project, it is not appropriate, at the screening stage, to take account of the measures intended to avoid or reduce the harmful effects of the plan or project on that site.

Stage 1 Screening Assessment

Management of the Site

The plan or project is not directly connected with, or necessary to the management of European sites.

Description of the Proposed Project

The proposal is for a large-scale residential development on this site of net 3.5ha comprising the following:

- Demolition of existing former Institutional buildings and associated outbuildings (c.5231 sq.m);
- Construction of 402 residential units within 3 apartment/duplex blocks ranging in height from 2-5 storeys and comprising of 39 no. 1-Beds; 302 no. 2-Beds; and 61 no. 3-Beds all with associated private balconies/terraces to the north/south/east/west elevations;
- Provision of one crèche and two retail units.
- Provision of a new public park along Taylor's Lane
- Provision of 290 no. car parking spaces.
- Vehicular access to the site via Edmondstown Road to the west.
- Pedestrian Access to the site via Edmondstown Road to the west and Taylor's Lane to the north.

The proposed site outline, location, site plan, and elevations are demonstrated in Figures 1-5.

Landscape

The landscape strategy for the proposed development has been designed by Doyle & O'Troithigh Landscape Architecture to accompany this planning application. The proposed overall landscape plan and green infrastructure plan are demonstrated in Figures 6 & 7.

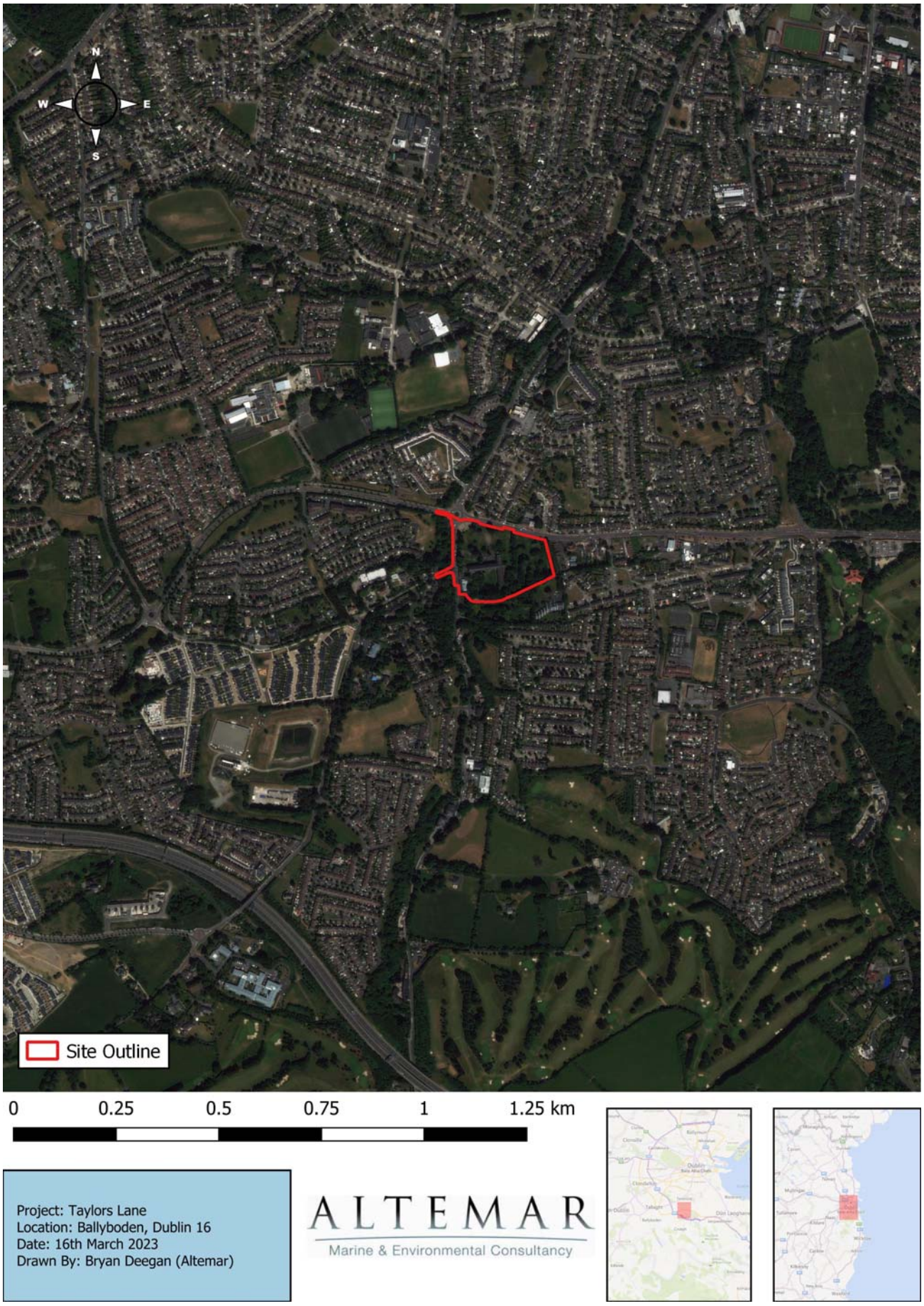


Figure 1. Proposed site outline and location

Figure 2. Proposed site outline

Figure 3. Proposed site plan

Figure 4. Proposed elevations (sheet 1)

Figure 5. Proposed elevations (sheet 2)

Figure 6. Proposed overall landscape plan

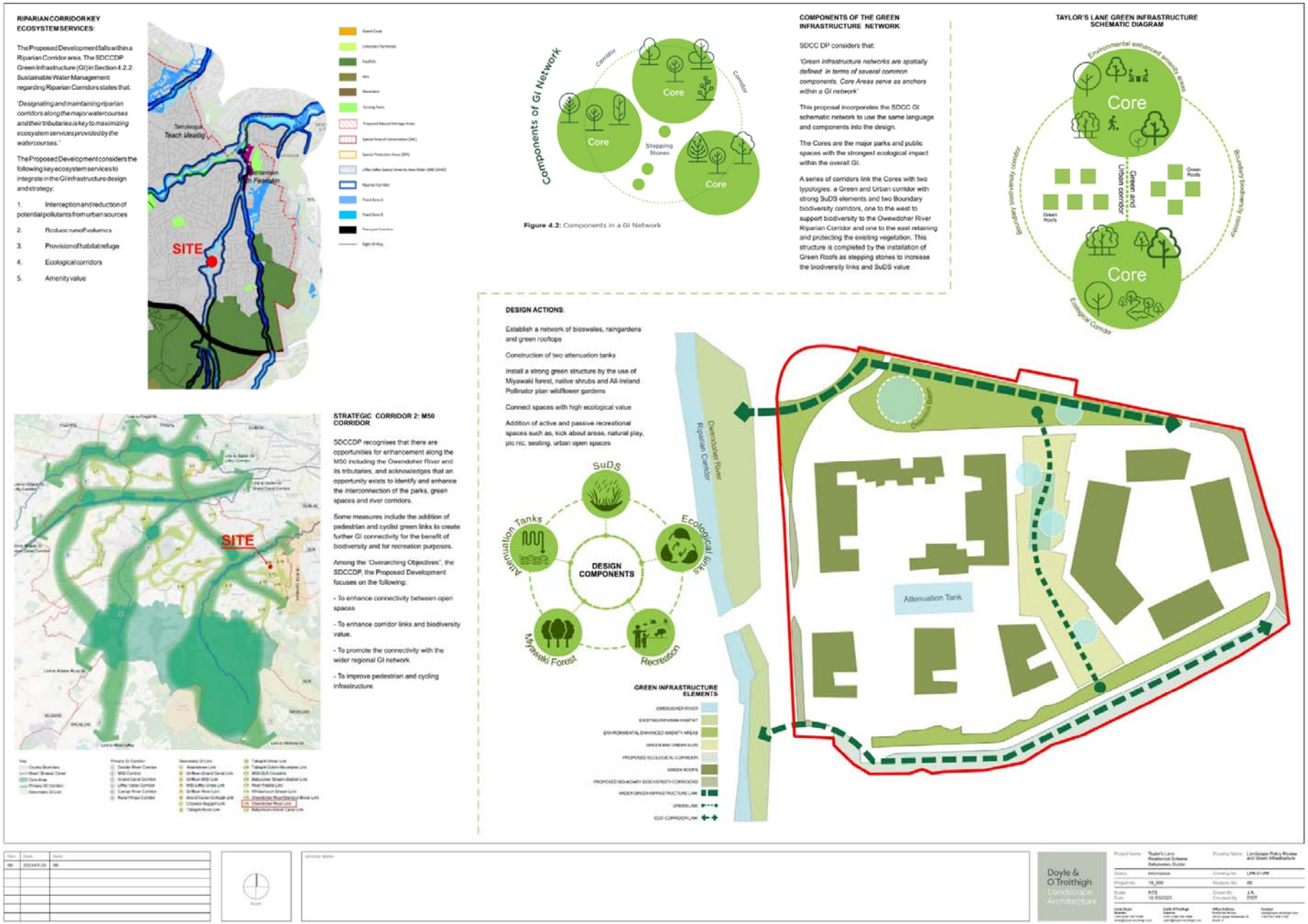


Figure 7. Landscape policy review and green infrastructure

Drainage

An Engineering Services Report has been prepared by DBFL Consulting Engineers to accompany this planning application. This report outlines the following drainage strategy for the proposed development:

Surface Water Drainage

In relation to existing surface water drainage infrastructure, this report outlines the following:

'*The proposed site is serviced by an existing surface water sewer which crosses Edmondstown Road and discharges to the Owendoher River located to the west of the site. The records also show a 900mm diameter surface water culvert on the north-eastern boundary which crosses Taylors Lane, after investigations it is found the only connection to this culvert is an obsolete surface water drain which serviced an old water feature that is no longer used. No further surface water infrastructure serves the development*.'

In terms of the proposed surface water drainage strategy, this report outlines the following:

'*The site investigation shows relatively good infiltration rates to the north of the site with tests recording results between 4x10-4 ms-1 and 4x10-5 ms-1.*

Due to these results, infiltration techniques will be considered if only in part within the SUDS strategy

All runoff from impermeable surfaces on the site will initially drain via source control SUDS features as the first step in the management train. Where feasible, subsequent SUDS features have been linked to increase interception losses along the management train. For the remaining storage requirements, a number of attenuation features have been designed (discussed under section 5.3). A large portion of the open area of the site to the north has been reserved for open conveyance and detention basins. The remaining storage requirements were fulfilled using economical and sustainable underground attenuation features which promote infiltration. Outflows from the development will be restricted to greenfield rates before being discharged via a single outfall to the Owendoher River at the north-western corner of the subject site. The surface water network and the outfall have been designed to ensure that the network can continue to drain during high water levels in the Owendoher River.'

Foul Wastewater Drainage

In relation to existing foul wastewater drainage design, this report outlines the following:

'*By reviewing records, the surrounding area predominately uses a separated drainage network. The subject site is serviced by an existing 225mm diameter foul sewer on Edmondstown Road which runs from south to north, continuing north within Ballyboden Road*.'

In terms of the proposed foul drainage design, this report outlines the following:

'*The proposed foul drainage has been designed to drain via one outfall to the Irish Water combined sewer in Edmondstown Road.*'

The proposed site services layout is demonstrated in Figure 8.

Flood Risk Assessment

A Site Specific Flood Risk Assessment Report was prepared by DBFL Consulting Engineers to accompany this planning application. This report concludes with the following:

- '*The proposed type of development for this site is to be residential and is categorised as* ***highly vulnerable development****.*
- *All Highly vulnerable development is located wholly in Flood Zone C.*
- *Only the north-western corner of the subject site is located in Flood Zone B and due to the infrastructure constraints (watermain wayleave), all proposed development is located well outside Flood Zone B.*
- *As part of the mitigation measures to reduce the associated Flood risk for site users, was by ensuring all 'highly vulnerable' finished floor levels are located above the 0.1% AEP flood level plus 500mm freeboard. As the flood extents relate to overland flows, the CFRAMS flood depth maps and site-specific topographical survey were used to calculate the levels at the flood extents. Where the difference between the calculated flood level and the FFL is not 500mm, landscaping will ensure the 500mm freeboard is included to ensure no further overland flow paths are created within the site.*
- *A possible source of flood risk from the surcharging or blockage of the development's drainage system has been identified. This risk is mitigated by suitable design of the drainage network (as detailed in DBFL Infrastructure Design Report 190068-X-05-X-XXXRP-DBFL-CE-0002), regular maintenance and inspection of the network and establishment of exceedance overland flow routes.*
- *The development's drainage design includes for a 20% climate change allowance.*
- *The proposed development will not increase run-off rate when compared with the existing site and satisfies the requirement of the SFRA to reduce flooding and improve water quality.'*

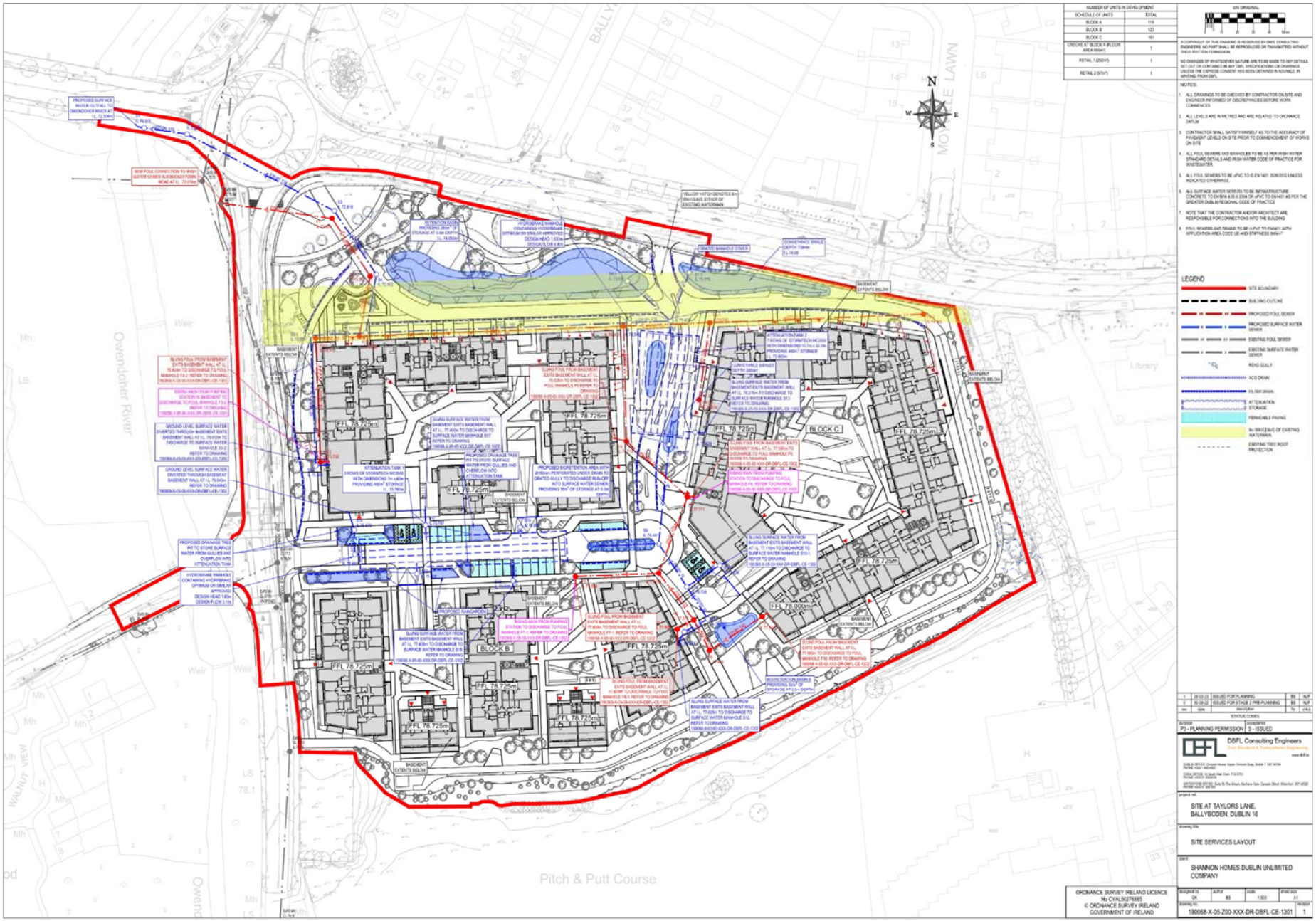


Figure 8. Proposed site services layout

Identification of Relevant European Sites

The proposed development site is located within a populated urban environment. The proposed works are not within a European site and there is no direct pathway to a European site. The European sites within 15 km, and those with a hydrological pathway to the subject site, are seen in Figures 9 & 10 and Table 1. European sites screened in for NIS are seen in Table 2.

Table 1. Proximity to designated sites of conservation importance

Code	European Site	Distance	Direct Hydrological / Biodiversity Connection
Special Areas of Conservation			
IE002122	Wicklow Mountains SAC	4.6 km	No
IE001209	Glenasmole Valley SAC	5.2. km	No
IE000210	South Dublin Bay SAC	7.1 km	Yes
IE000725	Knocksink Wood SAC	9.2 km	No
IE000206	North Dublin Bay SAC	11.5 km	Yes
IE000713	Ballyman Glen SAC	11.7 km	No
IE003000	Rockabill to Dalkey Island SAC	13.5 km	No
Special Protection Area			
IE004040	Wicklow Mountains SPA	4.6 km	No
IE004024	South Dublin Bay and River Tolka SPA	7 km	Yes
IE004006	North Bull Island SPA	11.5 km	Yes
IE004172	Dalkey Islands SPA	13.2 km	No

Table 2. Initial screening of European sites within 15km and European sites within 15km with potential of hydrological connection to the proposed development

European Site Code	Name	Screened IN/OUT	Details/Reason
Special Areas of Conservation			
IE000210	South Dublin Bay SAC	**IN**	**Conservation Objectives** The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level. **Qualifying Interests** Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of drift lines [1210] Salicornia and other annuals colonising mud and sand [1310] Embryonic shifting dunes [2110] **Potential Impact** The proposed development site is located approximately 7.1 km from the South Dublin Bay SAC. There is a direct hydrological pathway from the proposed development to this SAC via the mill race and surface water drainage. During construction, there is the potential for dust and contaminated surface water runoff to enter the Owendoher River, a watercourse that traverses along the western portion of the subject site (Figure 11). During operation, surface water drainage will be discharged via a single outfall to the Owendoher River at the north-western corner of the subject site. Given that the Owendoher River outfalls to the River Dodder, which in turn outfalls to the marine environment at Dublin Bay, it is considered that there is a direct hydrological connection to this SAC. There is the potential for silt and contaminated surface water runoff to enter the Owendoher River with the potential for downstream impacts on this SAC. Mitigation measures are required. It should be noted that there is an existing mill race that bounds the southern boundary of the subject site. Following an examination of historical 6-inch mapping, there is a weir located along the Owendoher River that acts as the source of this mill race. This mill race then ultimately outfalls back to the Owendoher River (see Figure 12). Out of an abundance of caution, it is considered that there is the potential for silt and contaminated runoff to enter this waterbody and transport pollutants to the Owendoher River. Foul wastewater will be directed to an existing public foul combined network located on Edmondstown Road, which in turn discharges to Ringsend Wastewater Treatment Plant (WwTP) for treatment. Foul wastewater will be treated at Ringsend WwTP. In the absence of mitigation, no significant effects on the qualifying interests of this SAC are likely via the indirect hydrological pathway of foul wastewater drainage. In the absence of mitigation measures, it is considered that significant effects on the qualifying interests of this SAC are likely via the Owendoher River during the construction and operational phases of development. **Stage 2 AA (Natura Impact Statement) is Required.**

European Site Code	Name	Screened IN/OUT	Details/Reason
IE0000206	North Dublin Bay SAC	**IN**	**Conservation Objectives:** To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected. **Qualifying Interests** 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 1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) 1395 Petalwort (*Petalophyllum ralfsii*) 1410 Mediterranean salt meadows (*Juncetalia maritimi*) 2110 Embryonic shifting dunes 2120 Shifting dunes along the shoreline with *Ammophila arenaria* 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes) 2190 Humid dune slacks [2130] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2190] Humid dune slacks **Potential Impact** The proposed development site is located approximately 11.5 km from the North Dublin Bay SAC. There is a direct hydrological pathway from the proposed development to this SAC via the Owendoher River. During construction, there is the potential for dust and contaminated surface water runoff to enter the Owendoher River, a watercourse that traverses along the western portion of the subject site (Figure 11). During operation, surface water drainage will be discharged via a single outfall to the Owendoher River at the north-western corner of the subject site. Given that the Owendoher River outfalls to the River Dodder, which in turn outfalls to the marine environment at Dublin Bay, it is considered that there is a direct hydrological connection to this SAC. There is the potential for silt and contaminated surface water runoff to enter the Owendoher River with the potential for downstream impacts on this SAC. Mitigation measures are required. It should be noted that there is an existing mill race that bounds the southern boundary of the subject site. Following an examination of historical 6-inch mapping, there is a weir located along the Owendoher River that acts as the source of this mill race. This mill race then ultimately outfalls back to the Owendoher River (see Figure 12). Out of an abundance of caution, it is considered that there is the potential for silt and contaminated runoff to enter this waterbody and transport pollutants to the Owendoher River. Foul wastewater will be directed to an existing public combined foul network located on Edmondstown Road, which in turn discharges to Ringsend Wastewater Treatment Plant (WwTP) for treatment. Foul wastewater will be treated at Ringsend WwTP. In the absence of mitigation, no significant effects on the qualifying interests of this SAC are likely via the indirect hydrological pathway of foul wastewater drainage. In the absence of mitigation measures, it is considered that significant effects on the qualifying interests of this SAC are likely

European Site Code	Name	Screened IN/OUT	Details/Reason
			via surface water drainage during the construction and operational phases of development. **Stage 2 AA (Natura Impact Statement) is Required.**
Special Protection Areas			
IE004024	South Dublin Bay and River Tolka Estuary SPA	**IN**	**Conservation Objectives** To maintain or restore the favourable conservation condition of the bird species listed as Conservation Interests for this SPA. To maintain the favourable conservation condition of the wetland habitat in South Dublin Bay and River Tolka Estuary SPA as a resource for the regularly occurring migratory waterbirds that utilise it. **Qualifying Interests** *Branta bernicla hrota* (Light-bellied Brent Goose) [A046] *Haematopus ostralegus* (Oystercatcher) [A130] *Charadrius hiaticula* (Ringed Plover) [A137] *Pluvialis squatarola* (Grey Plover) [A141] *Calidris canutus* (Knot) [A143] *Calidris alba* (Sanderling) [A144] *Calidris alpina* (Dunlin) [A149] *Limosa lapponica* (Bar-tailed Godwit) [A157] *Tringa totanus* (Redshank) [A162] *Chroicocephalus ridibundus* (Black-headed Gull) [A179] *Sterna dougallii* (Roseate Tern) [A192] *Sterna hirundo* (Common Tern) [A193] *Sterna paradisaea* (Arctic Tern) [A194] Wetland and Waterbirds [A999] **Potential Impact** The proposed development site is located approximately 7 km from this SPA. There is a direct hydrological pathway from the proposed development to this SPA via surface water drainage and mill race. During construction, there is the potential for dust and contaminated surface water runoff to enter the Owendoher River, a watercourse that traverses along the western portion of the subject site (Figure 11). During operation, surface water drainage will be discharged via a single outfall to the Owendoher River at the north-western corner of the subject site. Given that the Owendoher River outfalls to the River Dodder, which in turn outfalls to the marine environment at Dublin Bay, it is considered that there is a direct hydrological connection to this SPA. There is the potential for silt and contaminated surface water runoff to enter the Owendoher River with the potential for downstream impacts on this SPA. Mitigation measures are required. It should be noted that there is an existing mill race that bounds the southern boundary of the subject site. Following an examination of historical 6-inch mapping, there is a weir located along the Owendoher River that acts as the source of this mill race. This mill race then ultimately outfalls back to the Owendoher River (see Figure 12). Out of an abundance of caution, it is considered that there is the potential for silt and contaminated runoff to enter this waterbody and transport pollutants to the Owendoher River.

European Site Code	Name	Screened IN/OUT	Details/Reason
			Foul wastewater will be directed to an existing public combined foul network located on Edmondstown Road, which in turn discharges to Ringsend Wastewater Treatment Plant (WwTP) for treatment. Foul wastewater will be treated at Ringsend WwTP. In the absence of mitigation, no significant effects on the qualifying interests of this SPA are likely via the indirect hydrological pathway of foul wastewater drainage. Given the minimum distance to this SPA (7 km) across a densely populated urban environment, no significant noise or vibration impacts on the bird species protected as qualifying interests of this SPA are foreseen. Further, as outlined in Wintering Bird Survey prepared for this planning application (Appendix I): '*Results suggest that the site is not significant ex-situ foraging or roosting site for species of qualifying interest from nearby Special protection areas (SPA's). Species of more significant interest in the context of the site's location such as Brent Geese, Curlew, Oystercatcher etc. were not recorded passing over the site. Herring Gull were noted to regularly pass over especially the north side of the site, none were noted foraging on-site with the few small open areas on-site noted as sub-optimal for foraging (long rough grass type).'* No significant effects on the qualifying interests of this SPA are likely. Out of an abundance of caution, in the absence of mitigation measures, it is considered that significant effects on the qualifying interests of this SPA are likely via surface water drainage during the construction and operational phases of development. **Stage 2 AA (Natura Impact Statement) is Required.**
IE004006	North Bull Island SPA	**IN**	**Conservation Objective:** To maintain or restore the favourable conservation conditions of the species and/or habitats listed as Qualifying Interests for this SPA. **Qualifying Interests** A046 Light-bellied Brent Goose (*Branta bernicla hrota*) A048 Shelduck (*Tadorna tadorna*) A052 Teal (*Anas crecca*) A054 Pintail (*Anas acuta*) A056 Shoveler (*Anas clypeata*) A130 Oystercatcher (*Haematopus ostralegus*) A140 Golden Plover (*Pluvialis apricaria*) A141 Grey Plover (*Pluvialis squatarola*) A143 Knot (*Calidris canutus*) A144 Sanderling (*Calidris alba*) A149 Dunlin (*Calidris alpina alpine*) A156 Black-tailed Godwit (*Limosa limosa*) A157 Bar-tailed Godwit (*Limosa lapponica*) A160 Curlew (*Numenius arquata*) A162 Redshank (*Tringa tetanus*) A169 Turnstone (*Arenaria interpres*) A179 Black-headed Gull (*Chroicocephalus ridibundus*) A999 Wetlands **Potential Impact**

European Site Code	Name	Screened IN/OUT	Details/Reason
			The proposed development site is located approximately 11.5 km from this SPA. There is a direct hydrological pathway from the proposed development to this SPA via surface water drainage. During construction, there is the potential for dust and contaminated surface water runoff to enter the Owendoher River, a watercourse that traverses through a western portion of the subject site (Figure 11). During operation, surface water drainage will be discharged via a single outfall to the Owendoher River at the north-western corner of the subject site. Given that the Owendoher River outfalls to the River Dodder, which in turn outfalls to the marine environment at Dublin Bay, it is considered that there is a direct hydrological connection to this SPA. There is the potential for silt and contaminated surface water runoff to enter the Owendoher River with the potential for downstream impacts on this SPA. Mitigation measures are required. It should be noted that there is an existing mill race that bounds the southern boundary of the subject site. Following an examination of historical 6-inch mapping, there is a weir located along the Owendoher River that acts as the source of this waterbody. This mill race then ultimately outfalls back to the Owendoher River (see Figure 12). Out of an abundance of caution, it is considered that there is the potential for silt and contaminated runoff to enter this waterbody and transport pollutants to the Owendoher River. Foul wastewater will be directed to an existing public foul network located on Edmondstown Road, which in turn discharges to Ringsend Wastewater Treatment Plant (WwTP) for treatment. Foul wastewater will be treated at Ringsend WwTP. In the absence of mitigation, no significant effects on the qualifying interests of this SPA are likely via the indirect hydrological pathway of foul wastewater drainage. Given the minimum distance to this SPA (11.5 km) across a densely populated urban environment, no significant noise or vibration impacts on the bird species protected as qualifying interests of this SPA are foreseen. Further, as outlined in Wintering Bird Survey prepared for this planning application (Appendix I): '*Results suggest that the site is not significant ex-situ foraging or roosting site for species of qualifying interest from nearby Special protection areas (SPA's). Species of more significant interest in the context of the site's location such as Brent Geese, Curlew, Oystercatcher etc. were not recorded passing over the site. Herring Gull were noted to regularly pass over especially the north side of the site, none were noted foraging on-site with the few small open areas on-site noted as sub-optimal for foraging (long rough grass type).'* No significant effects on the qualifying interests of this SPA are likely. In the absence of mitigation measures, it is considered that significant effects on the qualifying interests of this SPA are likely via surface water drainage during the construction and operational phases of development. **Stage 2 AA (Natura Impact Statement) is Required.**

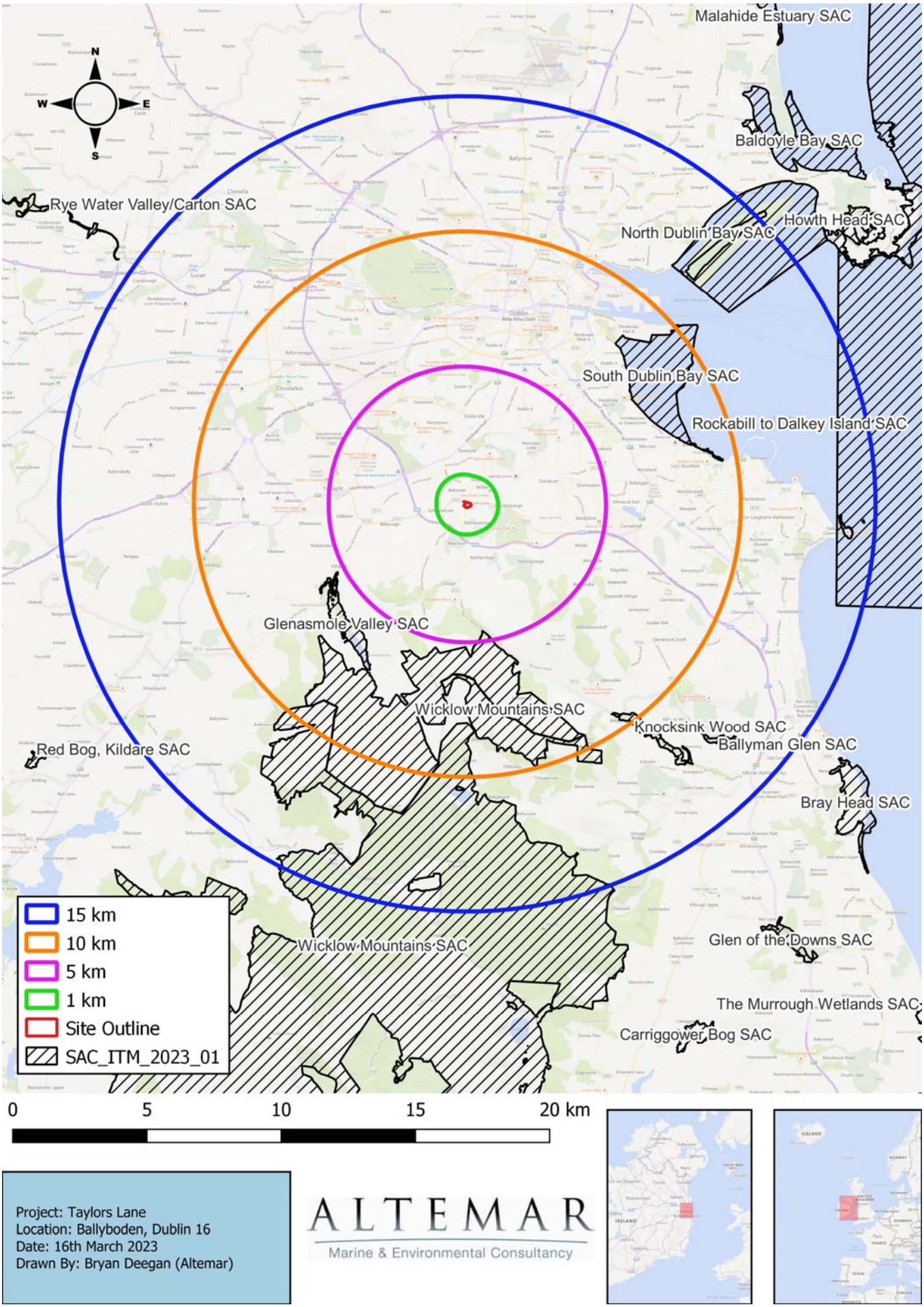


Figure 9. Special Areas of Conservation located within 15km of the proposed development

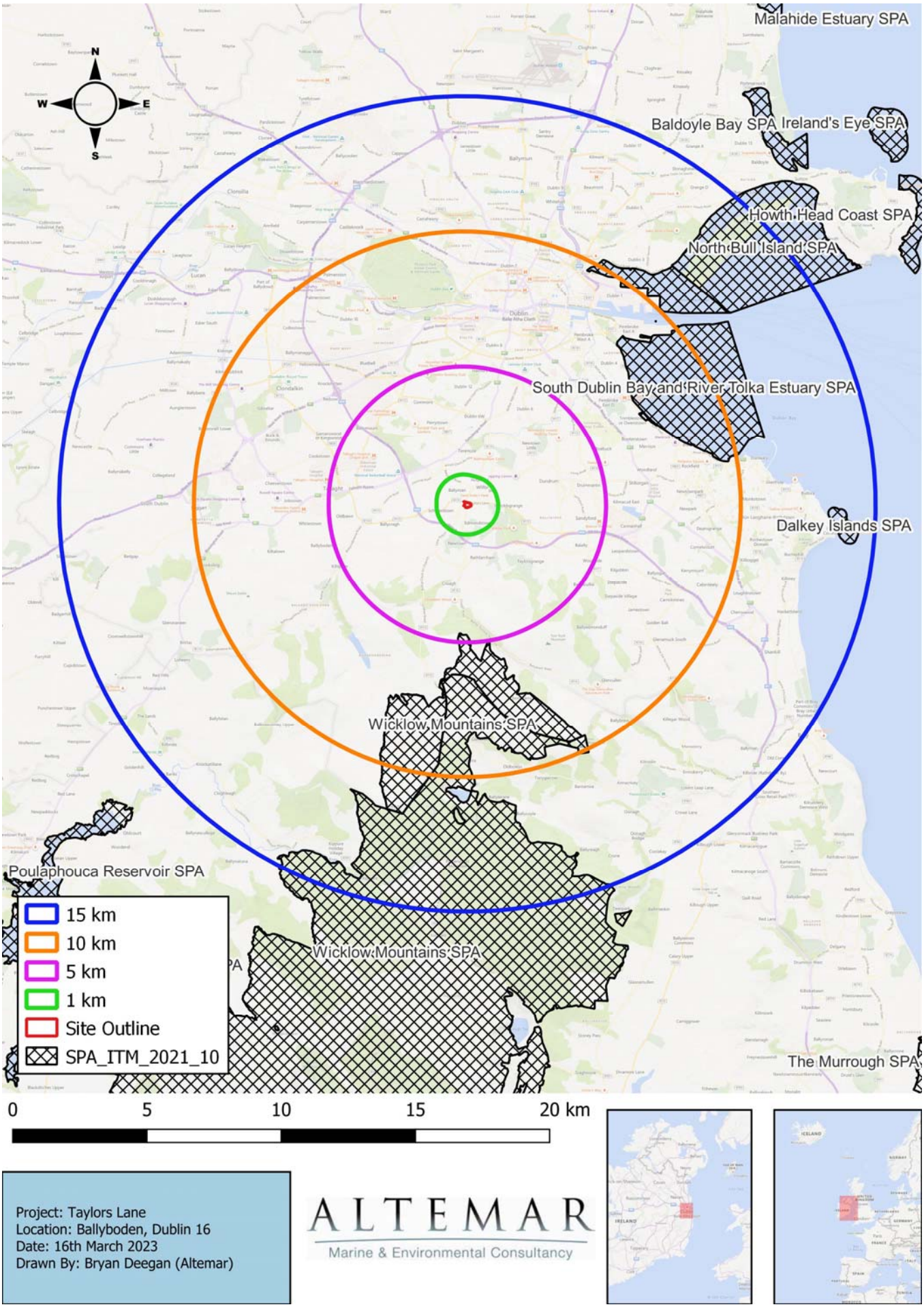


Figure 10. Special Protected Areas located within 15km of the proposed development

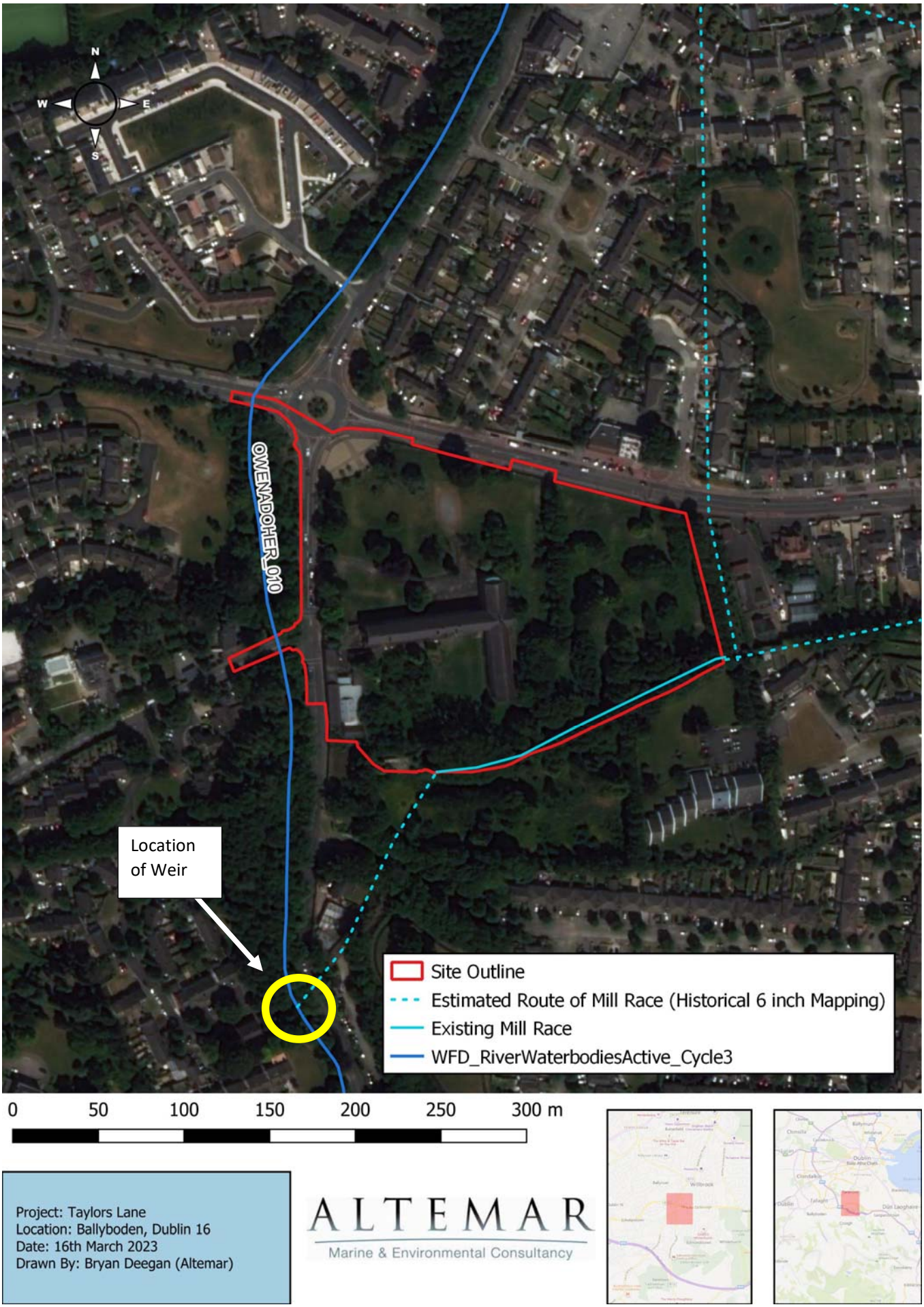


Figure 11. Waterbodies within the proposed development site.

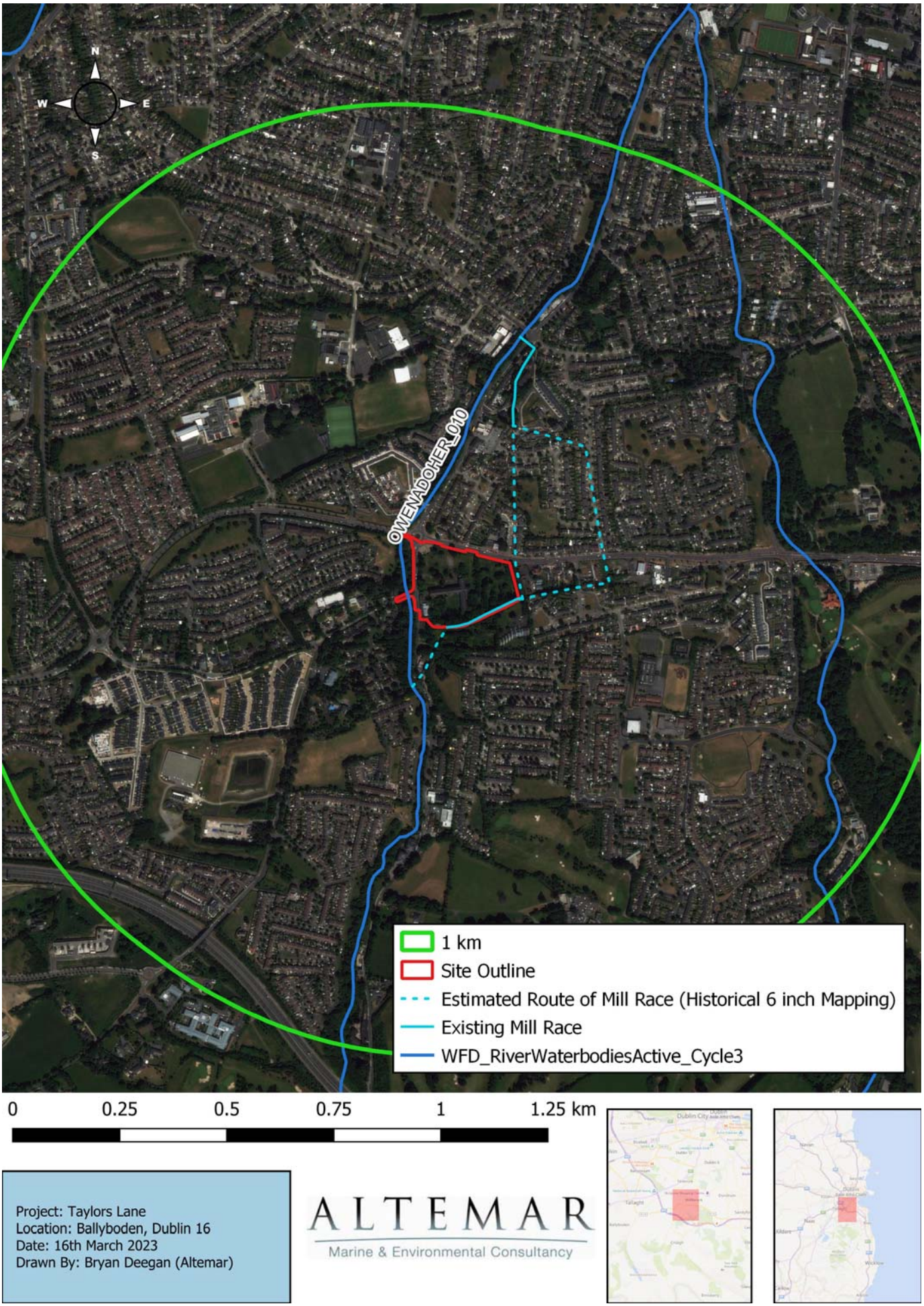


Figure 12. Waterbodies within 1km of the proposed development site.

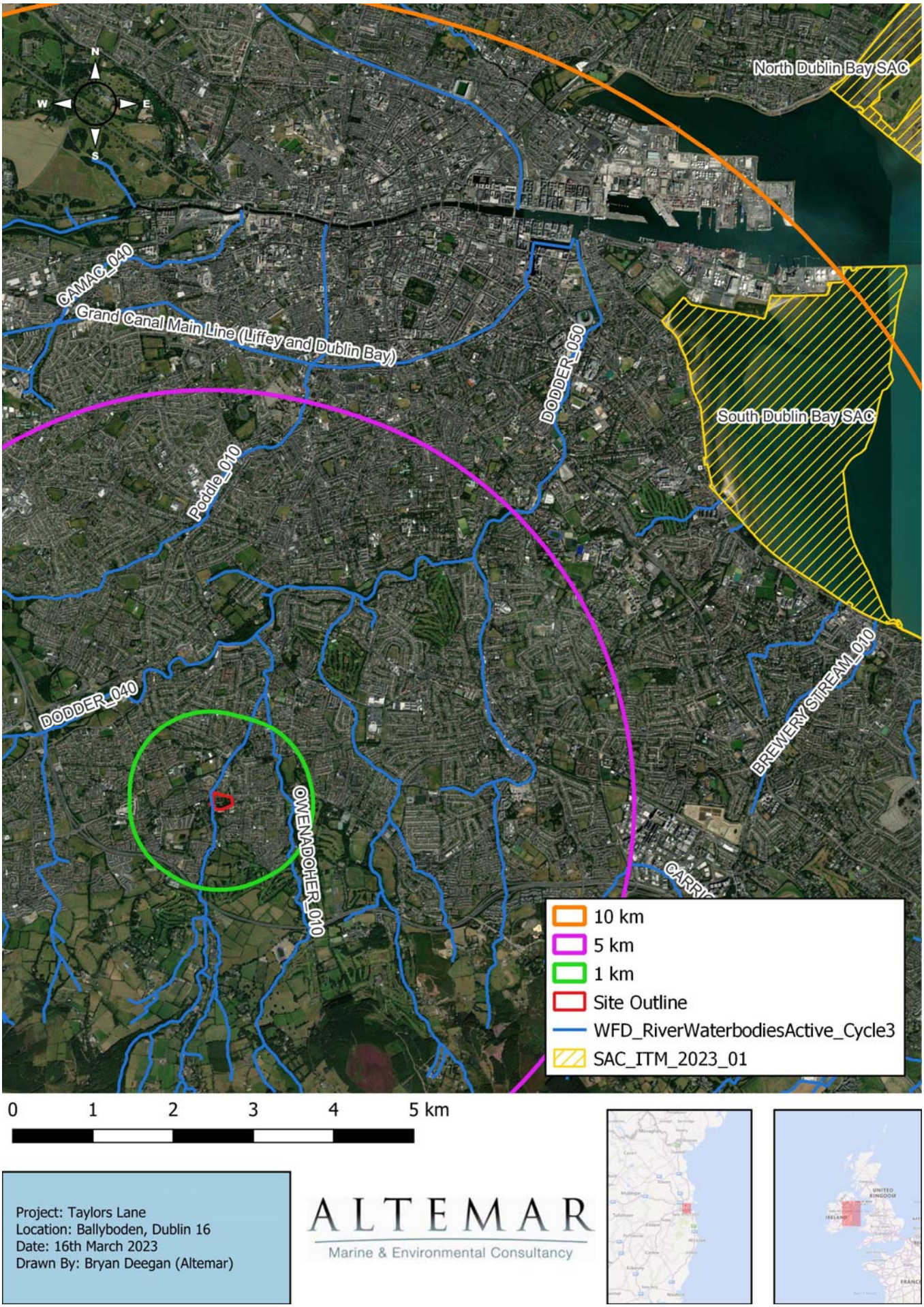


Figure 13. Watercourses and SACs with a hydrological pathway to the proposed development site

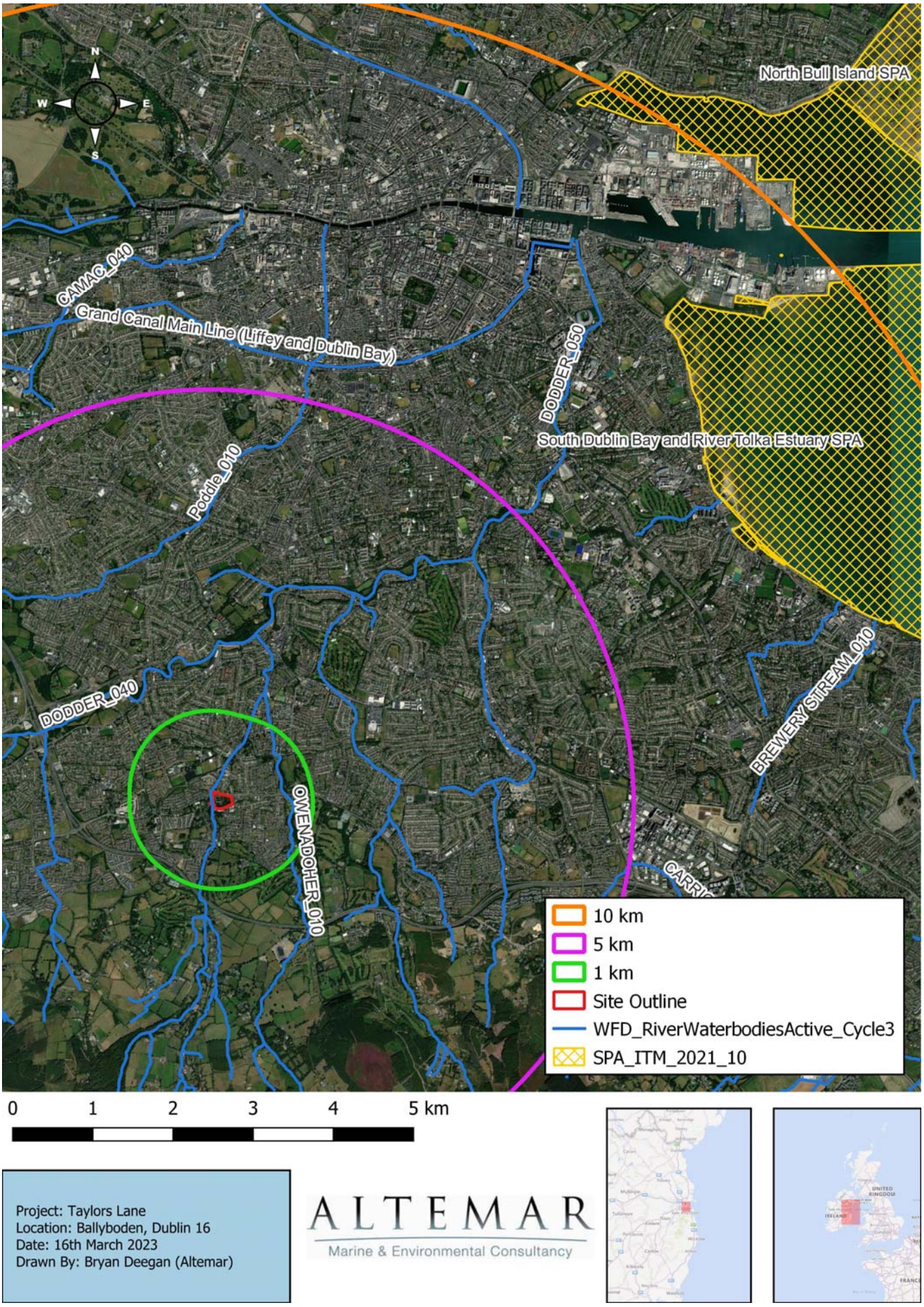


Figure 14. Watercourses and SPAs with a hydrological pathway to the proposed development site

In-Combination Effects

A review of developments and proposed developments was completed as part of this assessment. The following projects and plans were reviewed and considered for possible in combination effects with the Proposed Development. Table 3 details the existing, proposed and granted planning permissions on record in the area:

***Table 3**. In combination effects evaluated.*

Ref. No.	Address	Proposal
SHD3ABP-311616-21	Stocking Lane, Ballyboden, Dublin 16.	131 residential units including 21 houses (1 three bed, 11 four bed, 9 five bed)
SD20A/0059	Taylor's Lane, Ballyboden, Dublin 16	Alteration and additions (increasing the overall floor area from 2042.3sq.m to 2
SHD3ABP-308763-20	Stocking Lane, Ballyboden, Dublin 16.	131 residential units including: 21 houses, 51 duplex apartment units
SD18A/0225	2.4 ha, Stocking Lane, Ballyboden, Dublin 16.	Three apartment blocks, two and three storeys in height
SD13A/0222/EP	Grounds adjoining St. Augustines Priory, Edmondstown Road, Dublin 16.	Erection of a new Primary Care Centre of 3,841sq.m. of 1-4 storeys; construction of new vehicle/bicycle entranceway in Edmondstown Road to replace the existing entrance; a new pedestrian entranceway on Edmondstown Road and two new pedestrian entranceways on Moyville; extensive new site landscaping works to include new boundary treatment, pedestrian and cycle paths and planting and parking for 81 cars, 2 ambulances and 26 bicycles; site signage to be erected at Edmonstown Road entrance.
SD13A/0222	Grounds adjoining St. Augustines Priory, Edmondstown Road, Dublin 16.	Erection of a new Primary Care Centre of 3,841sq.m. of 1-4 storeys; construction of new vehicle/bicycle entranceway in Edmondstown Road to replace the existing entrance; a new pedestrian entranceway on Edmondstown Road and two new pedestrian entranceways on Moyville; extensive new site landscaping works to include new boundary treatment, pedestrian and cycle paths and planting and parking for 81 cars, 2 ambulances and 26 bicycles; site signage to be erected at Edmonstown Road entrance.

In relation to Planning Ref. **SHD3ABP-311616-21**, an Appropriate Assessment Screening Report was prepared by Biosphere Environmental Services to accompany this application. This report concludes with the following:

'*On the basis of the findings of this screening report for Appropriate Assessment, it is concluded that the project:*

(i) is not directly connected with or necessary to the management of a Natura 2000 site, and
(ii) significant impacts on the Natura 2000 network are not foreseen.

Based on this information, and beyond reasonable scientific doubt, we have demonstrated that the development, either individually or in combination with other plans or projects, would not be likely to have a significant effect on any Natura 2000 site. Therefore, it is considered that a Stage 2 Appropriate Assessment is not required.'

It is considered that in combination effects with other existing and proposed developments in proximity to the application area would be unlikely, neutral, not significant and localised. It is concluded that no significant effects on Natura 2000 sites will be seen as a result of the proposed development alone or combination with other projects.

From a review of the above, it is concluded that no projects in the vicinity of the proposed development would be seen to have a significant in combination effect on Natura 2000 sites.

Further Information on European Sites Screened In for NIS

South Dublin Bay SAC (Site code: 000210)

As outlined in the South Dublin Bay SAC Site Synopsis[2] (NPWS, version date 10.12.2015):

'*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 European codes):*

[1140] Tidal Mudflats and Sandflats
[1210] Annual vegetation of drift lines
[1310] Salicornia and other annuals colonising mud and sand
[2110] Embryonic shifting dunes

The bed of Dwarf 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, and incipient dune formations. South Dublin Bay is also an internationally important bird site.'

The European Standard Data Form (2020)[3] states that:

[2] https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY000210.pdf
[3] https://www.npws.ie/sites/default/files/protected-sites/natura2000/NF000210.pdf

'*This intertidal site extends from the South Wall at Dublin Port to the West Pier at Dun Laoghaire, a distance of c. 5 km. At their widest, the intertidal flats extend for almost 3 km. The seaward boundary is marked by the low tide mark, while the landward boundary is now almost entirely artificially embanked. 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. A number of small streams and drains flow into the site. The proximity of the site to Dublin City results in it being a very popular recreational area. It is also important for educational and research purposes.*

Site possesses a fine and fairly extensive example of intertidal flats. Sediment type is predominantly sand, with muddy sands in the more sheltered areas. A typical macro-invertebrate fauna exists. Has the largest stand of Zostera on the east coast. Supports part of the important wintering waterfowl populations of Dublin Bay. Regularly has an internationally population of Branta bernicila horta, plus nationally important numbers of at least a further 6 species, including Limosa lapponica. Regular autumn roosting ground for significant numbers of Sterna terns, including S. dougallii. The scientific interests of the site have been well documented.'

As outlined in the Conservation objectives supporting document[4] (NPWS, 2013), it is an objective:

'*To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in South Dublin Bay SAC, which is defined by the following list of attributes and targets.''*

Target 1: *''The permanent habitat area is stable or increasing, subject to natural processes.''*

Target 2: *''Maintain the extent of the Zostera-dominated community, subject to natural processes.''*

Target 3: *''Conserve the high quality of the Zostera-dominated community, subject to natural processes.''*

Target 4: *''Conserve the following community type in a natural condition: Fine sands with Angulus tenuis community complex.'*

4 https://www.npws.ie/sites/default/files/publications/pdf/000210_South%20Dublin%20Bay%20SAC%20Marine%20Supporting%20Doc_V1.pdf

Figure 1. Extent of Mudflats and sandflats not covered by seawater at low tide in South Dublin Bay SAC

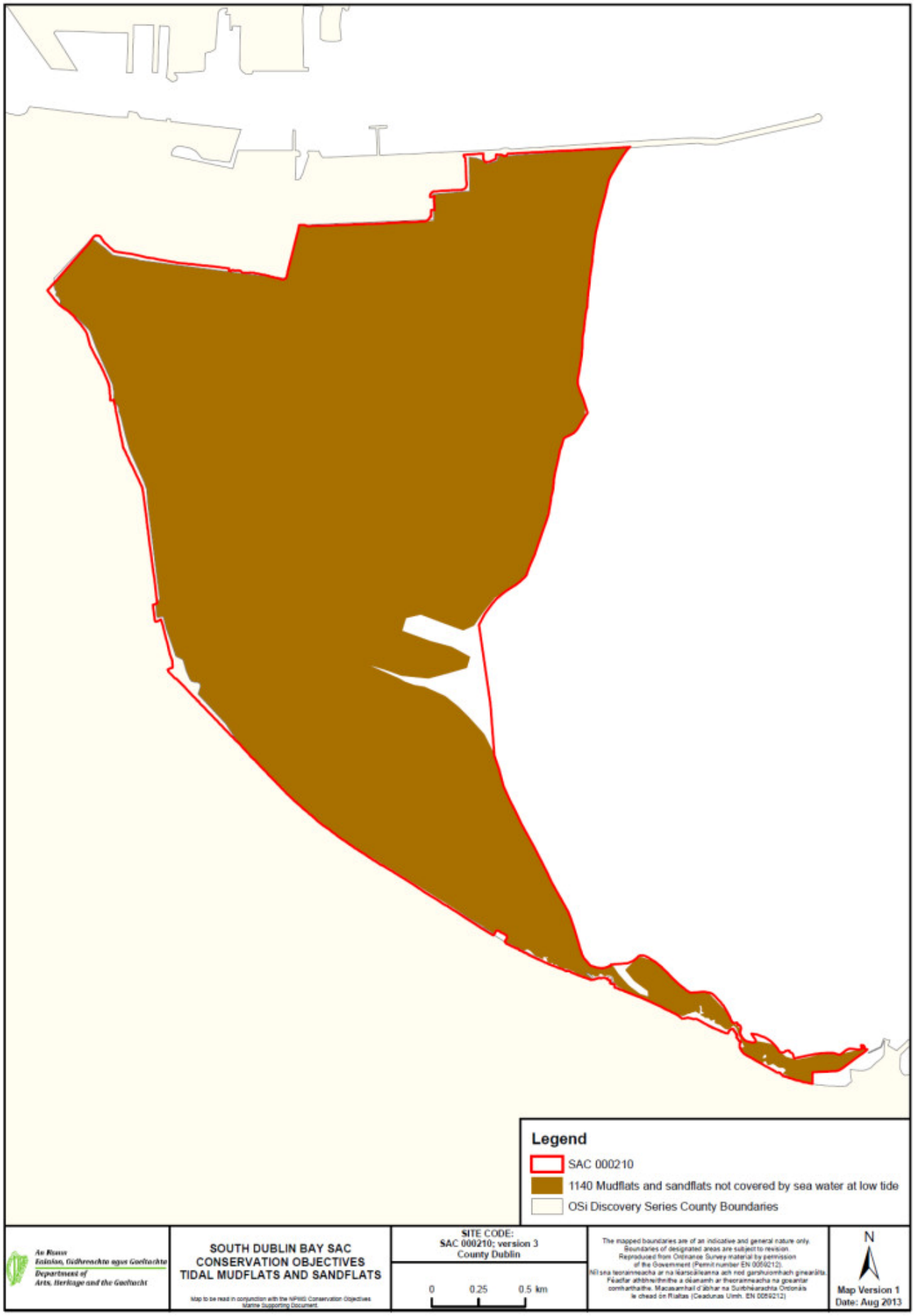
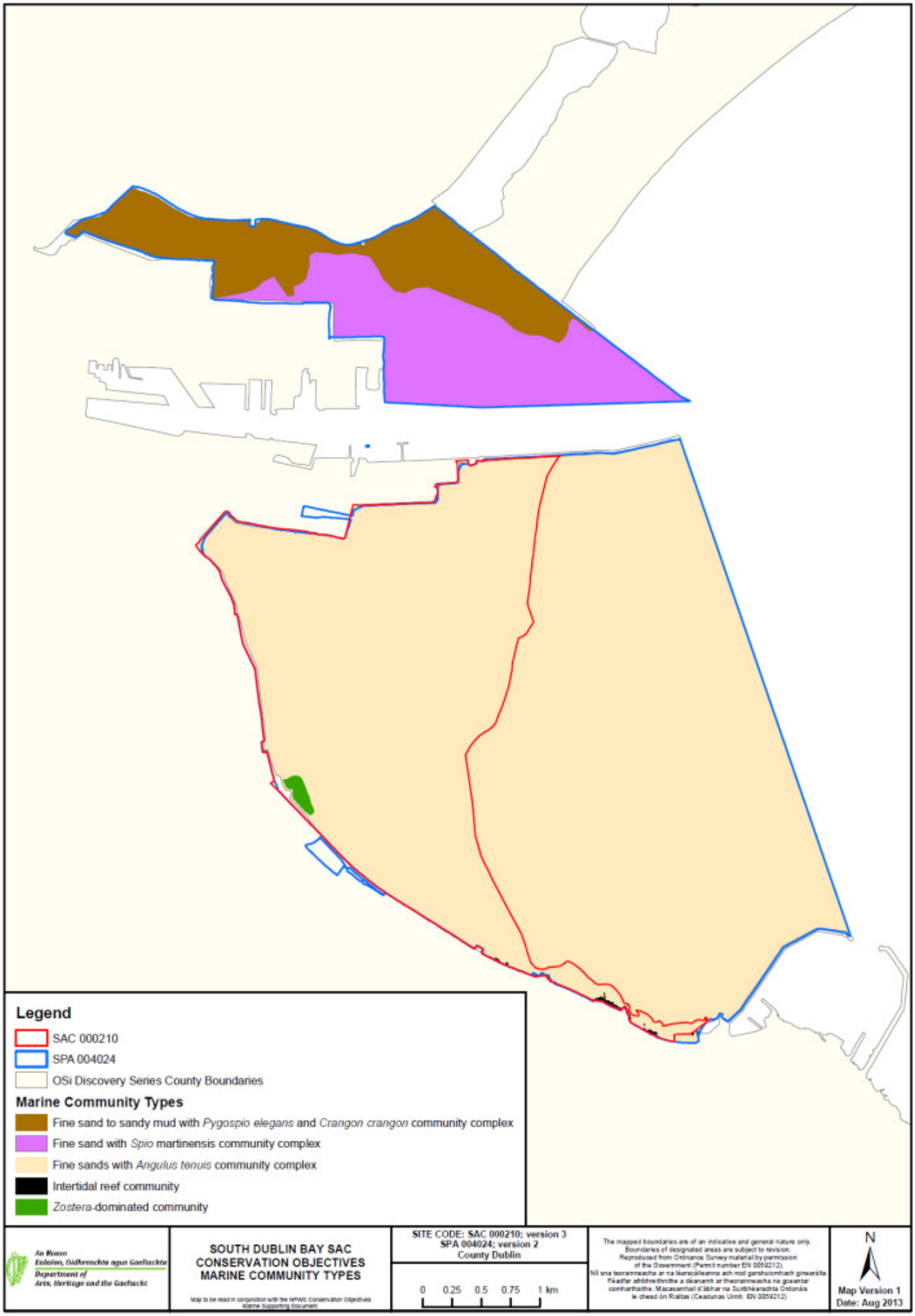


Figure 2. Distribution of community types in South Dublin Bay SAC



North Dublin Bay SAC (Site code: 000206)

As outlined in the North Dublin Bay SAC Site Synopsis[5] (NPWS, version date 12.08.2013):

'*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 European 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

[5] https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY000206.pdf

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.'

The European Standard Data Form (2020)[6] states that:

'*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 5km long and 1km wide and runs parallel to the coast between Clontarf and Sutton. The sediment which forms the island is predominantly glacial in origin and siliceous in nature. Between the island and the mainland there occurs two sheltered intertidal areas which are separated by a solid causeway constructed in 1964. The seaward side of the island has a fine sandy beach. A substantial area of shallow marine water is included in the site. The interior of the island is excluded from the*

[6] https://www.npws.ie/sites/default/files/protected-sites/natura2000/NF000206.pdf

site as it has been converted to golf courses. The proximity of the North Bull Island to Dublin City results in it being a very popular recreational area. It is also very important for educational and research purposes. Nature conservation is a main landuse within the site.

Site possesses an excellent diversity of coastal habitats. The North Bull Island dune system is one of the most important systems on the east coast and is one of the few in Ireland that is actively accreting. It possesses extensive and mostly good quality examples of embryonic, shifting marram and fixed dunes, as well as excellent examples of humid dune slacks. Both Atlantic and Mediterranean salt marshes are well represented and a particularly good marsh zonation is shown. The salt marshes grade into mudflats and sandflats, some of which are dominated by annual Salicornia species. Petalophyllum ralfsii occurs at its only known station away from the western seaboard. The site has five Red Data Book vascular plant species and four Red Data Book bryophyte species. This is one of the most important sites for wintering waterfowl in Ireland, with internationally important populations of Branta bernicla horta, Calidris canutus and Limosa lapponica, plus nationally important numbers of a further 14 species. 20% of the national total of Pluvialis squatarola occurs here. Formerly it had important colony of Sterna albifrons. North Dublin Bay is nationally important for three insect species. The scientific interests of the site have been well documented and future prospects are good owing to the various designations assigned to site.'

As outlined in the Conservation objectives supporting document (NPWS, 2013):

'*North Dublin Bay SAC (site code: 206) is designated for a range of coastal habitats, including mudflats and salt flats, saltmarsh and sand dunes. The following eight coastal habitats are included in the qualifying interests for the site (* denotes a priority habitat):*

- *Salicornia and other annuals colonising mud and sand (1310)*
- *Atlantic salt meadows (Glauco-Puccinellietalia maritimae) (ASM) (1330)*
- *Mediterranean salt meadows (Juncetaliea maritimi) (MSM) (1410)*
- *Annual vegetation of drift lines (1210)*
- *Embryonic shifting dunes (2110)*
- *Shifting dunes along the shoreline with Ammophila arenaria (white dunes) (2120)*
- *Fixed coastal dunes with herbaceous vegetation (grey dunes) (2130)**
- *Humid dune slacks (2190)*

The first three are saltmarsh habitats and the last five are associated with sand dune systems, although all eight of these habitats are found in close association with each other (McCorry, 2007; Ryle et al., 2009; Delaney et al., 2013).

This backing document sets out the conservation objectives for the eight coastal habitats listed above in North Dublin Bay SAC, which are defined by a list of parameters, attributes and targets. The main parameters are (a) Range (b) Area and (c) Structure and Functions, the last of which is broken down into a number of attributes, including physical structure, vegetation structure and vegetation composition.

The targets set for the saltmarsh habitats are based primarily on the results of the Saltmarsh Monitoring Project (SMP) (McCorry, 2007; McCorry & Ryle, 2009) and this document should be read in conjunction with those reports.'

An Roinn Ealaíon, Oidhreachta agus Gaeltachta
Department of Arts, Heritage and the Gaeltacht

MAP 3:
NORTH DUBLIN BAY SAC
CONSERVATION OBJECTIVES
TIDAL MUDFLATS AND SANDFLATS

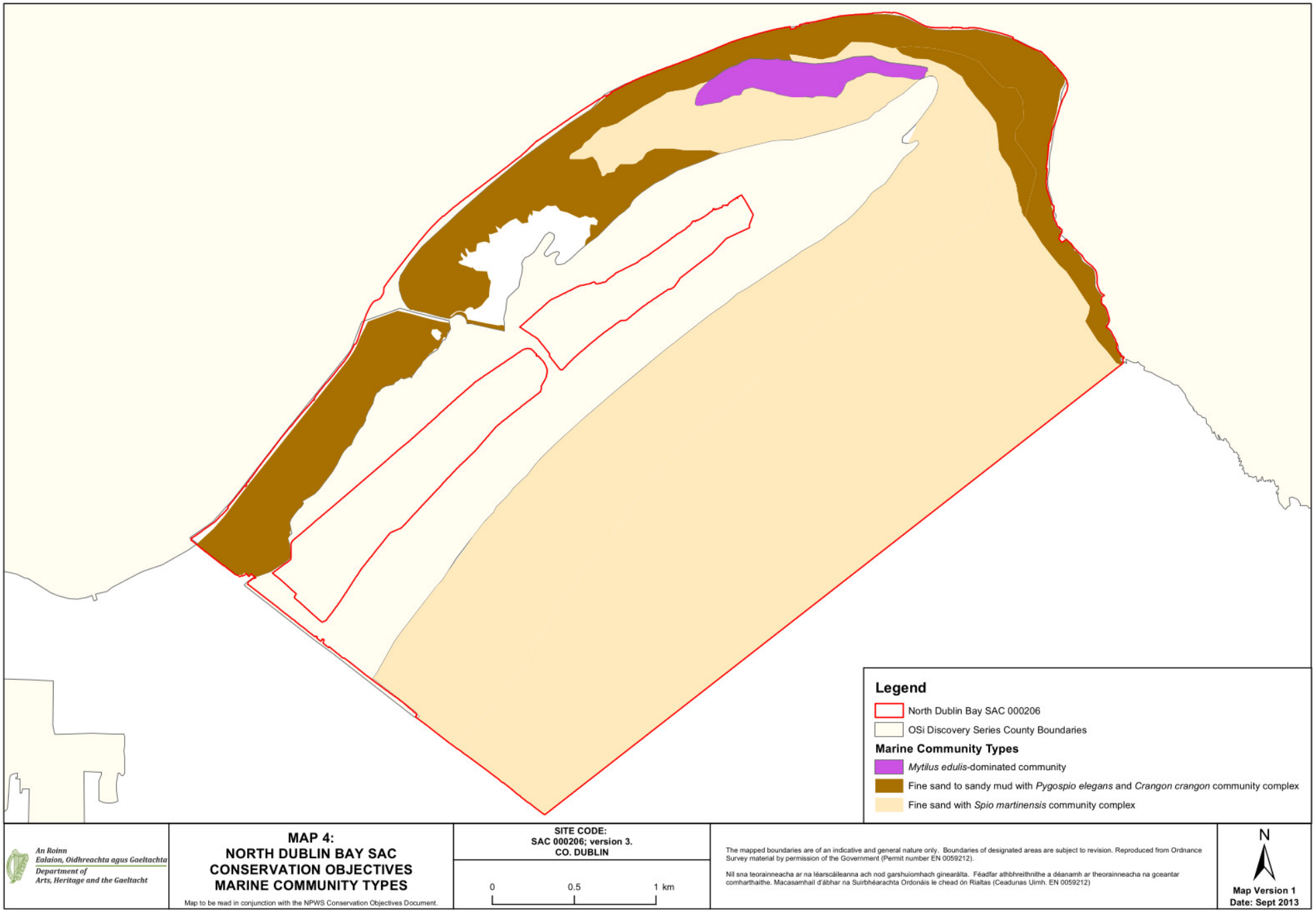
Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SAC 000206; version 3.
CO. DUBLIN

0 0.5 1 km

N

Map Version 1
Date: Sept 2013



An Roinn Ealaíon, Oidhreachta agus Gaeltachta
Department of Arts, Heritage and the Gaeltacht

MAP 4:
NORTH DUBLIN BAY SAC
CONSERVATION OBJECTIVES
MARINE COMMUNITY TYPES

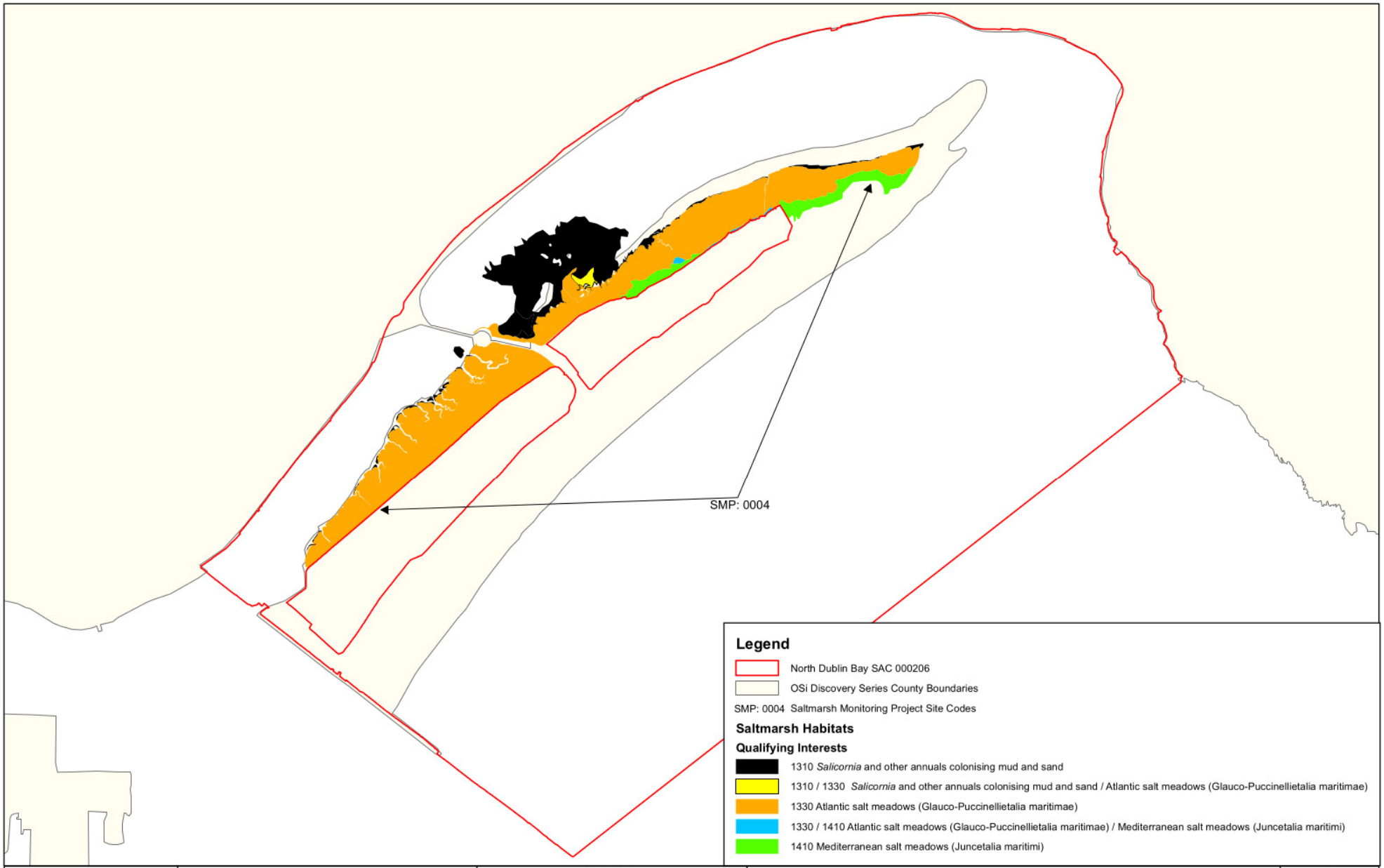
Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SAC 000206; version 3.
CO. DUBLIN

0 0.5 1 km

N

Map Version 1
Date: Sept 2013


SMP: 0004
Legend
North Dublin Bay SAC 000206
OSi Discovery Series County Boundaries
SMP: 0004 Saltmarsh Monitoring Project Site Codes
Saltmarsh Habitats
Qualifying Interests
1310 Salicornia and other annuals colonising mud and sand
1310 / 1330 Salicornia and other annuals colonising mud and sand / Atlantic salt meadows (Glauco-Puccinellietalia maritimae)
1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)
1330 / 1410 Atlantic salt meadows (Glauco-Puccinellietalia maritimae) / Mediterranean salt meadows (Juncetalia maritimi)
1410 Mediterranean salt meadows (Juncetalia maritimi)
An Roinn Ealaíon, Oidhreachta agus Gaeltachta
Department of Arts, Heritage and the Gaeltacht
MAP 5:
NORTH DUBLIN BAY SAC
CONSERVATION OBJECTIVES
SALTMARSH HABITATS
Map to be read in conjunction with the NPWS Conservation Objectives Document.
SITE CODE:
SAC 000206; version 3.
CO. DUBLIN
0
0.5
1 km
The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision. Reproduced from Ordnance Survey material by permission of the Government (Permit number EN 0059212).
Nil sna teorainneacha ar na léarscáileanna ach nod garshuiomhach ginearálta. Féadfar athbhreithnithe a déanamh ar theorainneacha na gceantar comharthaithe. Macasamhail d'ábhar na Suirbhéarachta Ordonáis le chead ón Rialtas (Ceadunas Uimh. EN 0059212)
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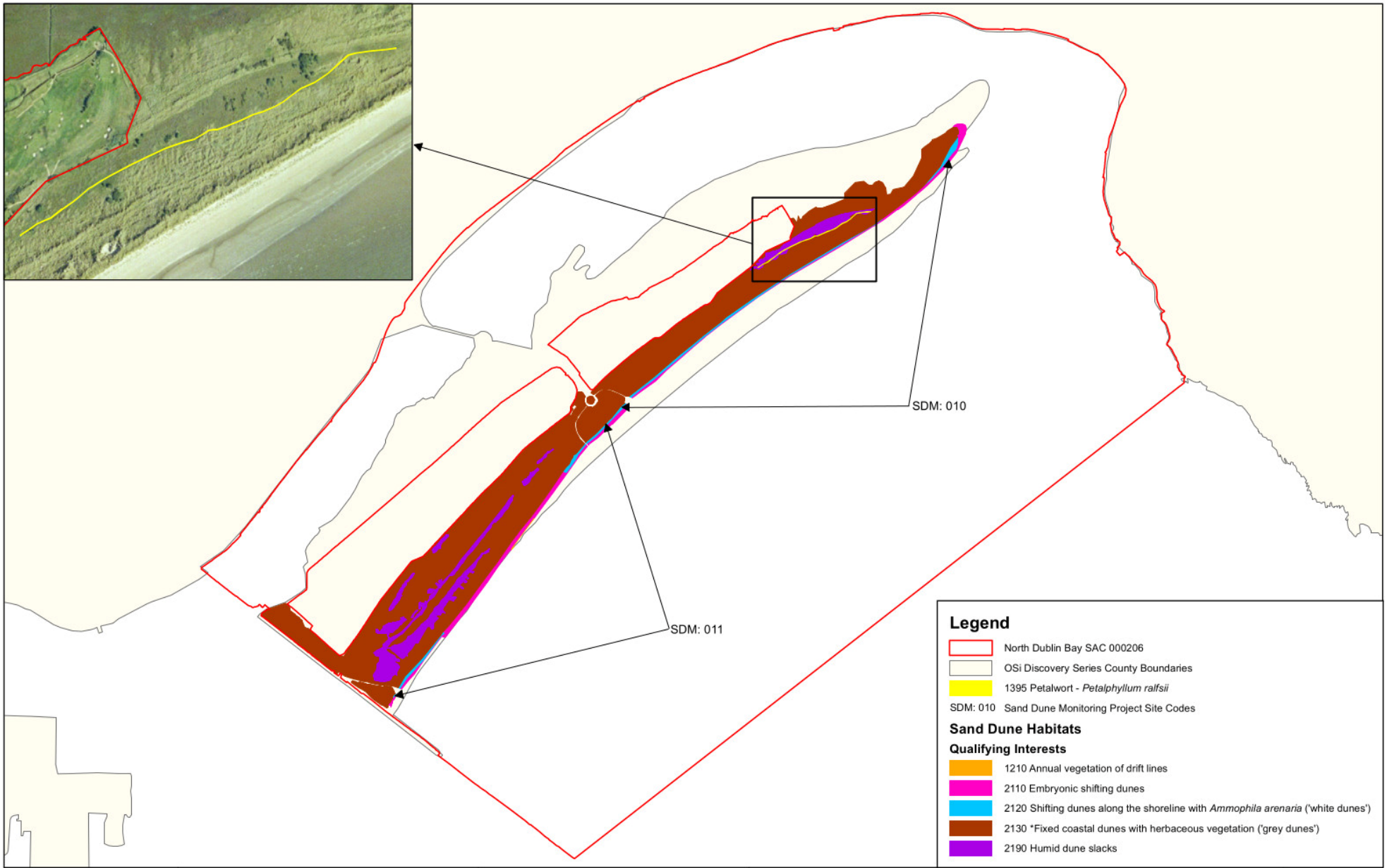
Map Version 1
Date: Sept 2012



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MAP 6:
NORTH DUBLIN BAY SAC
CONSERVATION OBJECTIVES
SAND DUNE HABITATS &
PETALWORT

Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SAC 000206; version 3.
CO. DUBLIN

0 0.5 1 km

The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision. Reproduced from Ordnance Survey material by permission of the Government (Permit number EN 0059212).

Nil sna teorainneacha ar na léarscáileanna ach nod garshuiomhach ginearálta. Féadfar athbhreithnithe a déanamh ar theorainneacha na gceantar comharthaithe. Macasamhail d'ábhar na Suirbhéarachta Ordonáis le chead ón Rialtas (Ceadunas Uimh. EN 0059212)

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Map Version 1
Date: Sept 2013

South Dublin Bay and River Tolka Estuary SPA (Site code: 004024)

As outlined in the South Dublin Bay and River Tolka Estuary SPA Site Synopsis[7]. (NPWS, version date 30.05.2015):

'*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 (Ulva spp.) are distributed throughout the area at a low density. The macroinvertebrate 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, 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 five year mean peaks for the period 1995/96 to 1999/2000. 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 (368) occurs regularly and newly arrived birds in the autumn feed on the Eelgrass bed at Merrion. At the time of designation the site supported nationally important numbers of a further nine species: Oystercatcher (1,145), Ringed Plover (161), Grey Plover (45), Knot (548), Sanderling (321), Dunlin (1,923), Bar-tailed Godwit (766), Redshank (260) and Black-headed Gull (3,040). Other species occurring in smaller numbers include Great Crested Grebe (21), Curlew (127) and Turnstone (52). Little Egret, a species which has recently colonised Ireland, also occurs at this site.

South Dublin Bay is a significant site for wintering gulls, with a nationally important population of Black-headed Gull, 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 in 1995 recorded nationally important numbers of Common Tern nesting here (52 pairs). The breeding population of Common Tern at this site has increased, with 216 pairs recorded in 2000. 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.

South Dublin Bay is an important staging/passage site for a number of tern species in the autumn (mostly late July to September). The origin of many of the birds is likely to be the Dublin breeding sites (Rockabill and the

[7] https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY004024.pdf

Dublin Docks) though numbers suggest that the site is also used by birds from other sites, perhaps outside the state. This site is selected for designation for its autumn tern populations: Roseate Tern (2,000 in 1999), Common Tern (5,000 in 1999) and Arctic Tern (20,000 in 1996).

The South Dublin Bay and River Tolka Estuary SPA is of ornithological importance as it supports an internationally important population of Light-bellied Brent Goose and nationally important populations of a further nine wintering species. Furthermore, the site supports a nationally important colony of breeding Common Tern and is an internationally important passage/staging site for three tern species. It is of note that four of the species that regularly occur at this site are listed on Annex I of the E.U. Birds Directive, i.e. Bar-tailed Godwit, Common Tern, Arctic Tern and Roseate Tern. Sandymount Strand/Tolka Estuary is also a Ramsar Convention site.'

The European Standard Data Form (2020)[8] states that:

'*This site comprises a substantial part of Dublin Bay. It includes virtually all of the intertidal area in the south bay, as well as much of the Tolka Estuary to the north of the River Liffey. A portion of the shallow bay waters 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. The sands support the largest stand of Zostera noltii on the East Coast. 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. 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 proximity of the site to Dublin City results in it being a very popular recreational area. It is also important for educational and research purposes.*

The site possesses extensive intertidal flats which support wintering waterfowl which are part of the overall Dublin Bay population. It regularly has an internationally important population of Branta bernicla hrota, which feeds on Zostera noltii in the autumn. It has nationally important numbers of a further 6 species: Haematopus ostralegus, Charadrius hiaticula, Calidris canutus, Calidris alba, Calidris alpina and Limosa lapponica. It is an important site for wintering gulls, especially Larus ridibundus and Larus canus. South Dublin Bay is the premier site in Ireland for Larus melanocephalus, with up to 20 birds present at times. Is a regular autumn roosting ground for significant numbers of terns, including Sterna dougallii, S. hirundo and S. paradisaea.'

According to the conservation Objectives Supporting Document[9] (NPWS 2014) for the South Dublin Bay and River Tolka Estuary SPA:

'*The overarching Conservation Objective for North Bull Island Special Protection Area, and for South Dublin Bay and River Tolka Estuary Special Protection Area, is to ensure that waterbird populations and their wetland habitats are maintained at, or restored to, favourable conservation condition. This includes, as an integral part, the need to avoid deterioration of habitats and significant disturbance; thereby ensuring the persistence of site integrity.*

The site should contribute to the maintenance and improvement where necessary, of the overall favourable status of the national resource of waterbird species, and continuation of their long-term survival across their natural range.

Conservation Objectives for North Bull Island Special Protection Area, and for South Dublin Bay and River Tolka Estuary Special Protection Area, based on the principles of favourable conservation status, are described below and summarised in Table 3.1. Note that these objectives should be read and interpreted in the context of information and advice provided in additional sections of this report.

Objective 1: To maintain the favourable conservation condition of the non-breeding waterbird Special Conservation Interest species listed for North Bull Island SPA and South Dublin Bay and River Tolka Estuary SPA.

[8] https://www.npws.ie/sites/default/files/protected-sites/natura2000/NF004024.pdf

[9] *Note that 'population' refers to site population (numbers wintering at the site) rather than the species biogeographic population.*
https://www.npws.ie/sites/default/files/publications/pdf/South%20Dublin%20Bay%20and%20River%20Tolka%20Estuary%20SPA%20(004024)%20Conservation%20objectives%20supporting%20document%20-%20[Version%201].pdf

This objective is defined by the following attributes and targets:

- *To be favourable, the long term population trend for each waterbird Special Conservation Interest species should be stable or increasing. Waterbird populations are deemed to be unfavourable when they have declined by 25% or more, as assessed by the most recent population trend analysis.*
- *To be favourable, there should be no significant decrease in the range, timing or intensity of use of areas by the waterbird species of Special Conservation Interest, other than that occurring from natural patterns of variation.*

Factors that can adversely effect the achievement of Objective 1 include:

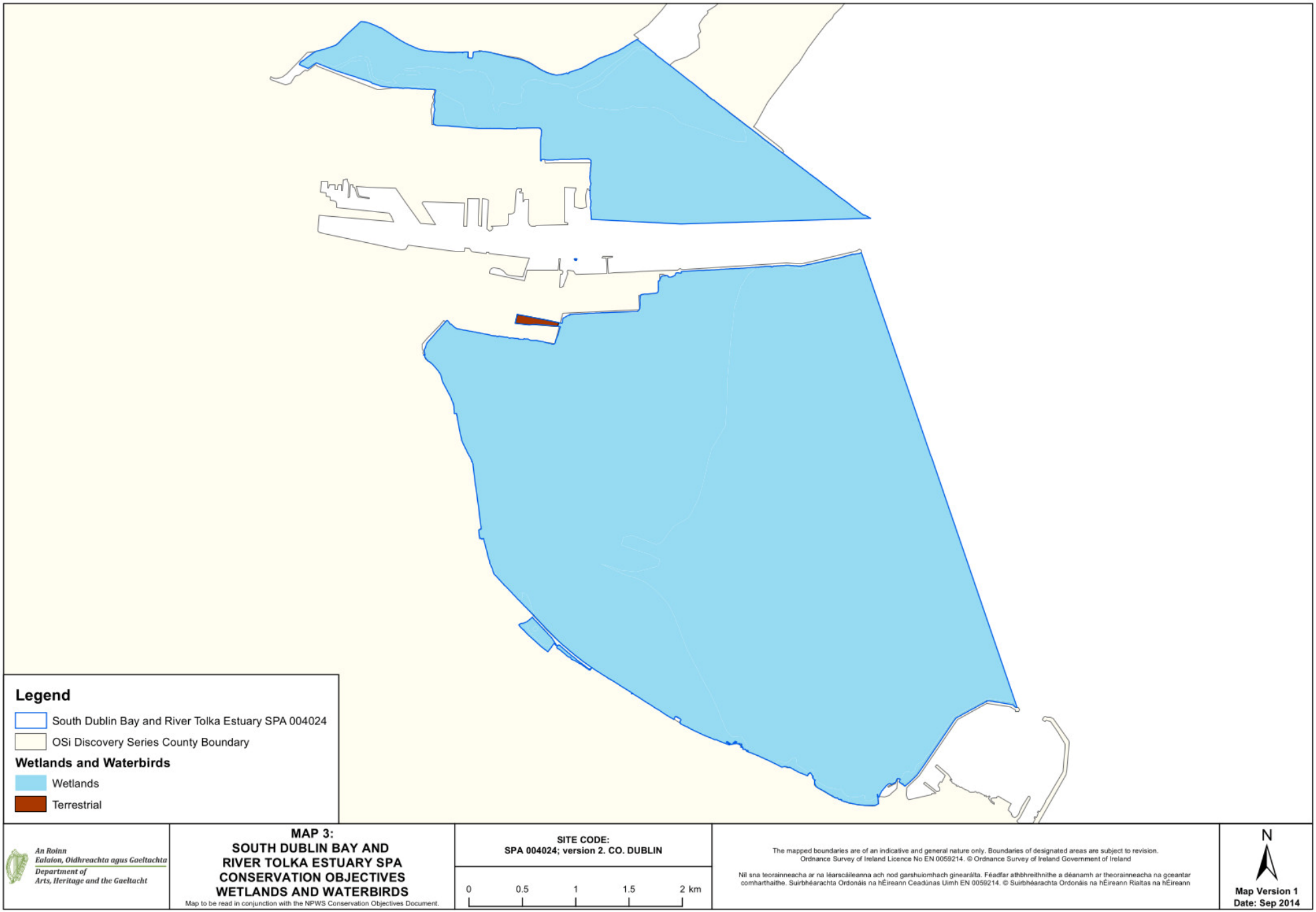
- *Habitat modification: activities that modify discreet areas or the overall habitat(s) within the SPA in terms of how one or more of the listed species use the site (e.g. as a feeding resource) could result in the displacement of these species from areas within the SPA and/or a reduction in their numbers (for further discussion on this topic please refer to Section 5.4).*
- *Disturbance: anthropogenic disturbance that occurs in or near the site and is either singular or cumulative in nature could result in the displacement of one or more of the listed waterbird species from areas within the SPA, and/or a reduction in their numbers (for further discussion on this topic please refer to Section 5.4).*
- *Ex-situ factors: several of the listed waterbird species may at times use habitats situated within the immediate hinterland of the SPA or in areas ecologically connected to it. The reliance on these habitats will vary from species to species and from site to site. Significant habitat change or increased levels of disturbance within these areas could result in the displacement of one or more of the listed waterbird species from areas within the SPA, and/or a reduction in their numbers (for further information on this topic please refer to Section 5.2).*

Objective 2. To maintain the favourable conservation condition of the wetland habitat at North Bull Island SPA and South Dublin Bay and River Tolka Estuary SPA as a resource for the regularly-occurring migratory waterbirds that utilise these areas.

This objective is defined by the following attributes and targets:

- *To be favourable, the permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 3,904 ha, other than that occurring from natural patterns of variation.*

This objective seeks to maintain the permanent extent of the wetland habitats that are contained within the boundary of these two SPAs, and which constitute an important resource for regularly-occurring migratory waterbirds (note that the total designated area also contains some non-wetland habitat).'


Legend
South Dublin Bay and River Tolka Estuary SPA 004024
OSi Discovery Series County Boundary
Wetlands and Waterbirds
Wetlands
Terrestrial
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Department of Arts, Heritage and the Gaeltacht
MAP 3:
SOUTH DUBLIN BAY AND RIVER TOLKA ESTUARY SPA CONSERVATION OBJECTIVES WETLANDS AND WATERBIRDS
Map to be read in conjunction with the NPWS Conservation Objectives Document.
SITE CODE:
SPA 004024; version 2. CO. DUBLIN
0 0.5 1 1.5 2 km
The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision.
Ordnance Survey of Ireland Licence No EN 0059214. © Ordnance Survey of Ireland Government of Ireland
Níl sna teorainneacha ar na léarscáileanna ach nod garshuiomhach ginearálta. Féadfar athbhreithnithe a déanamh ar theorainneacha na gceantar comharthaithe. Suirbhéarachta Ordonáis na hÉireann Ceadúnas Uimh EN 0059214. © Suirbhéarachta Ordonáis na hÉireann Rialtas na hÉireann
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Map Version 1
Date: Sep 2014

North Bull Island SPA (Site code: 004006)

As outlined in the North Bull Island SPA Site Synopsis[10] (NPWS, version date 25.03.2014)

'*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.*

Saltmarsh extends along the length of the landward side of the island and provides the main roost site for wintering birds in Dublin Bay. 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. Green algal mats (Ulva spp.) 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).

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, 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. The site supports internationally important populations of three species, Light-bellied Brent Goose (1,548), Black-tailed Godwit (367) and Bar-tailed Godwit (1,529) - all figures are mean peaks for the five winters between 1995/96 and 1999/2000. The site is one of the most important in the country for Light-bellied Brent Goose. A further 14 species have populations of national importance – Shelduck (1,259), Teal (953), Pintail (233), Shoveler (141), Oystercatcher (1,784), Grey Plover (517), Golden Plover (2,033), Knot (2,837), Sanderling (141), Dunlin (4,146), Curlew (937), Redshank (1,431), Turnstone (157) and Black-headed Gull (2,196). The populations of Pintail and Knot are of particular note as they comprise 14% and 10% respectively of the all-Ireland population totals. Other species that occur regularly in winter include Grey Heron, Little Egret, Cormorant, Wigeon, Goldeneye, Red-breasted Merganser, Ringed Plover and Greenshank. Gulls are a feature of the site during winter and, along with the nationally important population of Black-headed Gull (2,196), other species that occur include Common Gull (332) and Herring Gull (331). 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 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 Light-bellied 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. North Bull Island is a Ramsar Convention site, and part of the North Bull Island SPA is a Statutory Nature Reserve and a Wildfowl Sanctuary.'

[10] https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY004006.pdf

The European Standard Data Form (2020)[11] states that:

'*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 5km long and 1km wide and runs parallel to the coast between Clontarf and Sutton. The sediment which forms the island is predominantly glacial in origin and siliceous in nature. A well-developed dune system runs the length of the island, with good examples of embryonic, shifting marram and fixed dunes, as well as excellent examples of humid dune slacks. Extensive salt marshes also occur. Between the island and the mainland occur two sheltered intertidal areas which are separated by a solid causeway constructed in 1964. The seaward side of the island has a fine sandy beach. A substantial area of shallow marine water is included in the site. Part of the interior of the island has been converted to golf courses. The proximity of the North Bull Island to Dublin City results in it being a very popular recreational area. It is also very important for educational and research purposes. Nature conservation is a main landuse within the site.*

The site is among the top ten sites for wintering waterfowl in the country. It supports internationally important populations of Branta bernicila hrota and Limosa lapponica and is the top site in the country for both of these species. A further 14 species have populations of national importance, with particular notable numbers of Tadorna tadorna (8.5% of national total), Anas acuta (11.6% of national total), Pluvialis squatarola (6.9% of national total), Calidris canutus (10.5% of national total). North Bull Island SPA is a regular site for passage waders such as Philomachus pugnax, Calidris ferruginea and Tringa erythropus. The site supports Asio flammeus in winter. Formerly the site had an important colony of Sterna albifrons but breeding has not occurred in recent years. The site provides both feeding and roosting areas for the waterfowl species. Habitat quality for most of the estuarine habitats is very good. The site has a population of the rare Petalophyllum ralfsii which is the only known station away from the western seaboard as well as five Red Data Book vascular plant species and four bryophyte species. It is nationally important for three insect species. Wintering bird populations have been monitored more or less continuously since the late 1960s, and the other scientific interests of the site have also been well documented. Future prospects are good owing to various designations assigned to site.'

The North Bull Island SPA Conservation Objectives Supporting Document[12] (NPWS, 2014) states the following:

'*North Bull Island lies roughly parallel to the shore and is a low-lying sandy spit, about 4.85 km long and 0.70 km wide (McCorry & Ryle, 2009a). It is a relatively recent geomorphological feature having emerged as a result of the build up of sediment over the last 200 years following the construction of the South and North Bull walls during the 18th and 19th centuries. The North Bull Wall marks the southern boundary of the island and is connected to the mainland by a wooden bridge. The island is actively accreting (Ryle et al. 2009a). A sandy beach, Dollymount Strand, occurs on the seaward side of the island and intertidal mudflats occur on the inner (mainland side) fringed by saltmarsh. A causeway built in 1965 provides the main access to the island and divides the intertidal flats into two areas known as the North and South Bull lagoons. Both of these are covered completely by most tides and are drained by permanent channels; the southern lagoon fills and empties beneath Bull Bridge, while water in the northern lagoon is channelled in and out through Sutton Creek (Harris, 1977). These lagoons provide the main feeding grounds for the wintering waterfowl while the fringing saltmarsh provides the main roost site for wintering birds in Dublin Bay. Macroalgal mats of filamentous Ulva spp. (formerly Enteromorpha spp.) 1 are prevalent.*

North Bull Island is one of the finest sand dune systems in Ireland and is internationally important in terms of conservation value (McCorry & Ryle, 2009a). It has several high quality examples of rare and threatened coastal habitats and a wealth of biodiversity, which includes several habitats and species listed in Annexes I and II of the EU Habitats Directive. As a consequence, North Bull Island is afforded several other nature conservation designations alongside its status as a Special Protection Area. It was designated as an official bird sanctuary under the Wild Bird Protection Act, 1931, the first bird sanctuary in Ireland (McCorry & Ryle, 2009a), and was established as a National Nature Reserve in 1988 (two parts covered by S.I. 231 and S. I. 232 of 1988). The site

[11] https://www.npws.ie/sites/default/files/protected-sites/natura2000/NF004006.pdf

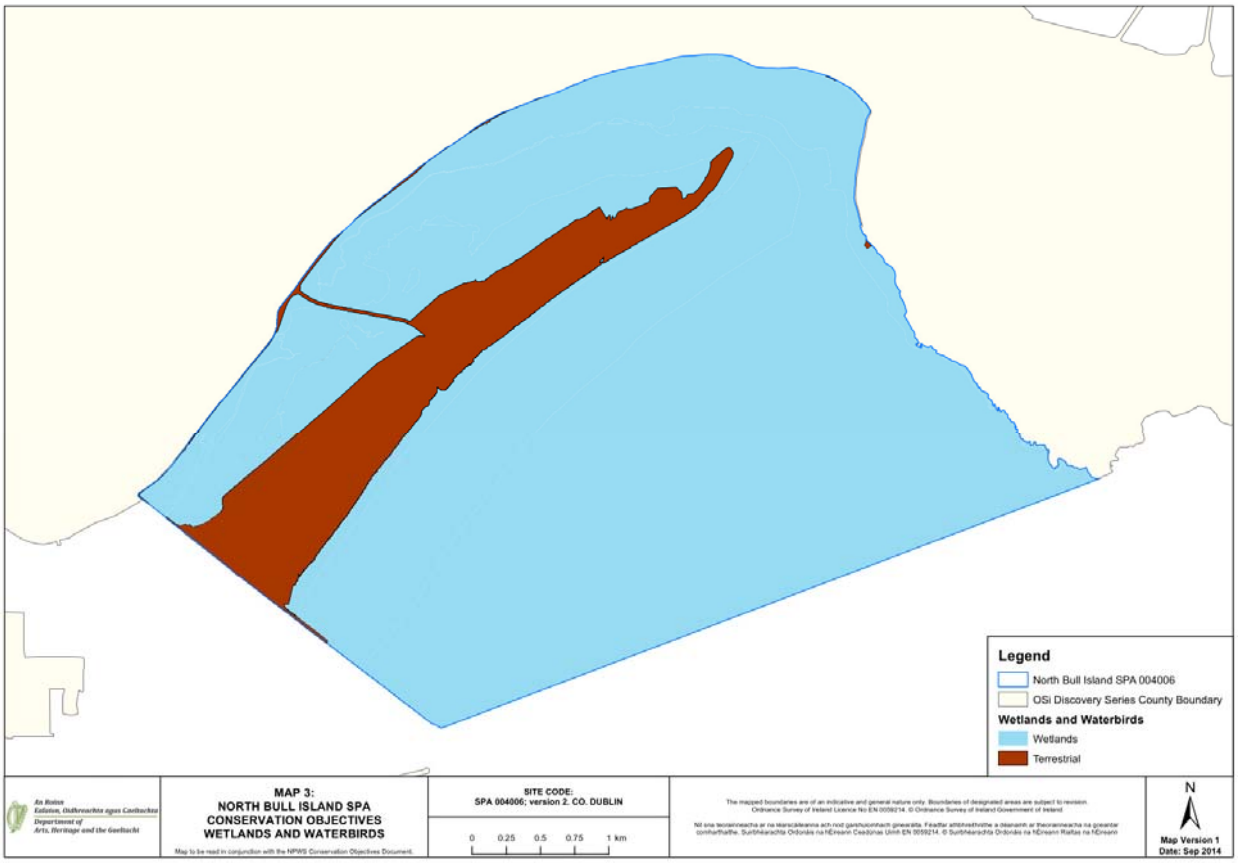
[12] https://www.npws.ie/sites/default/files/publications/pdf/North%20Bull%20Island%20SPA%20(004006)%20Conservation%20objectives%20supporting%20document%20-%20[Version%201].pdf

has been designated as part of a Special Area of Conservation (North Dublin Bay SAC - NPWS site code 000206). North Bull Island is also a Biogenetic Reserve (Council of Europe) and a UNESCO World Biosphere Reserve.'

The following objectives have been identified:

'Objective 1: *To maintain the favourable conservation condition of the non-breeding waterbird Special Conservation Interest species listed for North Bull Island SPA and South Dublin Bay and River Tolka Estuary SPA*

Objective 2: *To maintain the favourable conservation condition of the wetland habitat at North Bull Island SPA and South Dublin Bay and River Tolka Estuary SPA as a resource for the regularly-occurring migratory waterbirds that utilise these areas.'*



The Qualifying Interests (QI) (Features of Interest), Special Conservation Interests (SCIs) for the SAC and SPA sites and the National conservation status of the European sites the subject of this NIS are outlined in Table 4. The site specific conservation Objectives for the 4 European sites are outlined in Table 5.

***Table 4**. Qualifying Interests, Conservation Status, Management Objectives, Conditions underpinning site integrity for European sites*

Qualifying Interests, Conservation Status, Management Objectives, Conditions underpinning site integrity for relevant European sites		
European Site Name & Code	Qualifying Interests	Current Conservation Status & Trend
Special Areas of Conservation (SAC)		
South Dublin Bay SAC (000210)	Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of drift lines [1210] Salicornia and other annuals colonising mud and sand [1310] Embryonic shifting dunes [2110]	**Inadequate** **Inadequate** **Favourable** **Inadequate**
North Dublin Bay SAC (000206)	Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of drift lines [1210] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330] Mediterranean salt meadows (*Juncetalia maritimi*) [1410] Embryonic shifting dunes [2110] Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Humid dune slacks [2190] Petalwort (*Petalophyllum ralfsii*) [1395]	**Inadequate** **Inadequate** **Favourable** **Inadequate** **Inadequate** **Inadequate** **Inadequate** **Bad** **Inadequate** **Favourable**
Special Protection Areas (SPA)		
South Dublin Bay and River Tolka Estuary SPA (004024)	Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] Oystercatcher (*Haematopus ostralegus*) [A130] Ringed Plover (*Charadrius hiaticula*) [A137] Grey Plover (*Pluvialis squatarola*) [A141] Knot (*Calidris canutus*) [A143] Sanderling (*Calidris alba*) [A144] Dunlin (*Calidris alpina*) [A149] Bar-tailed Godwit (*Limosa lapponica*) [A157] Redshank (*Tringa totanus*) [A162] Black-headed Gull (*Chroicocephalus ridibundus*) [A179] Roseate Tern (*Sterna dougallii*) [A192] Common Tern (*Sterna hirundo*) [A193] Arctic Tern (*Sterna paradisaea*) [A194] Wetland and Waterbirds [A999]	**Amber** **Amber** **Green** **Amber** **Amber** **Green** **Red** **Amber** **Red** **Red** **Amber** **Amber** **Amber** **N/A**

Qualifying Interests, Conservation Status, Management Objectives, Conditions underpinning site integrity for relevant European sites		
European Site Name & Code	Qualifying Interests	Current Conservation Status & Trend
North Bull Island SPA (004006)	Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] Shelduck (*Tadorna tadorna*) [A048] Teal (*Anas crecca*) [A052] Pintail (*Anas acuta*) [A054] Shoveler (*Anas clypeata*) [A056] Oystercatcher (*Haematopus ostralegus*) [A130] Golden Plover (*Pluvialis apricaria*) [A140] Grey Plover (*Pluvialis squatarola*) [A141] Knot (*Calidris canutus*) [A143] Sanderling (*Calidris alba*) [A144] Dunlin (*Calidris alpina*) [A149] Black-tailed Godwit (*Limosa limosa*) [A156] Bar-tailed Godwit (*Limosa lapponica*) [A157] Curlew (*Numenius arquata*) [A160] Redshank (*Tringa totanus*) [A162] Turnstone (*Arenaria interpres*) [A169] Black-headed Gull (*Chroicocephalus ridibundus*) [A179] Wetland and Waterbirds [A999]	**Amber** **Amber** **Amber** **Red** **Red** **Amber** **Red** **Amber** **Amber** **Green** **Red** **Amber** **Amber** **Red** **Red** **Green** **Red** **N/A**

***Table 5**. Site specific conservation objectives for European sites*

South Dublin Bay SAC (000210)		
Attribute	**Measure**	**Target**
Mudflats and sandflats not covered by water at low tide [1140] (Maintain the favourable conservation condition)		
Habitat area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes
Community extent	Hectares	Maintain the extent of the *Zostera*-dominated community, subject to natural processes
Community structure: *Zostera* density	Shoots/m^2	Conserve the high quality of the *Zostera*-dominated community, subject to natural processes
Community distribution	Hectares	Conserve the following community types in a natural condition: Fine sands with *Angulus tenuis* community complex.

North Dublin Bay SAC (000206)		
Attribute	**Measure**	**Target**
Mudflats and sandflats not covered by water at low tide [1140] (Maintain the favourable conservation condition)		
Habitat area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes
Community extent	Hectares	Maintain the extent of the *Mytilus edulis*-dominated community, subject to natural processes
Community structure: *Mytilus edulis* density	Individuals/m^2	Conserve the high quality of the *Mytilus edulis* -dominated community, subject to natural processes
Community distribution	Hectares	Conserve the following community types in a natural condition: Fine sand to sandy mud with *Pygospio elegans* and *Crangon crangon* community complex; Fine sand with *Spio martinensis* community complex
Annual vegetation of drift lines [1210] (Restore the favourable conservation condition)		
Habitat area	Hectares	Area increasing, subject to natural processes, including erosion and succession
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation composition: typical species and subcommunities	Percentage cover at a representative number of monitoring stops	Maintain the presence of species-poor communities with typical species: sea rocket (*Cakile maritima*), sea sandwort (*Honckenya peploides*), prickly saltwort (*Salsola kali*) and oraches (*Atriplex* spp.)
Vegetation composition: negative indicator species	Percentage cover	Negative indicator species (including non-natives) to represent less than 5% cover
Salicornia and other annuals colonizing mud and sand [1310] (Restore the favourable conservation condition of Salicornia and other annuals colonizing mud and sand)		
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: North Bull Island 29.10 ha.
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: sediment supply	Presence/ absence of physical barriers	Maintain, or where necessary restore, natural circulation of sediment and organic matter, without any physical obstructions
Physical structure: creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation structure: vegetation height	Centimetres	Maintain structural vegetation with sward

Vegetation structure: vegetation cover	Percentage cover at a representative number of monitoring stops	Maintain more than 90% of area outside creeks vegetated
Vegetation composition: typical species and sub-communities	Percentage cover	Maintain the presence of species-poor communities listed in SMP (McCorry and Ryle, 2009)
Vegetation structure: negative indicator species – *Spartina anglica*	Hectares	No significant expansion of common cordgrass (*Spartina anglica*), with an annual spread of less than 1%.
Atlantic salt meadows [1330] (Maintain the favourable conservation condition)		
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: North Bull Island 81.84ha.
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: sediment supply	Presence/ absence of physical barriers	Maintain natural circulation of sediments and organic matter, without any physical obstructions
Physical structure: creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation structure: vegetation height	Centimetres	Maintain structural vegetation with sward
Vegetation structure: vegetation cover	Percentage cover at a representative number of monitoring stops	Maintain more than 90% of area outside creeks vegetated
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain range of sub-communities with typical species listed in SMP (McCorry and Ryle, 2009)
Vegetation structure: negative indicator species – *Spartina anglica*	Hectares	No significant expansion of common cordgrass (*Spartina anglica*), with an annual spread of less than 1%.
Mediterranean salt meadows [1410] (Maintain the favourable conservation condition)		
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: North Bull Island – 7.98ha.
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: sediment supply	Presence/ absence of physical barriers	Maintain/restore natural circulation of sediments and organic matter, without any physical obstructions
Physical structure: creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime

Vegetation structure: zonation	Occurrence	Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation structure: vegetation height	Centimetres	Maintain structural vegetation with sward
Vegetation structure: vegetation cover	Percentage cover at a representative number of monitoring stops	Maintain more than 90% of area outside creeks vegetated
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain range of sub-communities with typical species listed in SMP (McCorry and Ryle, 2009)
Vegetation structure: negative indicator species – *Spartina anglica*	Hectares	No significant expansion of common cordgrass (*Spartina anglica*), with an annual spread of less than 1%.
Embryonic shifting dunes [2110] (Restore the favourable conservation condition)		
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: North Bull Island – 2.64ha; South Bull – 3.43ha.
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions
Vegetation structure: zonation	Occurrence	Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation composition: plant health of foredune grasses	Percentage Cover	More than 95% of sand couch (*Elytrigia juncea*) and/or lyme grass (*Leymus arenarius*) should be healthy (i.e., green plant parts above ground and flowering heads present)
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain the presence of species-poor communities with typical species: sand couch (*Elytrigia juncea*) and/or lyme grass (*Leymus arenarius*)
Vegetation structure: negative indicator species	Percentage Cover	Negative indicator species (including non-native species) to represent less than 5% cover
Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120] (Restore the favourable conservation condition)		
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: North Bull Island – 2.20ha; South Bull – 0.97ha.
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions
Vegetation structure: zonation	Occurrence	Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation composition: plant health of dune grasses	Percentage Cover	95% of marram grass (*Ammophila arenaria*) and/or lyme-grass (*Leymus arenarius*) should be healthy (i.e. green plant parts above ground and flowering heads present)
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain the presence of species-poor communities dominated by marram grass (*Ammophila arenaria*) and/or lyme-grass (*Leymus arenarius*)

Vegetation structure: negative indicator species	Percentage Cover	Negative indicator species (including non-native species) to represent less than 5% cover
Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] (Restore the favourable conservation condition)		
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: North Bull – 40.29ha; South Bull – 64.56ha.
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions
Vegetation structure: zonation	Occurrence	Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation structure: bare ground	Percentage cover	Bare ground should not exceed 10% of fixed dune habitat, subject to natural processes
Vegetation structure: sward height	Centimetres	Maintain structural variation within sward
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain range of sub-communities with typical species listed in Delaney et. al. (2013)
Vegetation composition: negative indicator species (including *Hippophae rhamnoides*)	Percentage Cover	Negative indicator species (including non-native species) to represent less than 5% cover
Vegetation composition: scrub/trees	Percentage Cover	No more than 5% cover or under control
Humid dune slacks [2190] (Restore the favourable conservation condition)		
Habitat area	Hectares	Area increasing, subject to natural processes, including erosion and succession. For sub-sites mapped: North Bull – 3.96ha; South Bull – 9.15ha.
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions
Physical structure: hydrological and flooding regime	Water table levels; groundwater fluctuations (metres)	Maintain natural hydrological regime
Vegetation structure: zonation	Occurrence	Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation structure: bare ground	Percentage cover	Bare ground should not exceed 5% of dune slack habitat, with the exception of pioneer slacks which can have up to 20% bare ground
Vegetation structure: vegetation height	Centimetres	Maintain structural variation within sward
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain range of sub-communities with typical species listed in Delaney et. al. (2013)
Vegetation composition: cover of *Salix repens*	Percentage cover; centimetres	Maintain less than 40% cover of creeping willow (*Salix repens*)

Vegetation composition: negative indicator species	Percentage Cover	Negative indicator species (including non-native species) to represent less than 5% cover
Vegetation composition: scrub/trees	Percentage Cover	No more than 5% cover or under control
Petalwort (*Petalophyllum ralfsii)* [1395] (Maintain the favourable conservation condition)		
Distribution of populations	Number and geographical spread of populations	No decline
Population size	Number of individuals	No decline
Age of suitable habitat	Hectares	No decline
Hydrological conditions: soil moisture	Occurrence	Maintain hydrological conditions so that substrate is kept moist and damp throughout the year, but not subject to prolonged inundation by flooding in winter
Vegetation structure: height and cover	Centimetres and percentage	Maintain open, low vegetation with a high percentage of bryophytes (small acrocarps and liverwort turf) and bare ground
South Dublin Bay and River Tolka Estuary SPA (004024)		
Attribute	Measure	Target
Light-bellied Brent Goose (*Branta bernicla hrota*) [A046], Oystercatcher (*Haematopus ostralegus*) [A130], Ringed Plover (*Charadrius hiaticula*) [A137], Knot (*Calidris canutus*) [A143], Sanderling (*Calidris alba*) [A144], Dunlin (*Calidris alpina alpina*) [A149], Bar-tailed Godwit (*Limosa lapponica*) [A157], Redshank (*Tringa totanus*) [A162], Black-headed Gull (*Chroicocephalus ridibundus*) [A179] (Maintain the favourable conservation condition) Note: Grey Plover (*Pluvialis squatarola*) [A141] is proposed for removal from the list of SCI's for the site so no site specific conservation objective is included for the species		
Population Trend	Percentage Change	Long term population trend stable or increasing
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing and intensity of use of areas by all of the above named species, other than that occurring from natural patterns of variation
Roseate Tern *Sterna dougallii* [A192]		
Passage population: individuals	Number	No significant decline
Distribution: roosting areas	Number; location; area (hectares)	No significant decline
Prey biomass available	Kilogrammes	No significant decline
Barriers to connectivity	Number; location; shape; area (hectares)	No significant increase
Disturbance at roosting site	Level of impact	Human activities should occur at levels that do not adversely affect the numbers of roseate tern among the post-breeding aggregation of terns
Common Tern *Sterna hirundo* [A193]		
Breeding population abundance: apparently occupied nests (AONs)	Number	No significant decline
Productivity rate: fledged young per breeding pair	Mean number	No significant decline
Passage population: individuals	Number	No significant decline
Distribution: breeding colonies	Number; location; area (Hectares)	No significant decline
Distribution: roosting areas	Number; location; area (hectares)	No significant decline

Prey biomass available	Kilogrammes	No significant decline
Barriers to connectivity	Number; location; shape; area (hectares)	No significant increase
Disturbance at breeding site	Level of impact	Human activities should occur at levels that do not adversely affect the breeding common tern population
Disturbance at roosting site	Level of impact	Human activities should occur at levels that do not adversely affect the numbers of common tern among the post-breeding aggregation of terns
Arctic Tern *Sterna paradisaea* [A194]		
Passage population	Number of individuals	No significant decline
Distribution: roosting areas	Number; location; area (hectares)	No significant decline
Prey biomass available	Kilogrammes	No significant decline
Barriers to connectivity	Number; location; shape; area (hectares)	No significant increase
Disturbance at roosting site	Level of impact	Human activities should occur at levels that do not adversely affect the numbers of Arctic tern among the post-breeding aggregation of terns
A999 Wetlands - To maintain the favourable conservation condition of the wetland habitat		
Habitat Area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 2,192ha, other than that occurring from natural patterns of variation

North Bull Island SPA (004006)		
Attribute	Measure	Target
Light-bellied Brent Goose (*Branta bernicla hrota*) [A046], Shelduck (*Tadorna tadorna*) [A048], Teal (*Anas crecca*) [A052], Pintail (*Anas acuta*) [A054], Shoveler (*Anas clypeata*) [A056], Oystercatcher (*Haematopus ostralegus*) [A130], Golden Plover (*Pluvialis apricaria*) [A140], Grey Plover (*Pluvialis squatarola*) [A141], Knot (*Calidris canutus*) [A143], Sanderling (*Calidris alba*) [A144], Dunlin (*Calidris alpina alpina*) [A149], Black-tailed Godwit (*Limosa limosa*) [A156], Bar-tailed Godwit (*Limosa lapponica*) [A157], Curlew (*Numenius arquata*) [A160], Redshank (*Tringa totanus*) [A162], Turnstone (*Arenaria interpres*) [A169], Black-headed Gull (*Chroicocephalus ridibundus*) [A179] (Maintain the favourable conservation condition)		
Population Trend	Percentage Change	Long term population trend stable or increasing
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing and intensity of use of areas by all of the above named species, other than that occurring from natural patterns of variation
A999 Wetlands - To maintain the favourable conservation condition of the wetland habitat		
Habitat Area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 1,713ha, other than that occurring from natural patterns of variation

Analysis of the Potential Impacts on European Sites.

Shannon Homes Dublin Unlimited Company intends to apply for planning permission for a proposed Large-scale Residential Development (LRD) at Taylors Lane, Ballyboden, Dublin 16.

Impacts of the proposed works

The proposed development is not within a designated conservation site. The nearest Natura 2000 site with a direct hydrological pathway is South Dublin Bay and River Tolka Estuary SPA (7 km). Given the nature of the construction works, and recognising that there is a direct hydrological pathway to the Owendoher River (which outfalls to the River Dodder, which in turn ultimately outfalls to the marine environment at Dublin Bay) surface water drainage during construction and operation, it is considered that there is an direct hydrological pathway to South Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA, North Dublin Bay SAC, and North Bull Island SPA. Out of an abundance of caution, it is considered that there is the potential for dust and contaminated surface water runoff/pollution to enter the Owendoher River (which traverses along the western portion of the subject site) during construction and operation and reach downstream European Sites. In the absence of mitigation there is potential that the proposed development will have significant effects on the identified European sites.

The potential impacts on European sites are seen in Table 6. The proposed construction works would impact on the existing ecology of the site and the surrounding area. In the absence of mitigation, this could lead to the transportation of dust and contaminated surface water runoff/pollution to the Owendoher River, with the potential for downstream impacts on European sites located within Dublin Bay.

Construction and operational phase mitigation measures are required on site particularly as clearance of the site is proposed which will remove all existing terrestrial habitats including buildings and in the absence of mitigation would lead to silt laden and contaminated runoff entering the Owendoher River, River Dodder, and downstream designated sites.

Mitigation Measures

Construction and operational mitigation will be incorporated into the proposed development project to minimise the potential negative impacts within the Zone of Influence (ZoI) including the Owendoher River, River Dodder, and downstream European sites (Table 7).

Table 6. Potential for adverse effects on the qualifying interests and conservation objectives of European sites		
European Site & Site Code	Qualifying Interests	Potential for Adverse Effects
South Dublin Bay SAC	Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of drift lines [1210] Salicornia and other annuals colonising mud and sand [1310] Embryonic shifting dunes [2110]	Given the nature of the works, all of these effects would be expected to be localised in nature restricted to the immediate vicinity of the site. However, without the presence of mitigation measures there is a potential for downstream effects if significant quantities of dust, pollution or silt were introduced into the Owendoher River via air, surface water runoff, mill race and the surface water drainage network with potential for downstream impacts on South Dublin Bay SAC. The habitats of conservation interest of this SAC are not on site. However, the range of the habitata that are of conservational interest may be located downstream of the proposed works. Construction works have the potential for downstream impacts on aquatic biodiversity through the introduction of silt and petrochemicals. Existing drainage networks on site, surface water runoff, haulage, storage of topsoil or works in the vicinity of the drainage networks on onsite could lead to dust, hazardous material, soil or silt laden runoff entering the Owendoher River via the surface water drainage network. Surface water runoff on site during construction may lead to silt or contaminated materials from site entering the Owendoher River via the surface water drainage network with downstream impacts on the SAC. If on-site concrete production is required or cement works are carried out in the vicinity of watercourses there is potential for contamination of watercourses. The use of plant and machinery, as well as the associated temporary storage of construction materials, oils, fuels and chemicals could lead to pollution on site or in adjacent watercourses. Impacts on the SAC from upstream sources have the potential to directly impact on the qualifying interests of the SAC in the absence of mitigation measures. In the absence of mitigation measures there is the potential to impact on the distribution number and range of the following qualifying interests: • Mudflats and sandflats not covered by seawater at low tide [1140] • Annual vegetation of drift lines [1210] • Salicornia and other annuals colonising mud and sand [1310] • Embryonic shifting dunes [2110] Mitigation measures are required to remove the potential of impacts on the SAC from the direct hydrological pathway via the Owendoher River.
North Dublin Bay SAC	Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of drift lines [1210]	Given the nature of the works, all of these effects would be expected to be localised in nature restricted to the immediate vicinity of the site. However, without the presence of mitigation measures there is a potential for downstream effects if significant quantities of dust, pollution or silt were introduced into the Owendoher River via air, surface water runoff, mill race and the surface water drainage network with potential for downstream impacts on North Dublin Bay SAC. The habitats of conservation interest of this SAC are not on site. However, the range of the habitats that are of conservational interest may be located downstream of the proposed works.

Table 6. Potential for adverse effects on the qualifying interests and conservation objectives of European sites		
European Site & Site Code	Qualifying Interests	Potential for Adverse Effects
	Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330] Mediterranean salt meadows (*Juncetalia maritimi*) [1410] Embryonic shifting dunes [2110] Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Humid dune slacks [2190] Petalwort (*Petalophyllum ralfsii*) [1395]	Construction works have the potential for downstream impacts on aquatic biodiversity through the introduction of silt and petrochemicals. Existing drainage networks on site, surface water runoff, haulage, storage of topsoil or works in the vicinity of the drainage networks on onsite could lead to dust, hazardous material, soil or silt laden runoff entering the Owendoher River via the surface water drainage network. Surface water runoff on site during construction may lead to silt or contaminated materials from site entering the Owendoher River via the surface water drainage network with downstream impacts on the SAC. If on-site concrete production is required or cement works are carried out in the vicinity of watercourses there is potential for contamination of watercourses. The use of plant and machinery, as well as the associated temporary storage of construction materials, oils, fuels and chemicals could lead to pollution on site or in adjacent watercourses. Impacts on the SAC from upstream sources have the potential to directly impact on the qualifying interests of the SAC in the absence of mitigation measures. In the absence of mitigation measures there is the potential to impact on the distribution number and range of the following qualifying interests: • Mudflats and sandflats not covered by seawater at low tide [1140] • Annual vegetation of drift lines [1210] • Salicornia and other annuals colonising mud and sand [1310] • Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330] • Mediterranean salt meadows (*Juncetalia maritimi*) [1410] • Embryonic shifting dunes [2110] • Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120] • Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] • Humid dune slacks [2190] • Petalwort (*Petalophyllum ralfsii*) [1395] Mitigation measures are required to remove the potential of impacts on the SAC from the direct hydrological pathway via the Owendoher River.
South Dublin Bay and River Tolka Estuary SPA	Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] Oystercatcher (*Haematopus ostralegus*) [A130]	Given the nature of the works, all of these effects would be expected to be localised in nature restricted to the immediate vicinity of the site. However, without the presence of mitigation measures there is a potential for downstream effects if significant quantities of pollution or silt were introduced into the Owendoher River via surface water runoff and the surface water drainage network with potential for downstream impacts on South Dublin Bay and River Tolks SPA. The species of conservation interest of this SPA were not observed in significant numbers on site. However, the range of the species that are conservation interests would potentially be downstream of the proposed works.

Table 6. Potential for adverse effects on the qualifying interests and conservation objectives of European sites		
European Site & Site Code	Qualifying Interests	Potential for Adverse Effects
	Ringed Plover (*Charadrius hiaticula*) [A137] Grey Plover (*Pluvialis squatarola*) [A141] Knot (*Calidris canutus*) [A143] Sanderling (*Calidris alba*) [A144] Dunlin (*Calidris alpina*) [A149] Bar-tailed Godwit (*Limosa lapponica*) [A157] Redshank (*Tringa totanus*) [A162] Black-headed Gull (*Chroicocephalus ridibundus*) [A179] Roseate Tern (*Sterna dougallii*) [A192] Common Tern (*Sterna hirundo*) [A193] Arctic Tern (*Sterna paradisaea*) [A194] Wetland and Waterbirds [A999]	Construction works have the potential for downstream impacts on biodiversity through the introduction of dust, silt and petrochemicals. Drainage networks on site, surface water runoff, haulage, storage of topsoil or works in the vicinity of the drainage networks on onsite could lead to dust, silt , soil or pollution entering the Owendoher River via surface water runoff, mill race and the surface water drainage network. Surface water runoff on site during construction and operation may lead to silt or contaminated materials from site entering the Owendoher River via the surface water drainage network with downstream impacts on the SPA. If on-site concrete production is required or cement works are carried out in the vicinity of watercourses there is potential for contamination of watercourses. The use of plant and machinery, as well as the associated temporary storage of construction materials, oils, fuels and chemicals could lead to pollution on site or in adjacent watercourses. Impacts on the SPA from upstream sources have the potential to directly impact on the qualifying interests of the SPA in the absence of mitigation measures. In the absence of mitigation measures there is the potential to impact on the distribution number and range of the following qualifying interests: • Ringed Plover (*Charadrius hiaticula*) [A137] • Grey Plover (*Pluvialis squatarola*) [A141] • Knot (*Calidris canutus*) [A143] • Sanderling (*Calidris alba*) [A144] • Dunlin (*Calidris alpina*) [A149] • Bar-tailed Godwit (*Limosa lapponica*) [A157] • Redshank (*Tringa totanus*) [A162] • Black-headed Gull (*Chroicocephalus ridibundus*) [A179] • Roseate Tern (*Sterna dougallii*) [A192] • Common Tern (*Sterna hirundo*) [A193] • Arctic Tern (*Sterna paradisaea*) [A194] • Wetland and Waterbirds [A999]
North Bull Island SPA	Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] Shelduck (*Tadorna tadorna*) [A048] Teal (*Anas crecca*) [A052] Pintail (*Anas acuta*) [A054] Shoveler (*Anas clypeata*) [A056]	Given the nature of the works, all of these effects would be expected to be localised in nature restricted to the immediate vicinity of the site. However, without the presence of mitigation measures there is a potential for downstream effects if significant quantities of pollution or silt were introduced into the Owendoher River via surface water runoff and the surface water drainage network with potential for downstream impacts on South Dublin Bay and River Tolks SPA. The species of conservation interest of this SPA were not observed in significant numbers on site. However, the range of the species that are conservation interests would potentially be downstream of the proposed works. Construction works have the potential for downstream impacts on biodiversity through the introduction of dust, silt and petrochemicals. Drainage networks on site, surface water runoff, haulage, storage of topsoil or works in the vicinity of the drainage networks on onsite could lead to dust, silt , soil or pollution entering the Owendoher River via surface water

Table 6. Potential for adverse effects on the qualifying interests and conservation objectives of European sites		
European Site & Site Code	Qualifying Interests	Potential for Adverse Effects
	Oystercatcher (*Haematopus ostralegus*) [A130] Golden Plover (*Pluvialis apricaria*) [A140] Grey Plover (*Pluvialis squatarola*) [A141] Knot (*Calidris canutus*) [A143] Sanderling (*Calidris alba*) [A144] Dunlin (*Calidris alpina*) [A149] Black-tailed Godwit (*Limosa limosa*) [A156] Bar-tailed Godwit (*Limosa lapponica*) [A157] Curlew (*Numenius arquata*) [A160] Redshank (*Tringa totanus*) [A162] Turnstone (*Arenaria interpres*) [A169] Black-headed Gull (*Chroicocephalus ridibundus*) [A179] Wetland and Waterbirds [A999]	runoff, mill race and the surface water drainage network. Surface water runoff on site during construction and operation may lead to silt or contaminated materials from site entering the Owendoher River via the surface water drainage network with downstream impacts on the SPA. If on-site concrete production is required or cement works are carried out in the vicinity of watercourses there is potential for contamination of watercourses. The use of plant and machinery, as well as the associated temporary storage of construction materials, oils, fuels and chemicals could lead to pollution on site or in adjacent watercourses. Impacts on the SPA from upstream sources have the potential to directly impact on the qualifying interests of the SPA in the absence of mitigation measures. In the absence of mitigation measures there is the potential to impact on the distribution number and range of the following qualifying interests: • Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] • Shelduck (*Tadorna tadorna*) [A048] • Teal (*Anas crecca*) [A052] • Pintail (*Anas acuta*) [A054] • Shoveler (*Anas clypeata*) [A056] • Oystercatcher (*Haematopus ostralegus*) [A130] • Golden Plover (*Pluvialis apricaria*) [A140] • Grey Plover (*Pluvialis squatarola*) [A141] • Knot (*Calidris canutus*) [A143] • Sanderling (*Calidris alba*) [A144] • Dunlin (*Calidris alpina*) [A149] Mitigation measures are required to remove the potential of impacts on the SPA from the direct hydrological pathway via the Owendoher River.

Table 7. *Mitigation measures*

Sensitive Receptors	Potential Impacts on SPA & SAC	Mitigation Measures to Prevent Impacts on European sites
South Dublin Bay SAC North Dublin Bay SAC South Dublin Bay and River Tolka Estuary SPA North Bull Island SPA	• Habitat degradation • Dust deposition • Pollution • Silt ingress from site runoff • Downstream impacts • Negative impacts on the aquatic environment, aquatic species and qualifying interests.	**Construction Phase Mitigation** • Construction Phase Mitigation • A project ecologist will be appointed to oversee works from prior to commencement of works on site to the completion of all drainage and landscape elements. • Local silt traps established throughout site. • Mitigation measures on site include dust control, stockpiling away from drains • Stockpiling of loose materials will be kept to a minimum of 20m from drains. • Stockpiles and runoff areas following clearance will have suitable barriers to prevent runoff of fines into the drainage system and watercourses. • Fuel, oil and chemical storage will be sited within a bunded area. The bund will be at least 50m away from drains, ditches, excavations and other locations where it may cause pollution. • Bunds will be kept clean and spills within the bund area will be cleaned immediately to prevent groundwater contamination. Any water-filled excavations that require pumping will not directly discharge to the public network. Prior to discharge of water from excavations adequate filtration will be provided to ensure no deterioration of water quality. • Mitigation measures on site include dust control, stockpiling away from drains • Stockpiles and runoff areas following clearance will have suitable barriers to prevent runoff of fines into the drainage system. • Fuel, oil and chemical storage will be sited within a bunded area. • Bunds will be kept clean and spills within the bund area will be cleaned immediately to prevent groundwater contamination. • During the construction works silt traps will be put in place in the vicinity of all runoff channels to prevent sediment entering the public network. • Petrochemical interception and bunds in refuelling area • Maintenance of any drainage structures (e.g. de-silting operations) will not result in the release of contaminated water to the surface water network. • No entry of solids to the associated millrace or drainage network during the connection of pipework to the public water system • Sufficient onsite cleaning of vehicles prior to leaving the site and on nearby roads, will be carried out, particularly during groundworks. • The Site Manager will be responsible for the pollution prevention programme and will ensure that at least daily checks are carried out to ensure compliance. A record of these checks will be maintained. • The site compound will include a dedicated bund for the storage of dangerous substances including fuels, oils etc. Refuelling of vehicles/machinery will only be carried out within the bunded area. • A project ecologist will be appointed and be consulted in relation to all onsite drainage during construction works.

		• Concrete trucks, cement mixers or drums/bins are only permitted to wash out in designated wash out area greater than 50m from sensitive receptors including drains. • Spill containment equipment shall be available for use in the event of an emergency. The spill containment equipment shall be replenished if used and shall be checked on a scheduled basis. **Air & Dust** Dust may enter the Owendoher River and surface water network via air or surface water with potential downstream impacts. Mitigation measures will be carried out to reduce dust emissions to a level that avoids the possibility of adverse effects on downstream biodiversity. The main activities that may give rise to dust emissions during construction include the following: • Excavation of material; • Materials handling and storage; • Movement of vehicles (particularly HGV's) and mobile plant. • Contaminated surface runoff • The pro-active control of fugitive dust will ensure the prevention of significant emissions, rather than an inefficient attempt to control them once they have been released. The main contractor will be responsible for the coordination, implementation and ongoing monitoring of the dust management plan. Air quality and dust generation mitigation measures are described in the following chapter and will be implemented for the project in accordance with best practice. • An independent environmental consultant shall be appointed by the contractor to prepare a dust control and monitoring method statement prior to the commencement of site activities and to witness all demolition activities to ensure that the specified dust mitigation measures are implemented. • The Contractor shall put in place a regime for weekly monitoring of dust levels in the vicinity of the site during the works. The level of monitoring and adoptions of mitigation measures will vary throughout the construction works depending on the type of activities being undertaken and the prevailing weather conditions at the time. • The Construction team will monitor the Contractor's regime on an ongoing basis throughout the project to endeavour to minimise impact on a surrounding community. • If dust levels become an issue, then all dust generating activities on site will cease until such time as weather conditions improve (e.g. wind levels drop or rain falls) or mitigation measures such as damping down of the ground are completed. • Avoid unnecessary vehicle movements and manoeuvring, and limit speeds on site so as to minimise the generation of airborne dust. • Buildings shall be demolished by approved methods and in a manner that reduces the impact on air quality. • Manual Stripping of buildings of internal fixings, metals, glass and asbestos. • A 2.4m high solid wooden fencing shall be erected around the construction site perimeter as required. • Use of rubble chutes and receptor skips during construction/demolition activities. • All buildings in which asbestos has been identified shall be sealed during the asbestos removal process. Asbestos shall only be removed by an appropriately permitted company. All asbestos waste shall be double bagged, stored in a dedicated sealed waste container/skip prior to removal off-site for disposal at an appropriately permitted/licenced facility. Records of

		all asbestos waste removed from site shall be maintained by the site manager and certificates of destruction shall be provided by the asbestos removal contractor. Asbestos surveys shall be conducted by an appropriately HSE approved contractor. • All buildings shall be thoroughly wetted down prior to commencement of building demolition to suppress high level dust emissions. • All demolition plant shall be fitted with high pressure water sprays to direct water onto demolition point. • Mobile crushing units (if utilised on-site) shall be fitted with spray bars to suppress dust generated by the crushing activity. • Temporary dust screens shall be fitted around all mobile crushing plant (if used on-site). • Demolition stockpiles shall be kept to an absolute minimum and all C&D waste shall be promptly removed from site. • Demolition stockpiles shall be covered by tarpaulin during dry and windy weather. • During dry periods, dust emissions from heavily trafficked locations (on and off site) will be controlled by spraying surfaces with water and wetting. • Re-suspension in the air of spillages material from trucks entering or leaving the site will be prevented by limiting the speed of vehicles within the site to 10kmh and by use of a mechanical road sweeper. • Wheel wash facilities will be provided at the egress point from the site. During peak vehicle movements, where there is a likelihood of dirt on construction vehicles exiting the site, a dedicated road sweeper will be put in place until these works are competed. • If dirt generation extends onto public roads, road sweeping will be carried out as well, including if necessary, cleaning of silt from road gullies. • Material handling systems and site stockpiling of materials will be designed and laid out to minimise exposure to wind. Water misting or sprays will be used as required if particularly dusty activities are necessary during dry or windy periods. Material stockpiles containing fine or dusty elements shall be covered with tarpaulins. Aggregates will be transported to and from the site in covered trucks. • Where drilling or pavement cutting, grinding or similar types of stone finishing operations are taking place, measures to control dust emissions will be used to prevent unnecessary dust emissions by the erection of wind breaks or barriers. All concrete cutting equipment shall be fitted with a water dampening system. • The overloading of tipper trucks exiting the site shall not be permitted. • Aggregates will be transported to and from the site in covered trucks. • Where the likelihood of windblown fugitive dust emissions is high and during dry weather conditions, dusty site surfaces will be sprayed by a mobile tanker bowser. • Wetting agents shall be utilised to provide a more effective surface wetting procedure. • Exhaust emissions from vehicles operating within the construction site, including trucks, excavators, diesel generators or other plant equipment, will be controlled by the contractor by ensuring that emissions from vehicles are minimised by routine servicing of vehicles and plant, rather than just following breakdowns; the positioning of exhausts at a height to ensure adequate local dispersal of emissions, the avoidance of engines running unnecessarily and the use of low emission fuels. • All plant not in operation shall be turned off and idling engines shall not be permitted for excessive periods.

		• Material handling systems and site stockpiling of materials will be designed and laid out to minimise exposure to wind. Water misting or sprays will be used as required if particularly dusty activities are necessary during dry or windy periods. • Material stockpiles containing fine or dusty elements including top soils shall be covered with tarpaulins. • Where drilling or pavement cutting, grinding or similar types of stone finishing operations are taking place, measures to control dust emissions will be used to prevent unnecessary dust emissions by the erection of wind breaks or barriers. All concrete cutting equipment shall be fitted with a water dampening system. • A programme of air quality monitoring shall be implemented at the site boundaries for the duration of construction/demolition phase activities to ensure that the air quality standards relating to dust deposition and PM10 are not exceeded. Where levels exceed specified air quality limit values, dust generating activities shall immediately cease and alternative working methods shall be implemented. • A complaints log shall be maintained by the construction site manager and in the event of a complaint relating to dust nuisance, an investigation shall be initiated. **Pollution Control** • Contamination of Watercourses and ground water is a risk during the construction phase of the development. Detailed construction method statements will need to be approved by the Client's design team. A detailed Site Specific Construction and Environmental Management Plan will be developed and implemented during the construction phase. Site inductions will include reference to the procedures and best practice as outlined in the Construction and Environmental Management Plan. • Identified risks include spillages into water courses and unprotected ground, allowing pollutants to enter watercourses or ground water. The measures proposed to be put in place to mitigate this risk would be the use of exclusion zones where practicable and exclusion of construction vehicles from areas near the stream. Exclusion zones would the defined by erecting a 1m high barrier along the watercourse formed by steel road pins supporting an orange PVC barrier with warning signs appropriately fixed at regular intervals. • Sediment and Erosion – Similar to the above, adjacent watercourses/groundwater need to be protected from sedimentation and erosion due to direct surface water runoff generated onsite during the construction phase. To prevent this from occurring surface water discharge from site will be managed and controlled for the duration of the construction works until the permanently attenuated surface water drainage system of the proposed site is complete. • A temporary drainage system shall be installed prior to the commencement of the construction works to collect surface water runoff by the site during construction. • Surface water runoff from areas stripped of topsoil and surface water collected in excavations will be directed to on-site settlement ponds where measures will be implemented to capture and treat sediment laden runoff prior to discharge of surface water at a controlled rate. • The extent of sub-soil and topsoil stripping to be minimised to reduce the rate and volume of the run-off during construction until the topsoil and vegetation are replaced. • Accidental Spills and Leaks – All oils, fuels, paints and other chemicals will be stored in a secure bunded construction hardstand area. Refueling and servicing of construction machinery will take place in a designated hardstand area which is also remote from any surface water features e.g. The old mill race (when not possible to 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.

- Concrete – 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.
- Disposal of Wastewater from Site – Discharge from any vehicle wheel wash areas is to be directed to on-site settlement tanks/ponds, debris and sediment captured by vehicle wheel washes are to be disposed off-site at a licensed facility.
- Foul drainage discharge from the construction compound will be tankered off site to a licensed facility until a connection to the public foul drainage network has been established.
- In the event of groundwater being encountered during the construction phase, mitigation measures will include dewatering by pumping to an appropriate treatment facility prior to discharge. Other measures would include excluding contaminating materials such as fuels and hydrocarbons from sensitive parts of the site i.e. highly vulnerable groundwater areas.
- Surface water runoff from areas stripped of topsoil and surface water collected in excavations will be directed to on-site settlement ponds where measures will be implemented to capture and treat sediment laden runoff prior to discharge of surface water at a controlled rate.
- In the event of groundwater being encountered during the construction phase, mitigation measures will include dewatering by pumping to an appropriate treatment facility prior to discharge. Other measures would include excluding contaminating materials such as fuels and hydrocarbons from sensitive parts of the site i.e. highly vulnerable groundwater areas.

Storage/Use of Materials, Plant & Equipment

- Materials, plant and equipment shall be stored in the proposed site compound location;
- All oils, fuels and other hazardous liquid materials shall be clearly labelled and stored in an upright position in an enclosed bunded area within the proposed development site compound. The capacity of the bunded area shall conform with EPA Guidelines – hold 110% of the contents or 110% of the largest container whichever is greater;
- Fuel may be stored in the designated bunded area or in fuel bowsers located in the proposed compound location. Fuel bowsers shall be double skinned and equipped with certificates of conformity or integrity tested, in good condition and have no signs of leaks or spillages;
- Smaller quantities of fuel may be carried/stored in clearly labelled metal Jeri cans. Green for diesel and red for petrol and mixes. The Jeri cans shall be in good condition and have secure lockable lids. The Jeri cans shall be stored in a drip tray when not in use.
- Drip trays will be turned upside down if not in use to prevent the collection of rainwater;
- Plant and equipment to be used during works, will be in good working order, fit for purpose, regularly serviced/maintained and have no evidence of leaks or drips;
- No plant used shall cause a public nuisance due to fumes, noise, and leakage or by causing an obstruction;

		Drainage on-site • Channels will be prepared on site, in the vicinity of future access roads. Within these channels silt fences/barriers will be placed and will consist of woven/terram style material of suitable density to remove the majority of silt from runoff. These will be maintained throughout the construction phase to ensure efficiency, prior to the installation of the permanent drainage network. • Appropriate storage and settlement facilities will be provided on site. This could include the provision of silt and petrochemical interception for water pumped on site (if required). • Fuel, oils and Chemicals will be stored on an impervious base with a bund. Under LEED there will be a strategy put in place to prevent pollution of watercourses. • Soil Handling • Soil should be handled with care as it is a living entity. The topsoil and subsoil layers will be stripped, stored and maintained separately. Topsoil will be temporarily stored upon geotextile such as Terram 1000 (www.terram.com). The contractor should submit proposals for supplier and product, which should be a nonwoven geotextile manufactured from UV stabilised, high tenacity, virgin polypropylene fibres that have been both mechanically and thermally bonded with a minimum of 5 years lifespan in all soil conditions. Note that soil levels within the root spread of those trees that are to be retained should not be raised. From this temporary storage heap the topsoil should be distributed as required for landscaping purposes. In general the topsoil should not be firmed, consolidated or compacted when laying. Tipping and grading to approximate levels should be done in one operation with minimum of trafficking by plant. • The topsoil, which is to be retained and reused should not be mixed with: subsoil, stone, hardcore, rubbish or material from demolition work, or the other grades of topsoil, including those contaminated with non-native invasive species. The topsoil should be handled in the driest condition possible. Topsoil should not be handled during or after heavy rainfall or when it is wetter than the plastic limit less 3%, to BS 1377-2. • Construction/Demolition Phase - Noise • With regard to construction/demolition activities, best practice control measures for noise and vibration from construction sites are found within BS 5228 (2009 +A1 2014) Code of Practice for Noise and Vibration Control on Construction and Open Sites Parts 1 and 2. Whilst construction noise and vibration impacts are expected to vary during the construction/demolition phase depending on the distance between the activities and noise sensitive buildings, the contractor will ensure that all best practice noise and vibration control methods will be used, as necessary in order to ensure impacts at off-site noise sensitive locations are minimised. • The best practice measures set out in BS 5228 (2009) Parts 1 and 2 includes guidance on several aspects of construction site mitigation measures, including, but not limited to: • Selection of quiet plant. • Noise control at source. • Screening. • Liaison with the public • Monitoring

		• A detailed comment is offered on these items in the following paragraphs. Noise control measures that will be considered include the selection of quiet plant, enclosures and screens around noise sources, limiting the hours of work and noise and vibration monitoring, where required. **Ecological Clerk of Works** • An ecological clerk of works will be appointed to oversee and sign off on the various mitigation measures outlined in this report during the construction phase. **Operational Phase Mitigation** • A project ecologist will be appointed to oversee completion of all landscape and drainage works. • Petrochemical interception will be inspected by the project ecologist to ensure compliance with Water Pollution Acts.

Adverse Effects on the conservation objectives of European sites likely to occur from the project (post mitigation)

A robust series of mitigation measures will be carried out. These would ensure that surface water runoff from the proposed works site is clean, uncontaminated and that dust from the works would not significantly impact on the Owendoher River. It should be noted that the early implementation of ecological supervision on site will be at the initial mobilisation and enabling works. This is seen as an important element to the project, particularly in relation to the implementation of surface water runoff mitigation strategies.

With the successful implementation of the mitigation measures to limit surface water impacts on the Owendoher River, including mitigation/supervision, no significant impacts are foreseen from the construction works of the proposed project. Residual impacts of the proposed project will be localised to the immediate vicinity of the proposed works and would not impact on the integrity of downstream Natura 2000 sites.

The construction and operational mitigation proposed for the development satisfactorily addresses the mitigation of potential impacts on South Dublin Bay SAC, North Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA, and North Bull Island SPA, through the application of the standard construction and operational phase controls as outlined above. In particular, the mitigation measures will ensure compliance with Water Pollution Acts, and prevent silt, dust and pollution entering the Owendoher River will satisfactorily address the potential effects on downstream biodiversity and Natura 2000 sites within Dublin Bay. Adverse effects on the integrity of Natura 2000 sites having regard to their conservation objectives can be objectively ruled out following the implementation of the mitigation measures outlined above.

It is essential that these measures outlined are complied with, to ensure that the proposed development does not have “downstream” environmental impacts. These measures are to protect the surface water, which is the primary vector of impacts from the site, and to ensure that any European Sites are not impacted during construction and operation. Ecological supervision will be on site during the works.

Conclusion

Following the implementation of the mitigation measures outlined, the construction and operation of the proposed development will not result in direct or indirect effects which would have the potential to adversely affect the qualifying interests/special conservation interests of the European sites screened in for NIS with regard to the range, population densities or conservation status of the habitats and species for which these sites are designated (i.e. conservation objectives). All other European Sites were screened out at AA Screening Stage. The proposed project will not will adversely affect the integrity of European sites.

On the basis of the content of this report, the competent authority is enabled to conduct an Appropriate Assessment and consider whether, either alone or in combination with other plans or projects, in view of best scientific knowledge and in view of the sites’ conservation objectives, will adversely affect the integrity of the European site.

The proposed project will not will adversely affect the integrity of European sites.

Data used for the AA Screening/NIS

NPWS site synopses and Conservation objectives of sites within 15km were examined. There is no direct pathway to any Natura 2000 sites beyond 15km of the proposed development site. The most recent SAC and SPA boundary shapefiles were downloaded and overlaid on Bing maps and satellite imagery. Several site visits were carried out to determine if the site or project contained possible threats to a Natura 2000 site or any Natura 2000 species or habitats.

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3. Department of Environment Heritage and Local Government Circular NPW 1/10 and PSSP 2/10 on Appropriate Assessment under Article 6 of the Habitats Directive – Guidance for Planning Authorities March 2010.
4. Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission;
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16. NPWS (2015) Conservation Objectives: North Bull Island SPA 004006. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
17. NPWS (2022) Conservation objectives for Dalkey Islands SPA [004172]. First Order Sitespecific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.
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Appendix I – Wintering Bird Surveys

Introduction

Between November 2022 and March 2023 10 winter bird surveys (two per month) were undertaken at lands at off Taylor's Lane, Ballyboden, in South County Dublin, by Hugh Delaney, a freelance Ecologist (Birds primarily) having completed work on numerous sites with ecological consultancies over 10+ years. Hugh is local to the Dun Laoghaire-Rathdown area in Dublin and is especially familiar with the bird life and its ecology in the environs going back over 30 years.

Winter Bird Survey Methodology

Winter bird surveys are conducted from soon after sunrise until late in the afternoon, or alternatively started later in the day until sunset, the site is monitored throughout the survey period and all bird species utilizing the site recorded, including species flying through overhead. Checks are also made on suitable habitat nearby or adjacent the site for comparative purposes and to monitor any interchange of birds between sites. Target species (species of more special interest) utilizing the site will be mapped and estimates of the time these species frequented the site recorded.

Site Location

Fig 1. Taylor's Lane site. Indicative site outlined in red, yellow 'x' marking the primary site for vantage point or 'VP' observations, providing a good overview of the site.

Site Description

Site located in urban South County Dublin, site dominated by a large building situated at the west side of the site surrounded by rough grass and bramble/willowherb with trees interspersed widely across the site (mainly deciduous), especially towards the east side of the site.

Specific site survey methodology

Vantage point observations were undertaken at several locations around the site, the primary VP location being the position marked 'x' in yellow on map above, this location giving optimal views of species passing over the site and also to note any species foraging in this surrounding area. Additionally, the entire site was traversed over (generally clockwise from west to east then south of the building and back towards the west) every 1.5-2 hours during surveys in order to collect any further data on species utilizing the site. Early survey visits and later survey visits were made alternatively between surveys to ascertain bird movements early in the day and later in the day.

November 17th, 2022

Sunrise- 07.54hrs/Sunset 16.26hrs. Weather – Wind F2 Southwest, Cloud 6/8, Dry, 5c, Excellent visibility. On-site 08.00hrs – 15.00hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Herring Gull, Goldcrest, Chaffinch, Goldfinch, Greenfinch, Siskin, Linnet, Blue Tit, Coal Tit, Long-tailed Tit, Blackbird, Starling, Grey Wagtail, Hooded Crow, Magpie, Jackdaw, Feral Pigeon.

08.00hrs-12.00hrs – Observing from VP from 08.00-12.00hrs, also site traversed twice. Herring Gull (<30) noted passing mainly over the north end of the site, foraging around houses north of the site, none observed to land on-site. Siskin (<18), Grey Wagtail (<1), Dunnock (<1), Greenfinch (<1) Chaffinch (<3), Linnet (<5), Goldcrest (<4), Coal Tit (<2), Blue Tit (<1), Long-tailed Tit (<6), Jackdaw (<15 mainly on building), noted foraging on-site. Most passerines observed in the larger trees at east side of the site. No other target species recorded.
12.00hrs-15.00hrs – Monitoring from VP from 12.30-15.00hrs, site traversed also twice, Herring Gull (<22) again mainly at the north end of site passing over the boundary of site occasionally, none observed foraging on-site. Chaffinch (<4), Linnet (<2), Goldfinch (<7), Goldcrest (<5), Dunnock (<2), Robin (2), Long-tailed Tit (<19), Blue Tit (<3), Coal Tit (<1), Blackbird (<2), Starling (<10 passing through site only), Hooded Crow (<4), Feral Pigeon (<6) noted on-site. No other target species noted on-site.

November 27th, 2022

Sunrise- 08.11hrs/Sunset 16.14hrs. Weather – Wind F3 Southwest, Cloud 2/8, Dry, 10c, Excellent visibility. On-site 10.00hrs – 16.00hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Herring Gull, Black-headed Gull, Goldcrest, Blackcap, Chaffinch, Greenfinch, Goldfinch, Siskin, Blue Tit, Long-tailed Tit, Blackbird, Song Thrush, Redwing, Starling, Grey Wagtail, Pied Wagtail, Hooded Crow, Magpie, Jackdaw, Rook, Feral Pigeon.

10.00hrs-12.00hrs – Observing from VP from 08.00-12.00hrs, also site traversed once. Herring Gull (<15) noted passing mainly over the north end of the site, none observed to land on-site. Siskin (<4), Grey Wagtail (<1 foraging around building), Dunnock (<2), Robin (<4), Greenfinch (<1) Chaffinch (<1), Linnet (<5), Blackcap (<1 at east side), Goldcrest (<4 at east side), Coal Tit (<2), Blue Tit (<3), Long-tailed Tit (<12 at east side), Jackdaw (<10 mainly on building), noted foraging on-site. No other target species recorded.
12.00hrs-16.00hrs – Monitoring from VP from 12.30-16.00hrs, site traversed also twice, Herring Gull (14) and also Black-headed Gull (<3) again mainly at the north end of site passing over the boundary of site occasionally, none observed foraging on-site. Goldfinch (<5), Chaffinch (<4), Goldcrest (<3 at east side), Dunnock (<2), Wren (<2), Robin (2), Long-tailed Tit (<17 in two foraging flocks), Blue Tit (<3), Blackbird (<2), Redwing (<1 passed over site at 12.45hrs), Song Thrush (<1), Pied Wagtail (<1), Starling (<15 passing through site only), Hooded Crow (<2), Rook (<5 passing over site only). Feral Pigeon (<8) noted on-site. No other target species noted on-site.

December 10th, 2022

Sunrise- 08.28hrs/Sunset 16.06hrs. Weather – Wind F2 West, Cloud 8/8, Dry, 2c, Good visibility. On-site 08.45hrs – 14.30hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Herring Gull, Black-headed Gull, Goldcrest, Chaffinch, Linnet, Goldfinch, Blue Tit, Long-tailed Tit, Great Tit, Blackbird, Song Thrush, Redwing, Starling, Grey Wagtail, Pied Wagtail, Hooded Crow, Magpie, Jackdaw, Rook, Raven, Feral Pigeon.

08.45hrs-12.00hrs – Observing from VP from 08.45-12.00hrs, and site traversed twice. Herring Gull (<24) and Black-headed Gull (<4) noted passing mainly over the north end of the site, none observed to land on-site. Grey Wagtail (<2 foraging around building), Dunnock (<3), Robin (<2), Chaffinch (<6), Linnet (<10 passing over site only at 10.15hrs), Goldcrest (<3 foraging at east side), Great Tit (<1 at east side), Blue Tit (<3), Long-tailed Tit (<14), Jackdaw (<10 mainly as usual roosting on building), Rook (<8 passing over site only), noted foraging on-site. No other target species recorded.
12.00hrs-16.00hrs – Monitoring from VP from 12.00-14.30hrs, site traversed also twice, Herring Gull (8) and also Black-headed Gull (<5) again mainly at the north end of site passing over the boundary of site occasionally, none observed foraging on-site. Goldfinch (<10), Chaffinch (<5), Goldcrest (<2 at east side), Dunnock (<3), Wren (<2), Robin (<3), Long-tailed Tit (<10) Blue Tit (<4), Blackbird (<1), Redwing (<22 passed over south side of site at 13.40hrs), Song Thrush (<2), Pied Wagtail (<1), Starling (<35 passing through site only in several flocks), Hooded Crow (<2), Rook (<15 passing over site only), Raven (<2 passed east over the middle of site at 13.50hrs), Feral Pigeon (<8) noted on-site. No other target species noted on-site.

December 19th, 2022

Sunrise- 08.36hrs/Sunset 16.07hrs. Weather – Wind F3 Southeast, Cloud 3/8, Dry, 9c, Good visibility. On-site 09.45hrs – 16.00hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Herring Gull, Black-headed Gull, Goldcrest, Chaffinch, Bullfinch, Redpoll, Goldfinch, Blue Tit, Long-tailed Tit, Blackbird, Song Thrush, Starling, Grey Wagtail, Pied Wagtail, Sparrowhawk, Hooded Crow, Magpie, Jackdaw, Rook, Feral Pigeon.

09.45hrs-12.00hrs – Observing from VP from 08.45-12.00hrs, and site traversed twice. Herring Gull (<32) and Black-headed Gull (<5) noted passing mainly over the north end of the site, none observed to land on-site. Grey

Wagtail (<1 foraging around building), Dunnock (<4), Robin (<3), Chaffinch (<8), Bullfinch (<2 foraging at south end of site), Goldcrest (<4 foraging at east side), Blue Tit (<5), Long-tailed Tit (<10), Jackdaw (<8 mainly as usual roosting on building), Rook (<10 passing over site only), noted foraging on-site. No other target species recorded.
12.00hrs-16.00hrs – Monitoring from VP from 12.00-14.30hrs, site traversed also twice, Herring Gull (20) and also Black-headed Gull (<7) again mainly at the north end of site passing over the boundary of site occasionally, none observed foraging on-site. Goldfinch (<12), Chaffinch (<3), Redpoll (<2 foraging at east side of site at 15.00hrs), Goldcrest (<2 at east side), Dunnock (<2), Wren (<3), Robin (<1), Long-tailed Tit (<12), Blue Tit (<2), Blackbird (<4), Song Thrush (<1), Pied Wagtail (<1 around main building), Woodpigeon (<6), Starling (<25 passing through site only in several flocks), Sparrowhawk (<1 male observed hunting at east side of site at 13.40hrs), Hooded Crow (<3), Rook (<4 passing over site only), Feral Pigeon (<8) noted on-site. No other target species noted on-site.

January 9th, 2022

Sunrise- 08.37hrs/Sunset 16.27hrs. Weather – Wind F3 Southwest, Cloud 2/8, Dry, 4c, Excellent visibility. On-site 10.30hrs – 16.30hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Herring Gull, Black-headed Gull, Goldcrest, Chaffinch, Bullfinch, Goldfinch, Blue Tit, Long-tailed Tit, Coal Tit, Blackbird, Mistle Thrush, Song Thrush, Redwing, Starling, Grey Wagtail, Pied Wagtail, Hooded Crow, Magpie, Jackdaw, Rook, Feral Pigeon.

09.45hrs-12.00hrs – Observing from VP from 08.45-12.00hrs, and site traversed twice. Herring Gull (<40) and Black-headed Gull (<6) noted occasionally passing mainly over the north end of the site, none observed to land on-site. Grey Wagtail (<2 foraging around building), Dunnock (<2), Robin (<1), Chaffinch (<4), Bullfinch (<3 foraging at east end of site), Goldcrest (<3 foraging at east side), Blue Tit (<4), Long-tailed Tit (<6), Coal tit (<3), Blackbird (<2), Mistle Thrush (<2 passing over south end at 11.20hrs), Jackdaw (<7 mainly as usual roosting on building), Rook (<15 passing over site only), noted foraging on-site. No other target species recorded.

12.00hrs-16.00hrs – Monitoring from VP from 12.00-14.30hrs, site traversed also twice, Herring Gull (25) and also Black-headed Gull (<8) again mainly at the north end of site passing over the boundary of site occasionally, none observed foraging on-site. Goldfinch (<8), Chaffinch (<6), Goldcrest (<3 at east side), Dunnock (<3), Wren (<2), Robin (<2), Blue Tit (<3), Blackbird (<5), Song Thrush (<2), Redwing (<14 in trees at south end at 14.15hrs), Pied Wagtail (<2 around main building), Starling (<12 passing through site only), Hooded Crow (<2), Rook (<9 passing over site only), Feral Pigeon (<12) noted on-site. No other target species noted on-site.

January 21st, 2022

Sunrise- 08.26hrs/Sunset 16.46hrs. Weather – Wind F2 Southeast, Cloud 5/8, Dry, 7c, Excellent visibility. On-site 08.15hrs – 14.15hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Herring Gull, Black-headed Gull, Common Gull, Goldcrest, Chaffinch, Bullfinch, Goldfinch, Redpoll, Blue Tit, Long-tailed Tit, Coal Tit, Song Thrush, Starling, Pied Wagtail, Buzzard, Hooded Crow, Magpie, Jackdaw, Rook, Feral Pigeon.

08.15hrs-12.00hrs – Observing from VP from 08.15-12.00hrs, and site traversed twice. Herring Gull (<30), Black-headed Gull (<8) and Common Gull (<2) noted occasionally passing mainly over the north end of the site, none observed to land on-site. Pied Wagtail (<2 foraging around building), Dunnock (<3), Robin (<1), Redpoll (<3), Chaffinch (<2), Goldfinch (<5), Bullfinch (<2 foraging at south end of site), Goldcrest (<5 foraging at east side), Blue Tit (<2), Long-tailed Tit (<15), Coal tit (<5), Blackbird (<2), Jackdaw (<14 mainly as usual roosting on building), Rook (<12 passing over site only), noted foraging on-site. No other target species recorded.

12.00hrs-14.15hrs – Monitoring from VP from 12.00-14.15hrs, site traversed once, Herring Gull (35) and also Black-headed Gull (<5) again mainly at the north end of site passing over the boundary of site occasionally, none observed foraging on-site. Goldfinch (<8), Chaffinch (<4), Goldcrest (<2 at east side), Dunnock (<1), Wren (<2), Robin (<3), Blue Tit (<6), Blackbird (<4), Song Thrush (<1), Woodpigeon (<10), Pied Wagtail (<2 around main building), Starling (<20 passing through site only), Buzzard (<1 soaring over east end of site at 13.10hrs), Hooded Crow (<2), Rook (<4 passing over site only), Feral Pigeon (<12) noted on-site. No other target species noted on-site.

February 7th, 2022

Sunrise- 07.59hrs/Sunset 17.19hrs. Weather – Wind F1 Southwest, Cloud 6/8, Dry, 7c, Excellent visibility. On-site 11.00hrs – 17.00hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Herring Gull, Black-headed Gull, Goldcrest, Chaffinch, Goldfinch, Blue Tit, Long-tailed Tit, Coal Tit, Great Tit, Song Thrush, Mistle Thrush, Starling, Grey Wagtail, Pied Wagtail, Sparrowhawk, Hooded Crow, Magpie, Jackdaw, Rook, Feral Pigeon.

11.00hrs-12.00hrs – Observing from VP from 11.00-12.00hrs. Herring Gull (<32) and Black-headed Gull (<8) noted occasionally passing mainly over the north and west end of the site, none observed to land on-site. Pied Wagtail (<1 foraging around building), Grey Wagtail (<1), Dunnock (<2), Robin (<2), Chaffinch (<8), Goldfinch (<14), Goldcrest (<2 foraging at east side), Blue Tit (<3), Long-tailed Tit (<9), Coal tit (<2), Great Tit (<1), Blackbird (<3), Sparrowhawk (<1 female passed west over south side of site at 14.30hrs), Jackdaw (<6 mainly as usual roosting on building), Rook (<6 passing over site only), noted foraging on-site. No other target species recorded.

12.00hrs-17.00hrs – Monitoring from VP from 12.00-17.00hrs, site traversed three times, Herring Gull (18) and Black-headed Gull (<12) again mainly at the north end of site passing over the boundary of site occasionally, none observed foraging on-site. Goldfinch (<5), Chaffinch (<7), Goldcrest (<3 at east side), Dunnock (<1), Wren (<3), Robin (<3), Blue Tit (<4), Blackbird (<3), Song Thrush (<2), Woodpigeon (<15), Pied Wagtail (<1 around main building), Starling (<15 passing through site only), Hooded Crow (<2), Feral Pigeon (<12) noted on-site. No other target species noted on-site.

February 22nd, 2022

Sunrise- 07.29hrs/Sunset 17.48hrs. Weather – Wind F3 West, Cloud 3/8, Dry, 4c, Excellent visibility. On-site 08.00hrs – 14.00hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Herring Gull, Black-headed Gull, Goldcrest, Chaffinch, Goldfinch, Redpoll, Blue Tit, Long-tailed Tit, Coal Tit, Song Thrush, Redwing, Fieldfare, Mistle Thrush, Starling, Grey Wagtail, Hooded Crow, Magpie, Jackdaw, Rook, Feral Pigeon.

08.00hrs-12.00hrs – Observing from VP from 08.00-12.00hrs and site traversed three times. Herring Gull (<20) and Black-headed Gull (<10) noted occasionally passing mainly over the north and west end of the site, none observed to land on-site. Grey Wagtail (<1), Dunnock (<4), Robin (<2), Chaffinch (<3), Goldfinch (<8), Goldcrest (<1 foraging at east side), Blue Tit (<5), Long-tailed Tit (<14), Coal tit (<4), Blackbird (<3), Song Thrush (<3), Redwing (<5 at east side of site), Fieldfare (<2 south over site at 13.40hrs), Jackdaw (<10 mainly as usual roosting on building), Rook (<20 passing over site only), noted foraging on-site. No other target species recorded.

12.00hrs-14.00hrs – Monitoring from VP from 12.00-14.00hrs, site traversed once, Herring Gull (15) and Black-headed Gull (<12) again mainly at the north and west end of site passing over the boundary of site occasionally, none observed foraging on-site. Goldfinch (<10), Chaffinch (<4), Redpoll (<3 at south side of site at 13.00hrs), Goldcrest (<3 at east side), Dunnock (<2), Wren (<3), Robin (<2), Blue Tit (<6), Blackbird (<2), Redwing (<10 at east side of site), Woodpigeon (<10), Starling (<40 passing through site only), Hooded Crow (<1), Feral Pigeon (<10) noted on-site. No other target species noted on-site.

March 8th, 2022

Sunrise- 06.57hrs/Sunset 18.15hrs. Weather – Wind F2 East, Cloud 4/8, Dry, 3c, Excellent visibility. On-site 12.00hrs – 18.00hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Herring Gull, Lesser black-backed Gull, Black-headed Gull, Common Gull, Goldcrest, Chaffinch, Goldfinch, Siskin, Bullfinch, Blue Tit, Long-tailed Tit, Coal Tit, Song Thrush, Redwing, Mistle Thrush, Starling, Grey Wagtail, Hooded Crow, Magpie, Jackdaw, Rook, Feral Pigeon.

12.00hrs-18.00hrs – Observing from VP from 12.00-18.00hrs and site traversed four times. Herring Gull (<40), Lesser black-backed Gull (<2), Black-headed Gull (<15) and Common Gull (<3) noted occasionally passing mainly over the north and west end of the site, none observed to land on-site. Grey Wagtail (<2), Dunnock (<3), Robin (<4), Wren (<2), Chaffinch (<5), Siskin (<6 foraging at south side of site), Goldfinch (<12), Bullfinch (<2), Goldcrest (<3 foraging at east side), Blue Tit (<6), Long-tailed Tit (<10), Coal tit (<3), Blackbird (<5), Song Thrush (<1), Mistle Thrush (<2 at east side of site), Redwing (<8 at east side of site), Starling (<20 passing over site in small numbers), Woodpigeon (<14 mainly at east and south side of site), Jackdaw (<10 mainly as usual roosting on building), Rook (<12 passing over site only), noted foraging on-site. No other target species recorded.

March 20th, 2022

Sunrise- 06.28hrs/Sunset 18.37hrs. Weather – Wind F2 South, Cloud 5/8, Dry, 9c, Excellent visibility. On-site 07.30hrs – 14.00hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Herring Gull, Lesser black-backed Gull, Black-headed Gull, Goldcrest, Chaffinch, Goldfinch, Siskin, Blue Tit, Great Tit, Long-tailed Tit, Coal Tit, Great Tit, Song Thrush, Redwing, Starling, Pied Wagtail, Grey Wagtail, Meadow Pipit, Sparrowhawk, Hooded Crow, Magpie, Jackdaw, Rook, Feral Pigeon.

07.30hrs-12.00hrs – Observing from VP from 07.30-12.00hrs and site traversed three times. Herring Gull (<30), Lesser black-backed Gull (<5) and Black-headed Gull (<4) noted occasionally passing mainly over the north and west end of the site, none observed to land on-site, birds observed often landing on residential houses north of

the site. Grey Wagtail (<1), Meadow Pipit (<8 passing over site only), Pied Wagtail (<2), Dunnock (<5), Robin (<3), Wren (<3), Chaffinch (<2), Siskin (<20 passing over site only), Goldfinch (<10), Goldcrest (<5 foraging at east side), Blue Tit (<8), Long-tailed Tit (<15), Coal tit (<2), Great Tit (<2), Blackbird (<4), Song Thrush (<1), Redwing (<3 at south side of site), Starling (<30 passing over site in small numbers), Woodpigeon (<8 mainly at east and side of site), Jackdaw (<6 mainly as usual roosting on building), Rook (<20 passing over site only), noted foraging on-site. No other target species recorded.

12.00hrs-14.00hrs – Observing from VP from 12.00-14.00hrs and site traversed once. Herring Gull (<30) and Lesser black-backed Gull (<3) noted occasionally passing mainly over the north and west end of the site, none observed to land on-site. Dunnock (<5), Robin (<2), Wren (<3), Chaffinch (<5), Goldfinch (7), Goldcrest (<5 foraging at east and south side), Blue Tit (<4), Long-tailed Tit (<8), Coal tit (<3), Blackbird (<4 including one observed nest building), Song Thrush (<1), Starling (<25 passing over site in small numbers), Woodpigeon (<12 mainly at east of site), Sparrowhawk (<1 soaring over northeast corner of site at 13.45hrs), Jackdaw (<5 mainly as usual roosting on building), Rook (<8 passing over site only), noted foraging on-site. No other target species recorded.

Comments and observations on survey results

In total 37 Bird species were recorded overall at the Taylor's Lane site in Ballyboden during 10 surveys over the course of the winter bird survey period 2022-2023. Species recorded that are red listed as a wintering species of conservation concern (Birdwatch Ireland's birds of conservation concern in Ireland 2020-2026) that were recorded on-site were Redwing, recorded in small numbers (less on 20 foraging on-site on all visits).

Results suggest that the site is not significant ex-situ foraging or roosting site for species of qualifying interest from nearby Special protection areas (SPA's). Species of more significant interest in the context of the site's location such as Brent Geese, Curlew, Oystercatcher etc. were not recorded passing over the site. Herring Gull were noted to regularly pass over especially the north side of the site, none were noted foraging on-site with the few small open areas on-site noted as sub-optimal for foraging (long rough grass type). A selection of passerines typical of parkland in suburban Dublin were recorded and remained consistent throughout the surveys.