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Marine & Environmental Consultancy

Appropriate Assessment Screening & Natura Impact Statement - Information for a Stage 1 (AA Screening) and Stage 2 (Natura Impact Statement) AA for the proposed re-development of the former Chivers factory on Coolock Drive, Coolock, Dublin.

11th April 2019

Prepared by: *Bryan Deegan MSc., BSc.(MCIEEM) of Altemar Ltd.*

On behalf of: Platinum Land Ltd.

Altemar Ltd., 50 Templecarrig Upper, Delgany, Co. Wicklow. 00-353-1-2010713. info@altemar.ie
Directors: Bryan Deegan and Sara Corcoran
Company No.427560 VAT No. 9649832U
www.altemar.ie

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Contents

1. Introduction

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 NATURA 2000 sites (Special Areas of Conservation (SAC) or Special Protection Areas (SPA)). The following Appropriate Assessment Screening and Natura Impact Statement (NIS) has been prepared by **Altemar Ltd.** at the request of Platinum Land Ltd. for a proposed re-development of the former Chivers factory on Coolock Drive, Dublin 17.

This AA Screening and NIS considersm on the basis of the scientific information available, if the project alone or in combination with other plans or projects will not have an adverse effect on the integrity of Natura 2000 sites in view of their conservation objectives. An Appropriate Assessment Screening and Natura Impact Statement is being submitted in conjunction with this Strategic Housing Development submission. The Santry River flows through the proposed development site. Although no instream works are proposed, works are proximal to the Santry River. Both the North Dublin Bay SAC and North Bull Island SPA are directly downstream of the proposed development and standard construction phase controls are proposed. The outcome of the two recent legal cases could potentially lead to a conflict in relation to the proposed project with the use of standard construction phase controls on a proposed development that is hydrologically linked to Natura 2000 sites. These construction phase controls would be in place whether the Natura 2000 sites were hydrologically linked or not and are to ensure compliance with Water Pollution Acts and Inland Fisheries Ireland guidance. As there is currently a vacuum of clear guidance and legal clarity on the use of construction phase controls on a site that is hydrologically linked to Natura 2000 sites a precautionary approach was applied and an Appropriate Assessment Screening and Natura Impact Statement was prepared. It is not that a significant risk to the Natura 2000 sites is envisaged, it is purely being applied as a precautionary measure as construction phase controls are being used on site that is hydrologically linked to a Natura 2000 site.

Altemar aims to provide sufficient objective information in this AA Screening and NIS on the proposed development, its impacts and mitigation measures, to enable the competent authority to carry out the appropriate assessment. This AA Screening and NIS should be read in conjunction with the Outline Construction Environmental Management Plan (CEMP) and the relevant chapters of the Environmental Impact Assessment Report (EIAR).

Background to 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. He is an environmental scientist and aquatic biologist with 20 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 is currently developing in-house AA, EIA and environmental assessment procedures and acts as an independent "Environmental Expert" for Inland Fisheries Ireland. Bryan carried out all elements of this Natura Impact Statement. Conor Kelleher is a bat Ecologist with over 30 years bat surveying and ecology experience.

2. 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 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 NATURA 2000 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 [NATURA 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans and projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implication for the site and subject to the provisions of paragraph 4, the 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 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 NATURA 2000 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 NATURA 2000 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 NATURA 2000 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;

3. Stages of the Appropriate Assessment

This Appropriate Assessment screening and NIS was undertaken having regard to, inter alia 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 as amended and the provision of Article 6 of the Habitats Directive 92/43/EEC (European Commission, 21 November 2018).

In order to comply with the above Guidelines and legislation, the Appropriate Assessment process must be structured as follows:

1) Screening stage:
   - Description of the proposed project or plan;
   - Identification of NATURA 2000 sites potentially affected;
   - Identification and description effects likely to result from the proposed project;
   - Identification and description of in combination effects likely to result from other plans and projects;
   - 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 NATURA 2000 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;
   - Identification and description of in combination effects likely to result from other plans and projects;
   - 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"; and ,
   - Conclusions.

4. Stage I - Screening Stage Assessment

Management of the Site

The plan or project is not directly connected with, or necessary to, the management of a NATURA 2000 site.

Description of Proposed Project

Platinum Land Ltd. is proposing a re-development of the former Chivers factory site on Coolock Drive, Dublin (Figure 1). The development will consist of the following phases of development:

a) Phase 1 includes the demolition of all existing buildings, existing boundary fences, removal of existing trees, breaking up and crushing the existing hard standing area, excavation and all associated site works;

b) Phase 2 includes the development of a basement, measuring c. 11,707 square metres to accommodate 181 car parking, 634 bicycle spaces and 16 motorbike spaces, plant rooms, bin storage, attenuation tanks and circulation;

c) Phase 3 includes the redevelopment of the site to include:

i. 495 no. build to rent residential units (comprising 61 no. studio, 150 no. 1 bedroom, 178 no. 2-bedroom, and 106 no. 3 bedroom apartments), residential support facilities, amenities and services in 4 no. blocks which comprise:

(i) Phase 3a – Block A1 – includes 98 build to rent units (comprising 16 no. studio, 33 no. 1 bedroom, 39 no. 2 bedroom, and 10 no. 3 bedroom apartments), resident support facilities including entrance / concierge, resident services and amenities including function room, with heights proposed as 6 no. storeys (19.175m above ground level), 9 no. storeys (27.8m above ground level) and 10 no. storeys (30.745m above ground level);

(ii) Phase 3b – Block A1 – includes 98 build to rent units (comprising 16 no. studio, 33 no. 1 bedroom, 39 no. 2 bedroom, and 10 no. 3 bedroom apartments), resident support facilities including entrance / concierge, resident services and amenities including function room, with heights proposed as 6 no. storeys (19.175m above ground level), 9 no. storeys (27.8m above ground level) and 10 no. storeys (30.745m above ground level);

(iii) Phase 3c) – Block B – includes 173 build to rent units (comprising 18 no. studio, 38 no. 1 bedroom, 54 no. 2-bedroom, and 63 no. 3 bedroom apartments), resident support facilities including entrance / concierge, resident services and amenities including Games Room, Dining Area, Study Hub, with heights proposed as 3 no. storeys (10.4m above ground level), 4 no. storeys (13.175m above ground level), 5 no. storeys (16.1m above ground level), 6 no. storeys (19.175m above ground level) and 7 no. storeys (21.95m above ground level);

(iv) Phase 3d– Block C – includes 126 build to rent units (comprising 11 no. studio, 46 no. 1 bedroom, 46 no. 2-bedroom, and 23 no. 3 bedroom apartments), resident support facilities including entrance / concierge, resident services and amenities including Homework Club, Communal Work Area with heights proposed as 3 no. storeys (10.4m above ground level), 4 no. storeys (13.175m above ground level), 5 no. storeys (16.1m above ground level), 6 no. storeys (19.175m above ground level) and 7 no. storeys (21.95m above ground level);

ii. Ground floor car parking (215 spaces) and bicycle parking (16 spaces);

iii. Service building including 1 no. creche, café and gym;

iv. All associated ancillary development works including drainage, 4 no. electricity substations, access and roads within the site, pavements, new boundary walls, fencing, public open space, communal amenity space, tree planting, vehicle and pedestrian access and all associated site works.

d) Phase 4 - Highway and pedestrian improvements including:

i. Upgrading of the site and signals at the junction of Coolock Drive and Oscar Traynor Road;

ii. Provision of a signalised pedestrian crossing to the south of the site entrance on Coolock Drive; and

iii. Provision of a signalised pedestrian crossing at the proposed pedestrian entrance to the park off Greencastle Road.

Riparian Corridor Landscape Strategy

The development is proximal to the Santry River, which divides the site. As outlined in the Chivers Landscape Design Statement prepared by Mitchell & Associates, "consultation has taken place with Inland Fisheries Ireland and Altemar in relation to the landscape strategy (Figures 4 & 5). The accompanying landscape Design Statement states that "In contrast to the steep embankment that exists at present a combination of a terraced, sloped and shelved land form treatment is proposed with large rocks and boulders being used as natural retaining elements. At the top level there are two low retaining walls which will double as amenity seating edges. This will inform a structural integrity to the top level. At lower levels there will be sloped and shelved land forms which will allow for the establishment of aquatic planting and self-seeding species and, from a health and safety perspective, allow for easy egress. The restoration of the existing bridge will connect the development and create a visual feature without affecting the watercourse."

Drainage on site

Foul Water Drainage

A 450mm diameter public trunk sewer passes though the site. As outlined in the Material Assets chapter of the EIAR, "*as the trunk 450mm diameter public foul sewer passes through the development site it is proposed that it be diverted locally such that the sewer is located under a main access road in the new development and the necessary wayleaves are provided. All drainage works shall comply with Irish Water Standards*."

Surface water drainage

As outlined in the Material Assets-Built Services chapter of the EIAR (Chapter 7) "*the subject site currently covered by impermeable surfacing. Surface water run-off from the site drains directly to the Santry River which in turn outfalls to the Irish Sea adjacent to the James Larkin Road in Raheny. Site investigations carried out indicate that the sub-soils are impermeable and not suitable for soakaways. Therefore surface water from the proposed development shall discharge to several attenuation tanks fitted with flow limiting devices with a maximum run-off rate of 2.0l/s. The outfall from the attenuation tanks is discharged to a series of terraced swales formed on the Southern Bank of the Santry River. The terracing is an important landscaping feature of the development. The terracing shall be formed with material suitable for conveying water to the ground following intense storm periods.*"

Figure 1. Site Outline on satellite imagery (Source: Bing)

Figure 2. Proposed Site Layout Plan.

Figure 3. Proposed Site Layout Plan (Section).

Figure 4. Proposed Landscape Master Plan

Figure 5. Landscape section. (A-A- through the site in the vicinity of the watercourse).

Figure 6. Courtyard Landscape Masterplan

Identification of NATURA 2000 sites/species potentially affected.
The proposed development site is not within a NATURA 2000 site. Given the fact that the proposed development is relatively large and with potential connectivity to Natura 2000 sites, NATURA 2000 sites within 15km were investigated. SAC's and SPA's within 15km of the proposed development and watercourses within 5km can be seen in Figures (7 & 8) and (9 & 10) respectively. Satellite imagery and watercourses show the proximity of the proposed development to North Dublin Bay SAC (Figure 11) and North Dublin Bay SPA (Figure 12). The distance to Natura 2000 Sites within 15km of the proposed work is seen in table 1. It should be noted that this AA Screening and NIS is accompanied by an Environmental Impact Assessment Report (EIAR) and an outline Construction Environmental Management Plan (CEMP).

As can be seen from Figures 11 and 12 the North Dublin Bay SAC and North Bull Island SPA Natura 2000 sites are downstream of the proposed project via the Santry River. In order to determine if an impact on Natura 2000 sites within 15km is likely to be significant, the project must be assessed against the conservation objectives of each of the NATURA 2000 sites. This screening is carried out in Table 2.

Table 1. Natura 2000 Sites within 15km of the proposed works.

NATURA Code	Name	Distance
Special Areas of Conservation		
IE0000206	North Dublin Bay SAC (downstream)	**3.2km**
IE0000199	Baldoyle Bay SAC	**4.4km**
IE0000210	South Dublin Bay SAC	**6.3km**
IE0000205	Malahide Estuary SAC	**6.8km**
IE0000202	Howth Head SAC	**7.6km**
IE0003000	Rockabill to Dalkey Island SAC	**7.9km**
IE0002193	Ireland's Eye SAC	**8.6km**
IE0000208	Rogerstown Estuary SAC	**11.4km**
Special Protection Areas		
IE0004006	North Bull Island SPA (downstream)	**3.2km**
IE0004024	South Dublin Bay and River Tolka Estuary SPA	**3.7km**
IE0004016	Baldoyle Bay SPA	**4.4km**
IE0004117	Ireland's Eye SPA	**8.6km**
IE0004113	Howth Head Coast SPA	**9.2km**
IE0004025	Broadmeadow/Swords Estuary SPA	**7.1km**
IE0004015	Rogerstown Estuary SPA	**11.6km**
IE0004172	Dalkey Islands SPA	**14.3km**

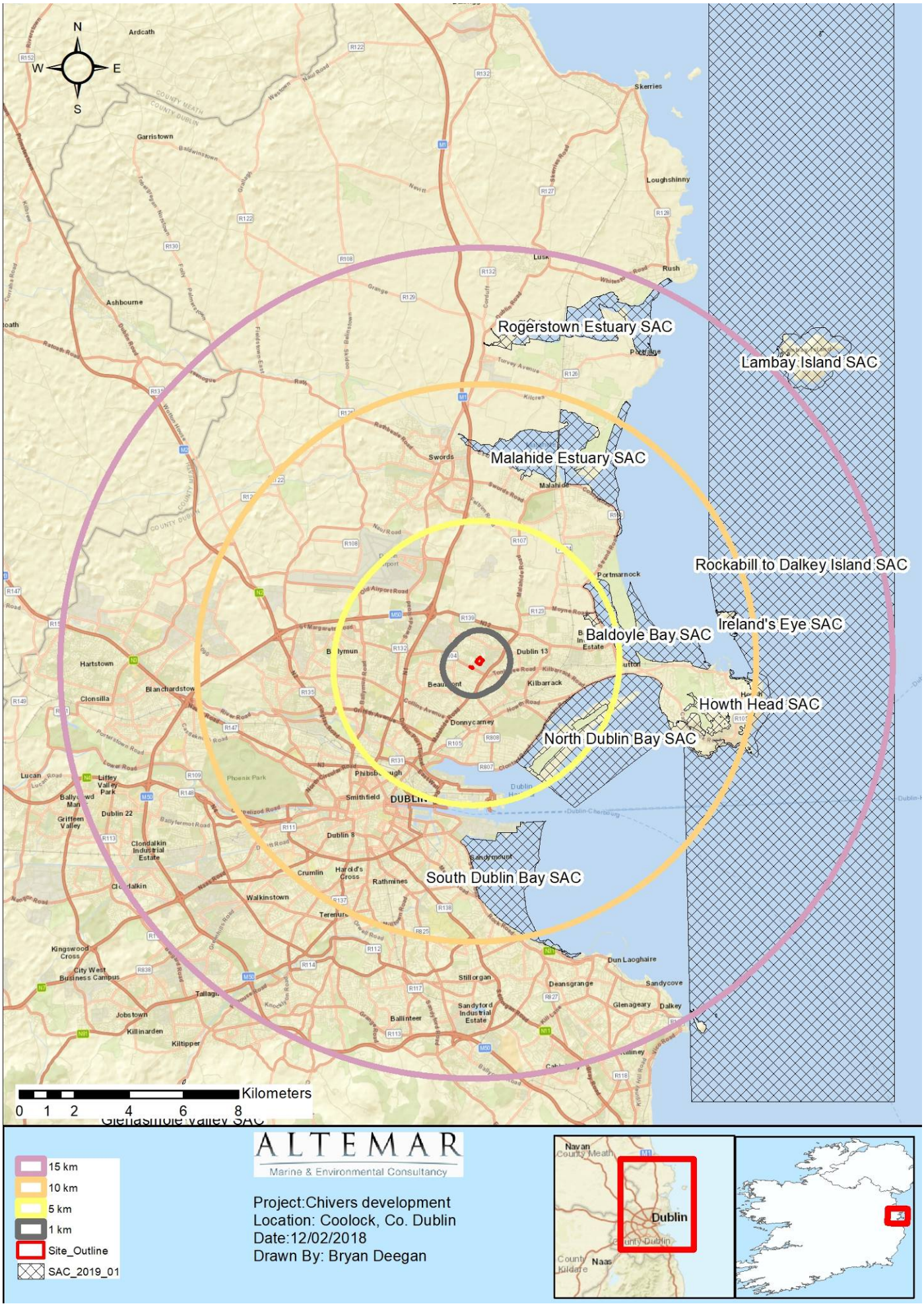

Figure 7. Special Areas of Conservation within 15km of the proposed development.

Figure 8. Special Areas of Conservation and watercourses located within 5km of the proposed development.

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

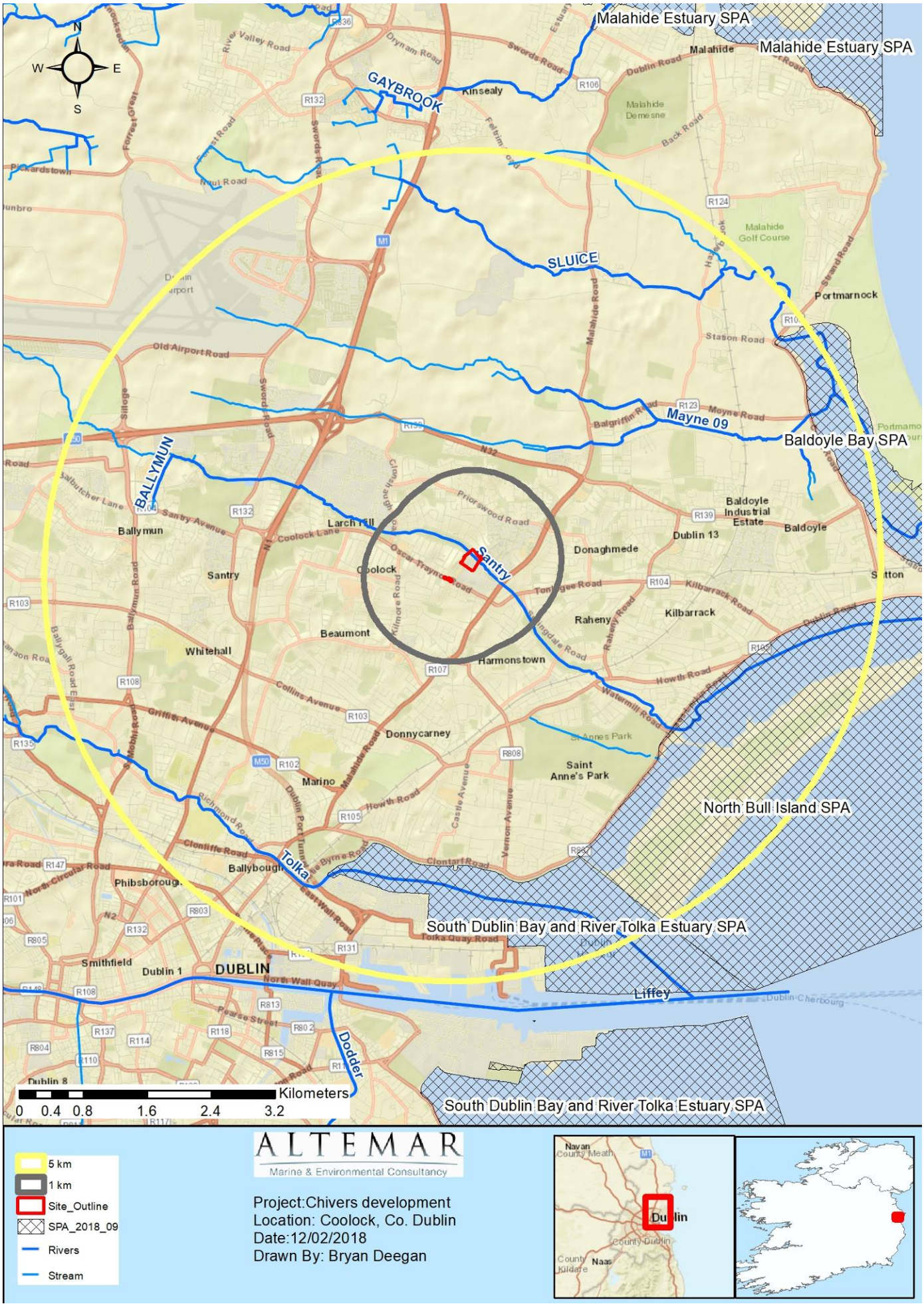

Figure 10. Special Protection Areas and watercourses located within 5km of the proposed development.

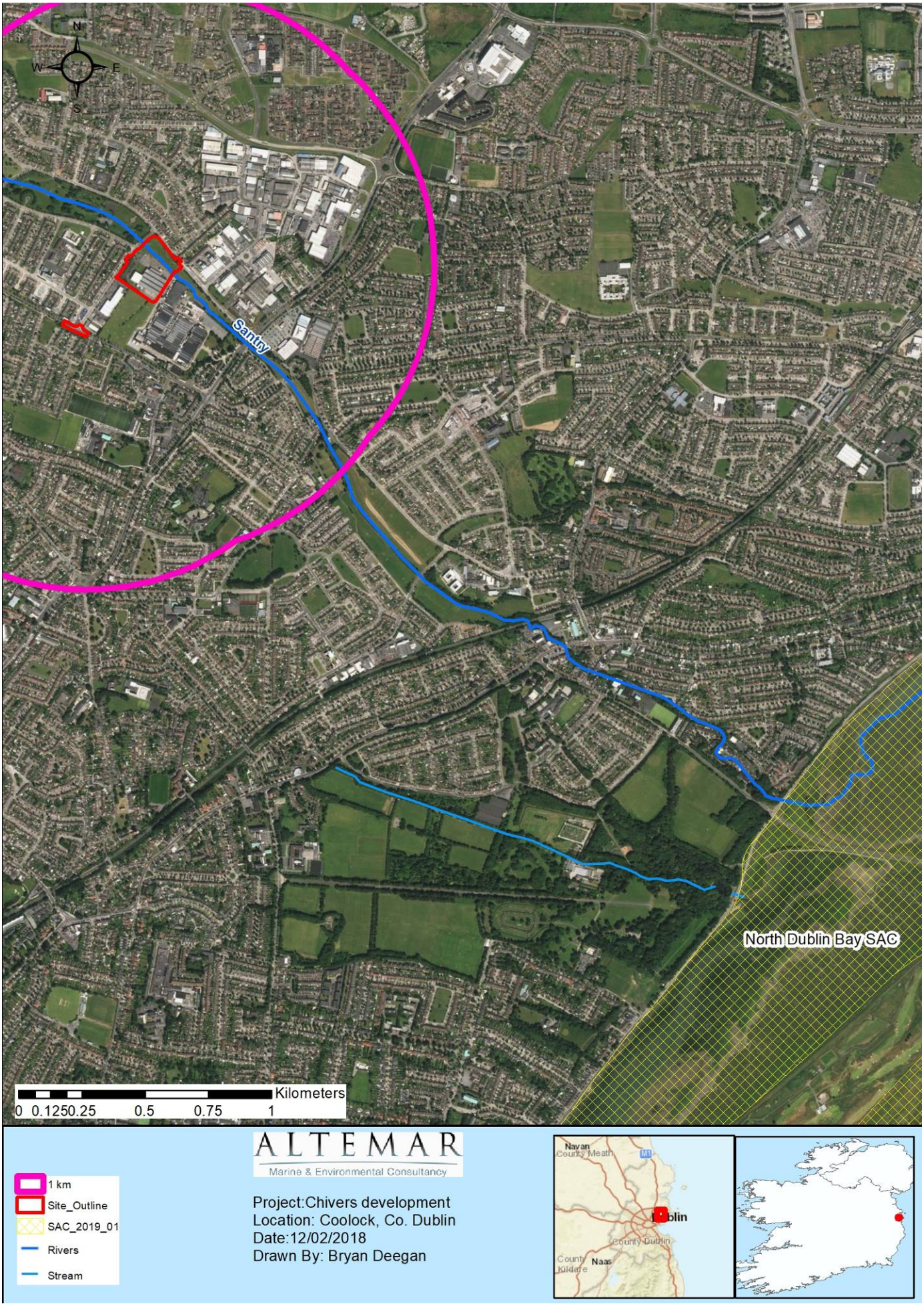

Figure 11. Special Areas of Conservation and watercourses within the vicinity of the proposed works.

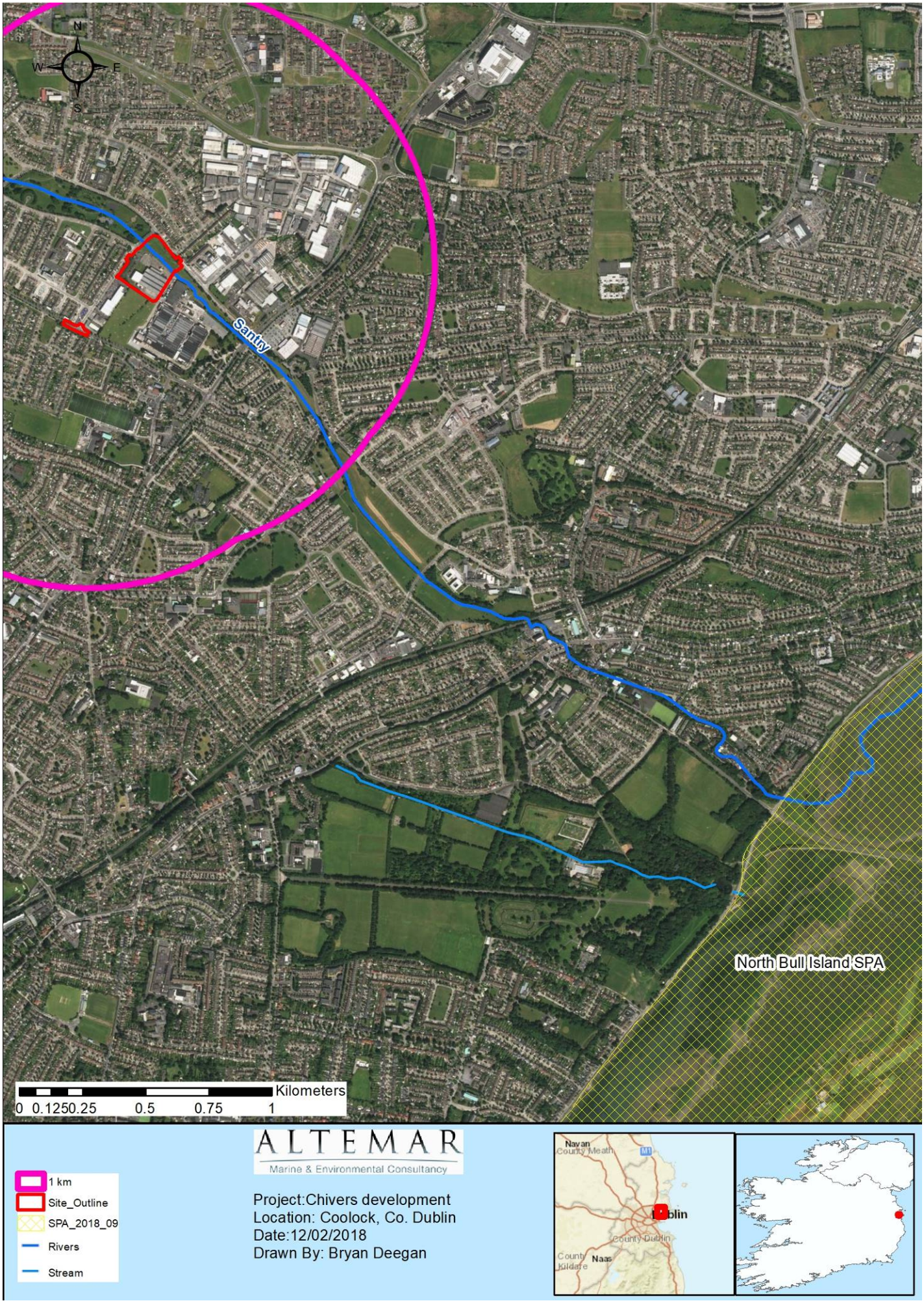

Figure 12. Special Protection Areas and watercourses within the vicinity of the proposed works.

Table 2. Initial screening of NATURA 2000 sites within 15km of the proposed development

a) Special Areas of Conservation

NATURA CODE	NAME	Screened In/Out	Details/Reason
Special Areas of Conservation			
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. **Features of Interest** 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* (white dunes) 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes) 2190 Humid dune slacks **Potential for Significant Effects** The proposed development site is in the Santry River catchment adjacent to the Santry River. North Dublin Bay SAC is 3.2 km from the proposed development site with a direct hydrological connection, across an urban environment. Standard construction and operational phase controls will be carried out on site to ensure that all works will be carried out in compliance with Local Government (Water Pollution) Acts 1977-1990, Inland Fisheries Ireland and DCC conditions. These controls include silt and petrochemical interception in all works areas, road sweepers and the prevention of runoff from sites entering directly into watercourses. Despite the fact that these measures will ensure protection of the water quality in the Santry River and as a result the works will have no foreseeable impact on the Natura 2000 sites downstream, the recent decision by the Court of Justice of the European Union People Over Wind and Sweetman v Coillte Teoranta (C-323/17) means that measures intended to avoid or reduce the harmful effects of a proposed project on a European site may no longer be taken into account by competent authorities at the Habitat Regulations Assessment "screening stage" when judging whether a proposed plan or project is likely to have a significant effect on the integrity of a European designated site. Therefore as the proposed project has a direct hydrological link to the North Dublin Bay SAC, via the Santry River, will utilise standard construction and operational phase controls to prevent impacts on the Santry River and under the precautionary principle, as a direct result of ECJ ruling, a NIS is deemed appropriate. **(Stage 2 Appropriate Assessment (NIS) required)**

NATURA CODE	NAME	Screened In/Out	Details/Reason
IE0000199	Baldoyle Bay SAC	**Out**	**Qualifying Interests** Salicornia and other annuals colonising mud and sand (1310) Atlantic salt meadows (*Glauco - Puccinellietalia maritimae*) (1330) Mediterranean salt meadows (*Juncetalia maritimi*)(MSM) (1410) The following habitats were recorded during the Coastal Monitoring Project (Ryle *et al.,* 2009) but they are not listed in the qualifying interests for the site: 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) **Potential for Significant Effects** The proposed works are located in an urban area, a minimum of 4.4 km from the Baldoyle Bay SAC. No potential impact is foreseen. There is no direct hydrological connection from the proposed development to this SAC which is located on the far side of Howth Head. Foul water from the development will be processed in the existing Ringsend Treatment works which has a capacity for 1.9 million people and the development would be seen as insignificant in terms of the overall operation of Ringsend WWTP. There has been no indication of contaminated material on site or substances that may cause environmental pollution. No potential impact is foreseen. There is no direct pathway from this site to the SAC. The construction and operation of the proposed development will not impact on the conservation interests of the site. **No Significant effects likely**
IE0000210	South Dublin Bay SAC	**Out**	**Conservation Objectives** 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 targets: • The permanent habitat area is stable or increasing, subject to natural processes. • Maintain the extent of the *Zostera* –dominated community, subject to natural processes. • Conserve the high quality of the *Zostera* –dominated community, subject to natural processes • Conserve the following community type in a natural condition: Fine sands with *Angulus tenuis* community complex. **Feature of Interest** Mudflats and sandflats not covered by seawater at low tide [1140] **Potential for Significant Effects** No potential significant effects are foreseen. The proposed works are located over 6.3 km from the South Dublin Bay SAC. No potential impact is foreseen. There is no direct hydrological connection from the proposed development to this SAC which is located on the far side of Dublin Bay. Foul water from the development will be processed in the existing Ringsend Treatment

NATURA CODE	NAME	Screened In/Out	Details/Reason
			works which has a capacity for 1.9 million people and the development would be seen as insignificant in terms of the overall operation of Ringsend WWTP. There has been no indication of contaminated material on site or substances that may cause environmental pollution. No potential impact is foreseen. There is no direct pathway from this site to the SAC. The construction and operation of the proposed development will not impact on the conservation interests of the site. **No significant effects are likely**
IE0000205	Malahide Estuary SAC	**Out**	**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 and *targets*** 1140 Mudflats and sandflats not covered by seawater at low tide. 1310 *Salicornia* and other annuals colonising mud and sand 1320 Spartina swards (*Spartinion maritimae*) As outlined in NPWS (2013) it not be necessary to assess the likely effects of plans or projects against this Annex I habitat at this site. 1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) 1410 Mediterranean salt meadows (*Juncetalia maritimi*) 2120 Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes). **Potential for Significant Effects** The proposed works are located a minimum of 6.8 km from the Malahide Estuary SAC. No potential impact is foreseen. No potential impact is foreseen. There is no direct hydrological connection from the proposed development to this SAC which is located on the far side of Howth Head. Foul water from the development will be processed in the existing Ringsend Treatment works which has a capacity for 1.9 million people and the development would be seen as insignificant in terms of the overall operation of Ringsend WWTP. There has been no indication of contaminated material on site or substances that may cause environmental pollution. No potential impact is foreseen. There is no direct pathway from this site to the SAC. The construction and operation of the proposed development will not impact on the conservation interests of the site. **No significant effects are likely**
IE0000202	Howth Head SAC	**Out**	**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** (1230) Vegetated sea cliffs of the Atlantic and Baltic coasts (4030) European dry heaths

NATURA CODE	NAME	Screened In/Out	Details/Reason
			Potential for Significant Effects No potential impact is foreseen. The proposed works are over 7.6 km from the SAC, with no direct hydrological link and the features of interest are terrestrial. Disturbance and effects that may be caused by the works will be temporary and localised to the immediate environs of the site. Foul water from the development will be processed in the existing Ringsend Treatment works which has a capacity for 1.9 million people and the development would be seen as insignificant in terms of the overall operation of Ringsend WWTP. There has been no indication of contaminated material on site or substances that may cause environmental pollution. No potential impact is foreseen. There is no direct pathway from this site to the SAC. The construction and operation of the proposed development will not impact on the conservation interests of the site. **No significant effects are likely**
IE0003000	Rockabill to Dalkey Island SAC	**Out**	**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** 1170 Reefs 1351 Harbour porpoise *Phocoena phocoena* **Potential for Significant Effects** The proposed works are located a minimum of 7.9 km from the SAC. No potential significant effects are foreseen. There is no direct hydrological connection from the construction works to this marine SAC. No potential impact is foreseen. There is no direct hydrological connection from the proposed development to this SAC which is located on the eastern side of Dublin Bay. Foul water from the development will be processed in the existing Ringsend Treatment works which has a capacity for 1.9 million people and the development would be seen as insignificant in terms of the overall operation of Ringsend WWTP. There has been no indication of contaminated material on site or substances that may cause environmental pollution. No potential impact is foreseen. There is no direct pathway from this site to the SAC. The construction and operation of the proposed development will not impact on the conservation interests of the site. **No significant effects are likely**
IE0002193	Ireland's Eye SAC	**Out**	**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. **Features of Interest**

NATURA CODE	NAME	Screened In/Out	Details/Reason
			1220 Perennial vegetation of stony banks 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts **Potential Significant Effects** The proposed works are located a minimum of 8.6km from this SAC. No potential impact is foreseen. There is no direct hydrological connection from the proposed development to this SAC which is located on the far side of Howth Head. Foul water from the development will be processed in the existing Ringsend Treatment works which has a capacity for 1.9 million people and the development would be seen as insignificant in terms of the overall operation of Ringsend WWTP. There has been no indication of contaminated material on site or substances that may cause environmental pollution. No potential impact is foreseen. There is no direct pathway from this site to the SAC. The construction and operation of the proposed development will not impact on the conservation interests of the site. **No significant effects are likely**
IE0000208	Rogerstown Estuary SAC	**Out**	**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** 1130 Estuaries 1140 Mudflats and sandflats not covered by seawater at low tide 1310 *Salicornia* and other annuals colonising mud and sand 1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) 1410 Mediterranean salt meadows (*Juncetalia maritimi*) 2120 Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes) **Potential for Significant Effects** The proposed works are located 11.4 km from the Rodgerstown Estuary SAC. No potential impact is foreseen. There is no direct hydrological connection from the proposed development to this SAC which is located on the far side of Howth Head. Foul water from the development will be processed in the existing Ringsend Treatment works which has a capacity for 1.9 million people and the development would be seen as insignificant in terms of the overall operation of Ringsend WWTP. There has been no indication of contaminated material on site or substances that may cause environmental pollution. No potential impact is foreseen. There is no direct pathway from this site to the SAC. The construction and operation of the proposed development will not impact on the conservation interests of the site. **No significant effects are likely**

b) Special Protection Areas

NATURA CODE	NAME	Screened In/Out	Details/Reason
Special Protection Areas			
IE0004006	North Bull Island SPA	IN	**Conservation Objective:** 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** 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*) 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 for Significant Effects** The proposed development site is in the Santry River catchment adjacent to the Santry River. North Bull Island SPA is 3.2 km from the site with a direct hydrological connection. Standard construction and operational phase controls will be carried out on site to ensure that all works will be carried out in compliance with Local Government (Water Pollution) Acts 1977-1990, Inland Fisheries Ireland and DCC conditions. These controls include silt and petrochemical interception in all works areas, road sweepers and the prevention of runoff from sites entering directly into watercourses. Despite the fact that these measures will ensure protection of the water quality in the Santry River, the recent decision by the Court of Justice of the European Union People Over Wind and Sweetman v Coillte Teoranta (C-323/17) means that measures intended to avoid or reduce the harmful effects of a proposed project on a European site may no longer be taken into account by competent authorities at the Habitat Regulations Assessment "screening stage" when judging whether a proposed plan or project is likely to have a significant effect on the integrity of a European designated site. The site is a mainly brownfield site with built land being the prominent habitat. Small areas of amenity grassland are on site but, the grass is long, not maintained and would therefore be of no interest to Brent geese. No Brent geese have been observed on site. Therefore as the proposed project has a direct hydrological link to the North Bull Island SPA, via the Santry River, will utilise

NATURA CODE	NAME	Screened In/Out	Details/Reason
			standard construction and operational phase controls to prevent impacts on the Santry River and under the precautionary principle, as a direct result of ECJ ruling, a NIS is deemed appropriate. **(Stage 2 Appropriate Assessment (NIS) required)**
IE0004016	Baldoyle Bay SPA	**Out**	**Conservation Objectives:** To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. **Qualifying Interests** A046 Brent Goose (*Branta bernicla hrota*) A048 Shelduck (*Tadorna tadorna*) A137 Ringed Plover (*Charadrius hiaticula*) A140 Golden Plover (*Pluvialis apricaria*) A141 Grey Plover (*Pluvialis squatarola*) A157 Bar-tailed Godwit (*Limosa lapponica*) A999 Wetlands. **Potential for Significant Effects** The proposed works are located a minimum of 4.4 km from the SPA. No potential impact is foreseen. There is no direct hydrological connection from the proposed development to this SPA which is located on the far side of Howth Head. Foul water from the development will be processed in the existing Ringsend Treatment works which has a capacity for 1.9 million people and the development would be seen as insignificant in terms of the overall operation of Ringsend WWTP. There has been no indication of contaminated material on site or substances that may cause environmental pollution. Disturbance will be localized to the immediate vicinity of the proposed development site. The site is a brownfield site with built land being the prominent habitat. Small areas of amenity grassland are on site but, the grass is long, not maintained and would therefore be of no interest to Brent geese. No Brent geese have been observed on site. No potential impact is foreseen. There is no direct pathway from this site to the SAC. The construction and operation of the proposed development will not impact on the conservation interests of the site. **No significant effects are likely**
IE0004024	South Dublin Bay and River Tolka Estuary SPA	**Out**	**Conservation Objective:** 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** Light-bellied Brent Goose (*Branta bernicla hrota*) Oystercatcher (*Haematopus ostralegus*) Ringed Plover (*Charadrius hiaticula*) Grey Plover (*Pluvialis squatarola*) Knot (*Calidris canutus*) Sanderling (*Calidris alba*) Dunlin (*Calidris alpina*)

NATURA CODE	NAME	Screened In/Out	Details/Reason
			Bar-tailed Godwit (*Limosa lapponica*) Redshank (*Tringa totanus*) Black-headed Gull (*Croicocephalus ridibundus*) Roseate Tern (*Sterna dougallii*) Common Tern (*Sterna hirundo*) Arctic Tern (*Sterna paradisaea*) Wetlands & Waterbirds **Potential for Significant Effects** The works are located a minimum of 3.7 km from the South Dublin Bay and River Tolka Estuary SPA. There is no direct hydrological connection from the proposed development to this SPA. Foul water from the development will be processed in the existing Ringsend Treatment works which has a capacity for 1.9 million people and the development would be seen as insignificant in terms of the overall operation of Ringsend WWTP. There has been no indication of contaminated material on site or substances that may cause environmental pollution. Disturbance will be localized to the immediate vicinity of the proposed development site. The site is a brownfield site with built land being the prominent habitat. Small areas of amenity grassland are on site but, the grass is long, not maintained and would therefore be of no interest to Brent geese. No Brent geese have been observed on site. No potential impact is foreseen. There is no direct pathway from this site to the SPA. The construction and operation of the proposed development will not impact on the conservation interests of the site. **No significant effects are likely**
IE0004117	Ireland's Eye SPA	**Out**	**Conservation Objective:** To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA: **Qualifying Interests** A017 Cormorant (*Phalacrocorax carbo*) A184 Herring Gull (*Larus argentatus*) A188 Kittiwake (*Rissa tridactyla*) A199 Guillemot (*Uria aalge*) A200 Razorbill (*Alca torda*) **Potential for Significant Effects** The proposed works are a minimum of 8.6km from the Ireland's Eye SPA. No significant effect on the qualifying interests of this SPA is foreseen. This SPA for coastal species, is surrounded by the marine environment and there is no direct hydrological connection from the works to this SPA. Foul water from the development will be processed in the existing Ringsend Treatment works which has a capacity for 1.9 million people and the development would be seen as insignificant in terms of the overall operation of Ringsend WWTP. There has been no indication of contaminated material on site or substances that may cause environmental pollution.

NATURA CODE	NAME	Screened In/Out	Details/Reason
			Disturbance will be localized to the immediate vicinity of the proposed development site. The site is a brownfield site with built land being the prominent habitat. No potential impact is foreseen. There is no direct pathway from this site to the SPA. The construction and operation of the proposed development will not impact on the conservation interests of the site. **No significant effects are likely**
IE0004113	Howth Head SPA	**Out**	**Conservation Objective:** To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA **Qualifying Interests** A188 Kittiwake (*Rissa tridactyla*) The proposed works are a minimum of 9.2 km from the Howth Head SPA. No significant effect on the qualifying interests of this SPA is foreseen. This SPA for Kittiwake, is surrounded by the marine environment and there is no direct hydrological connection from the works to this SPA. Foul water from the development will be processed in the existing Ringsend Treatment works which has a capacity for 1.9 million people and the development would be seen as insignificant in terms of the overall operation of Ringsend WWTP. There has been no indication of contaminated material on site or substances that may cause environmental pollution. Disturbance will be localized to the immediate vicinity of the proposed development site. The site is a brownfield site with built land being the prominent habitat and would not be an important habitat for Kittiwake. No potential impact is foreseen. There is no direct pathway from this site to the SPA. The construction and operation of the proposed development will not impact on the conservation interests of the site. **No significant effects are likely**
IE0004025	Broadmeado w/Swords Estuary SPA	**Out**	**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. *Objective 1:* To maintain the favourable conservation condition of the waterbird Special Conservation Interest species listed for Malahide Estuary SPA. *Objective 2:* To maintain the favourable conservation condition of the wetland habitat at Malahide Estuary SPA as a resource for the regularly-occurring migratory waterbirds that utilise it. **Qualifying Interests** A005 Great Crested Grebe *(Podiceps cristatus)* A046 Brent Goose *(Branta bernicla hrota)* A048 Shelduck *(Tadorna tadorna)* A054 Pintail *(Anas acuta)*

NATURA CODE	NAME	Screened In/Out	Details/Reason
			A067 Goldeneye *(Bucephala clangula)* A069 Red-breasted Merganser *(Mergus serrator)* A130 Oystercatcher *(Haematopus ostralegus)* A140 Golden Plover *(Pluvialis apricaria)* A141 Grey Plover *(Pluvialis squatarola)* A143 Knot *(Calidris canutus)* A149 Dunlin *(Calidris alpina)* A156 Black-tailed Godwit *(Limosa limosa)* A157 Bar-tailed Godwit *(Limosa lapponica)* A162 Redshank (*Tringa tetanus)* A999 Wetlands **Potential for Significant Effects** The proposed works are a minimum of 7.1km from the Broadmeadow/Swords Estuary SPA. No potential impact is foreseen. There is no direct hydrological connection from the proposed development to this SPA which is located on the far side of Howth Head. Foul water from the development will be processed in the existing Ringsend Treatment works which has a capacity for 1.9 million people and the development would be seen as insignificant in terms of the overall operation of Ringsend WWTP. There has been no indication of contaminated material on site or substances that may cause environmental pollution. Disturbance will be localized to the immediate vicinity of the proposed development site. The site is a brownfield site with built land being the prominent habitat. Small areas of amenity grassland are on site but, the grass is long, not maintained and would therefore be of no interest to Brent geese. No Brent geese have been observed on site. No potential impact is foreseen. There is no direct pathway from this site to the SPA. The construction and operation of the proposed development will not impact on the conservation interests of the site. **No significant effects are likely**
IE0004015	Rogerstown Estuary SPA	**Out**	**Conservation Objective:** 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** A043 Greylag Goose (*Anser anser*) A046 Brent Goose (*Branta bernicla hrota*) A048 Shelduck (*Tadorna tadorna*) A056 Shoveler (*Anas clypeata*) A130 Oystercatcher (*Haematopus ostralegus*) A137 Ringed Plover (*Charadrius hiaticula*) A141 Grey Plover (*Pluvialis squatarola*) A143 Knot (*Calidris canutus*) A149 Dunlin (*Calidris alpina*) A156 Black-tailed Godwit (*Limosa limosa*)

NATURA CODE	NAME	Screened In/Out	Details/Reason
			A162 Redshank (*Tringa tetanus*) A999 Wetlands **Potential for Significant Effects** The proposed works are a minimum of 11.6km from the Rogerstown Estuary SPA. No potential impact is foreseen. There is no direct hydrological connection from the proposed development to this SPA which is located on the far side of Howth Head. Foul water from the development will be processed in the existing Ringsend Treatment works which has a capacity for 1.9 million people and the development would be seen as insignificant in terms of the overall operation of Ringsend WWTP. There has been no indication of contaminated material on site or substances that may cause environmental pollution. Disturbance will be localized to the immediate vicinity of the proposed development site. The site is a brownfield site with built land being the prominent habitat. Small areas of amenity grassland are on site but, the grass is long, not maintained and would therefore be of no interest to Brent geese. No Brent geese have been observed on site. No potential impact is foreseen. There is no direct pathway from this site to the SPA. The construction and operation of the proposed development will not impact on the conservation interests of the site. **No significant effects are likely**
IE004172	Dalkey Islands SPA	Out	**Conservation Objectives** To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. **Features of Interest** *Sterna dougallii* (Roseate Tern) [A192] *Sterna hirundo* (Common Tern) [A193] *Sterna paradisaea* (Arctic Tern) [A194] **Potential for Significant Effects** The proposed works are a minimum of 14.3km from the Dalkey Islands SPA. No potential impact is foreseen. There is no direct hydrological connection from the proposed development to this SPA. Disturbance will be localized to the immediate vicinity of the proposed development site. The site is a brownfield site with built land being the prominent habitat which is not an important habitat for terns. **No significant effects are likely**

In-Combination Effects

The proposed development site is within a large urban environment proximal to the Santry River. The land proximal to the site is industrial (primarily the adjacent Cadburys site), "light industrial" (Staffords Funeral home on Greencastle Road), residential and amenity/opens pace in the vicinity of the Santry River. Permission for development at a 1.97 Ha site at the Crown Paints Facility, Nos. 1 - 3 Malahide Road, Coolock, Dublin 17 was recently granted in 2018 for a 1,403 sq m hotel floor space and ancillary car parking in 8 no. blocks, comprising 198 no. residential apartments, a hotel, an aparthotel, crèche, office/incubator units and retail. No significant additional development has taken place in the vicinity of the proposed development site, which has remained derelict for many years. On the basis of the projects, their location and distance to the nearest ecological receptors, there will be no significant cumulative or in combination impact from these proposals in tandem with the current application.

Appropriate Assessment Screening Conclusions

An initial screening of the proposed works, using the precautionary principle (without the use of any mitigation or control measures) and the Source/Pathway/Receptor links between the proposed works and Natura 2000 sites with the potential to result in significant adverse effects on the conservation objectives and features of interest of the Natura 2000 sites was carried out in Table 3. Based on objective information and assessment, the possibility of significant adverse effects caused by the proposed project was excluded for the following Natura 2000 sites.

Special Protection Areas

- Baldoyle Bay SPA [IE0004016]
- Ireland's Eye SPA [004117]
- Howth Head Coast SPA [004113]
- Dalkey Islands SPA [004172]
- South Dublin Bay and River Tolka Estuary SPA [IE0004024]
- Broadmeadow/Swords Estuary SPA [IE0004025]
- Rogerstown Estuary SPA [IE0004015]

Special Areas of Conservation

- Baldoyle Bay SAC [000199]
- Howth Head SAC [000202]
- Malahide Estuary SAC [000205]
- Rockabill to Dalkey Island SAC [003000]
- Glenasmole Valley SAC [001209]
- Ireland's Eye SAC [002193]
- South Dublin Bay SAC [IE0000210]
- Rogerstown Estuary SAC [IE0000208]

The project is limited in scale and extent and the potential zone of influence is seen to be restricted to the immediate vicinity of the proposed development. However, it should also be noted that no effects are foreseen on Natura 2000 sites beyond 15km from the proposed development due to the limited scale and nature of the project.

Acting on a strictly precautionary basis NIS is required in respect of the effects of the project on the North Dublin Bay SAC and North Bull Island SPA (hydrological connection to proposed works) because it cannot be excluded on the basis of 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 named European Site/s in the absence of mitigation measures.

An 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. .

4. Stage II- Natura Impact Statement

A Natura Impact Statement (NIS) is Stage 2 of the Appropriate Assessment process. In the case of the proposed development at the Chivers Site, acting on a strictly precautionary basis an NIS is required in respect of the effects of the project on the North Bull Island SPA and North Dublin Bay SAC because it cannot be excluded on the basis of 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 named European Site/s.

The NIS evaluates the potential for direct, indirect effects, alone or in combination with other plans and projects having taken into account the use of mitigation measures. The NIS is informed by the accompanying EIAR and outline CEMP which outline the proposed mitigation measures that are proposed to reduce the potential effects of the proposed project on species/habitats of conservation importance and designated conservation sites.

Site related information.

North Bull Island SPA

As outlined in the Site Synopsis (NPWS, 2015c) "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.

The Natura 2000 Standard Data Form (NPWS, 2015d) "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."

Features of Interest
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]

The conservation objective is to maintain the favourable conservation condition of the species which are Features of Interest, which is defined by the following list of attributes and targets:

Attribute	**Measure**	**Target**
Population trend	Percentage change	Long term population trend stable or increasing. Waterbird population trends are presented in part four of the conservation objectives supporting document.
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by species that are features of interest, other than that occurring from natural patterns of variation

Wetlands

Attribute	**Measure**	**Target**
Habitat area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 1,713 hectares, other than that occurring from natural patterns of variation. See Figure 13.

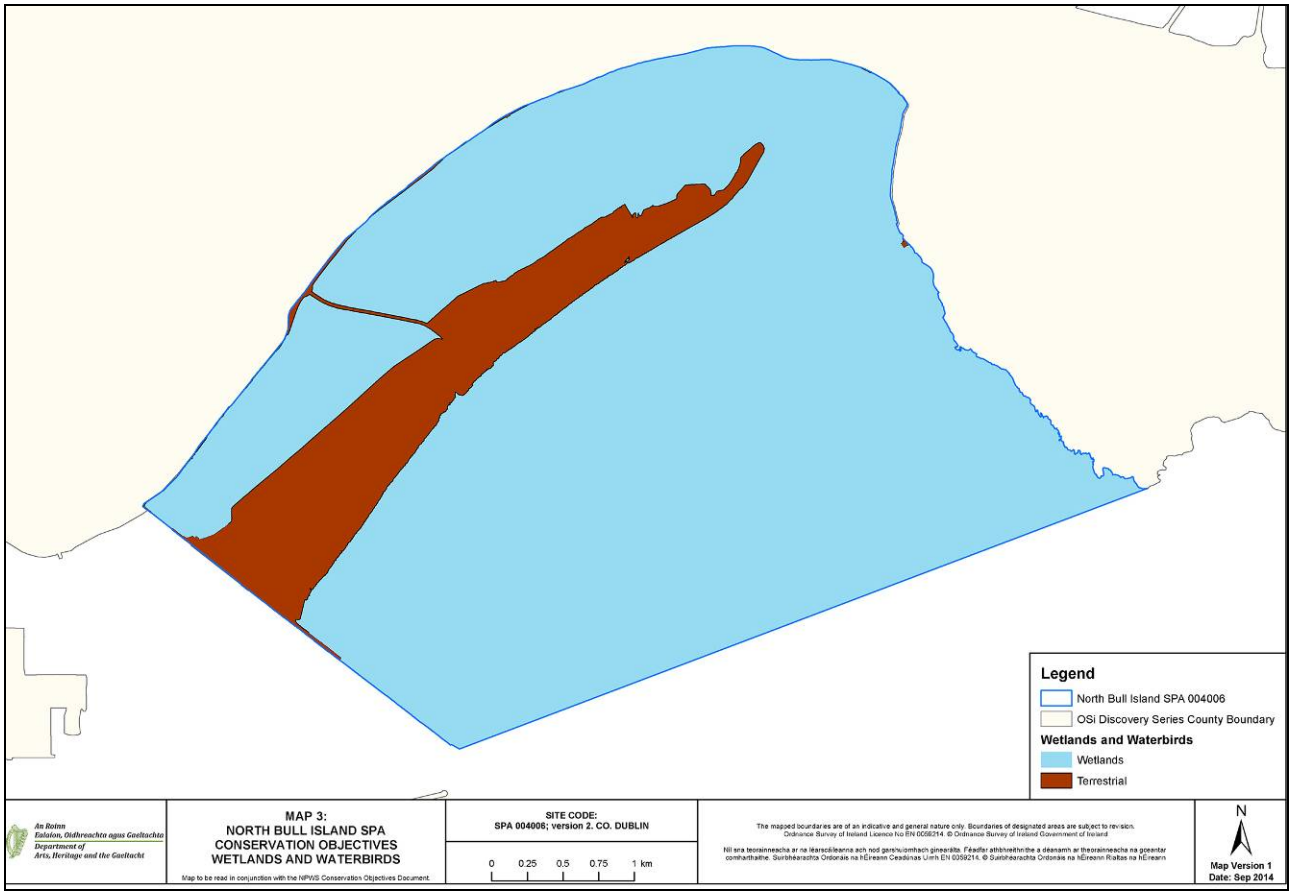

Figure 13. Wetlands and waterbirds in North Bull Island SPA.

North Dublin Bay cSAC

As outlined in the NPWS Site Synopsis (NPWS, 2016g) "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."

The Natura 2000 Standard Data Form (NPWS, 2015a) 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.

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."

Features of Interest
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* (white dunes)
2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)
2190 Humid dune slacks

Marine Habitats
As outlined in Section 2 (Appropriate Assessment Notes) of the conservation objectives supporting (Marine habitats) document (NPWS, 2013) " The following technical clarification is provided in relation to specific conservation objectives and targets for Annex I habitats to facilitate the appropriate assessment process:
Objective: *To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in North 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. This target refers to activities or operations that propose to permanently remove habitat from a site, thereby reducing the permanent amount of habitat area. It does not refer to long or short term disturbance of the biology of a site.
.
Target 2 Maintain the extent of the *Mytilus edulis*-dominated community, subject to natural processes. A Mytilus edulis-dominated community is considered to be structurally important within a habitat. It provides a substratum for epiflora and epifauna and also a variety of niches within its interstices. This results in higher biodiversity than the surrounding sediment. Intertidal mussel beds also provide an important food source for a number of bird species. Any significant anthropogenic disturbance to the extent of this community should be avoided. An interpolation of the likely distribution of this community is provided in figure 14. The area given below is based on spatial interpolation and therefore should be considered indicative:
- *Mytilus edulis*-dominated community– 22ha

Target 3 Conserve the high quality of the *Mytilus edulis*-dominated community, subject to natural processes.

- Every effort should be made to avoid any death to living *Mytilus edulis*.
- Any significant anthropogenic disturbance to the quality (e.g. living individual/m2) of the community should be avoided.

Target 4 Conserve the following communities in a natural condition: Fine sand to sandy mud with Pygospio elegans and *Crangon crangon* community complex and Fine sand with Spio martinensis community complex.

- A semi-quantitative description of the communities has been provided.
- An interpolation of their likely distribution is provided in Figure 14.
- The estimated areas of the communities within the Mudflats and sandflats not covered by seawater at low tide habitat given below are based on spatial interpolation and therefore should be considered indicative:
- Fine sand to sandy mud with *Pygospio elegans* and *Crangon crangon* community complex – 215ha
- Fine sand with Spio martinensis community complex – 341ha
- Significant continuous or ongoing disturbance of communities should not exceed an approximate area of 15% of the interpolated area of each community type, at which point

an inter-Departmental management review is recommended prior to further licensing of such activities.

- Proposed activities or operations that cause significant disturbance to communities but may not necessarily represent a continuous or ongoing source of disturbance over time and space may be assessed in a context-specific manner giving due consideration to the proposed nature and scale of activities during the reporting cycle and the particular resilience of the receiving habitat in combination with other activities within the designated site.

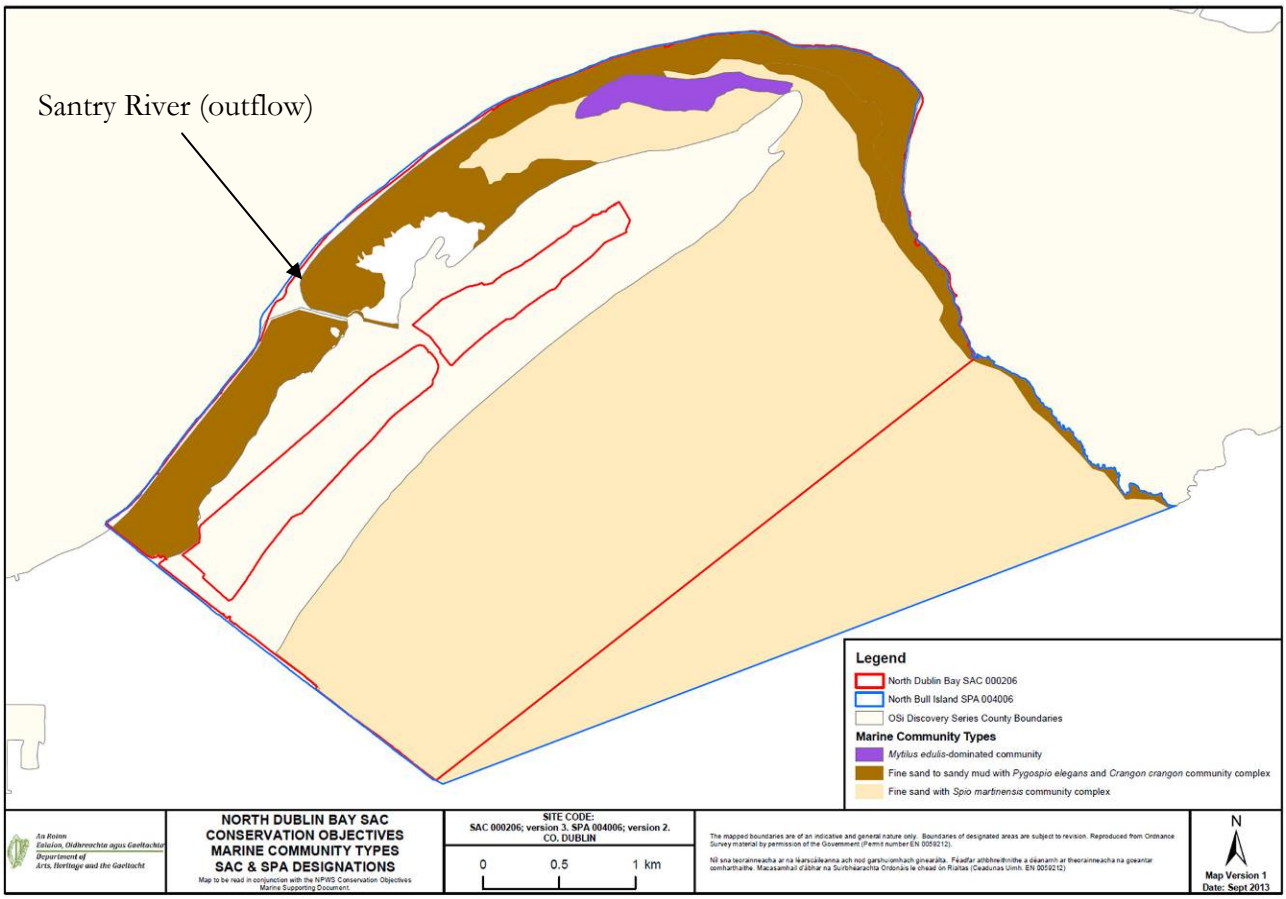

Figure 14. Distribution of marine communities in North Dublin Bay SAC.

Coastal Habitat

Saltmarsh

The distribution of Saltmarsh Habitat within North Dublin Bay SAC is seen in Figure 15. As outlined in NPWS (2013b) the saltmarsh within the site mainly occurs along the west side of Bull Island facing the mainland. A small area of saltmarsh extends along the north side of the causeway to the midway point. A small patch of saltmarsh also occurs on the mainland north of the causeway, at the confluence of the Santry River."

"The overall objective for '*Salicornia and other annuals colonising mud and* sand' in North Dublin Bay Complex SAC is to 'restore the favourable conservation condition'.

- The target for Salicornia flats is that the area should be stable or increasing, subject to natural processes, including erosion and succession.
- The target is that there should be no decline or change in the distribution of these saltmarsh habitats, unless it is the result of natural processes, including erosion, accretion and succession.
- Physical structure: sediment supply-The target is to maintain the natural circulation of sediment and organic matter, without any physical obstructions.
- The target is to maintain creek and pan networks where they exist and to restore areas that have been altered.
- The target is to maintain a flooding regime whereby the lowest levels of the saltmarsh are flooded daily, while the upper levels are flooded occasionally (e.g. highest spring tides).

- The target is to maintain the range of coastal habitats, including transitional zones, subject to natural processes including erosion and succession.
- The target is to maintain structural variation within the sward. A general guideline is that there should be a sward ratio of 30% tall:70% short across the entire saltmarsh.
- The target is to maintain 90% of the area outside of the creeks vegetated.
- The aim is that negative indicators such as Spartina should be absent or under control. The current target for this particular site is no significant expansion and an annual spread of less than 1%.

The overall objective for *'Atlantic salt meadows'* in North Dublin Bay SAC is to 'maintain the favourable conservation condition'.

- The target for ASM is that the area should be stable or increasing, subject to natural processes, including erosion and succession.
- The target is that there should be no decline or change in the distribution of these saltmarsh habitats, unless it is the result of natural processes, including erosion, accretion and succession.
- Physical structure: sediment supply-The target is to maintain the natural circulation of sediment and organic matter, without any physical obstructions.
- The target is to maintain creek and pan networks where they exist and to restore areas that have been altered.
- The target is to maintain a flooding regime whereby the lowest levels of the saltmarsh are flooded daily, while the upper levels are flooded occasionally (e.g. highest spring tides).
- The target is to maintain the range of coastal habitats, including transitional zones, subject to natural processes including erosion and succession.
- The target is to maintain structural variation within the sward. A general guideline is that there should be a sward ratio of 30% tall:70% short across the entire saltmarsh.
- The target is to maintain 90% of the area outside of the creeks vegetated.
- The aim is that negative indicators such as Spartina should be absent or under control. The current target for this particular site is no significant expansion and an annual spread of less than 1%.

The overall objective for '*Mediterranean salt meadows'* in North Dublin Bay SAC is to 'maintain the favourable conservation condition'.

- The target for MSM is that the area should be stable or increasing, subject to natural processes, including erosion and succession.
- The target is that there should be no decline or change in the distribution of these saltmarsh habitats, unless it is the result of natural processes, including erosion, accretion and succession.
- Physical structure: sediment supply-The target is to maintain the natural circulation of sediment and organic matter, without any physical obstructions.
- The target is to maintain creek and pan networks where they exist and to restore areas that have been altered.
- The target is to maintain a flooding regime whereby the lowest levels of the saltmarsh are flooded daily, while the upper levels are flooded occasionally (e.g. highest spring tides).
- The target is to maintain the range of coastal habitats, including transitional zones, subject to natural processes including erosion and succession.
- The target is to maintain structural variation within the sward. A general guideline is that there should be a sward ratio of 30% tall:70% short across the entire saltmarsh.
- The target is to maintain 90% of the area outside of the creeks vegetated.
- The aim is that negative indicators such as Spartina should be absent or under control. The current target for this particular site is no significant expansion and an annual spread of less than 1%.

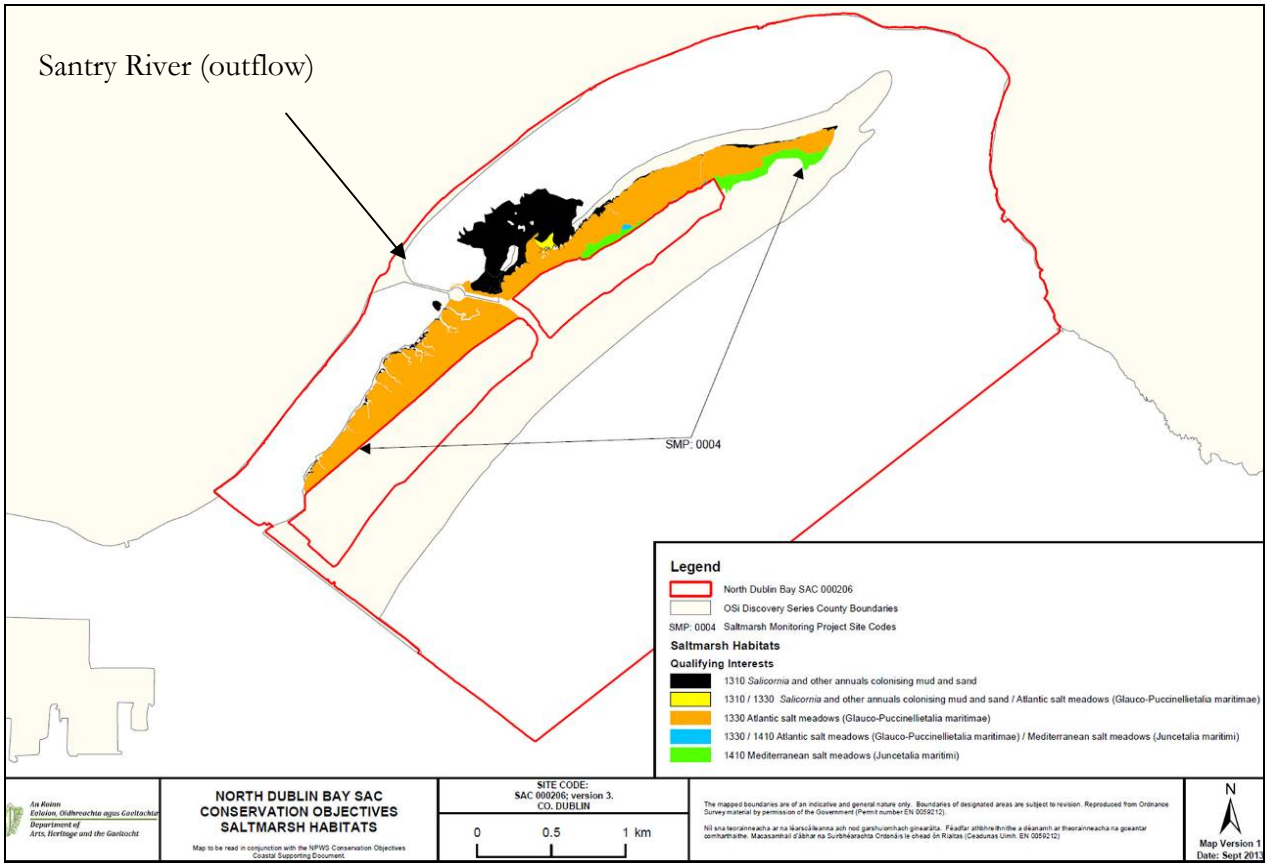

Figure 15. Distribution of saltmarsh habitats in North Dublin Bay SAC

Sand dune habitats

The distribution of Sand Dune Habitats in North Dublin Bay SAC is seen in Figure 15.

The overall objective for:

1. 'Annual vegetation of drift lines' in North Dublin Bay SAC is to 'restore the favourable conservation condition'.
2. 'Embryonic shifting dunes' in North Dublin Bay SAC is to 'restore the favourable conservation condition'.
3. 'Shifting dunes along the shoreline with *Ammophila arenaria'* in North Dublin Bay SAC is to 'restore the favourable conservation condition'.
4. 'Fixed coastal dunes with herbaceous vegetation' in North Dublin Bay SAC is to 'restore the favourable conservation condition'.
5. 'Humid dune slacks' in North Dublin Bay SAC is to 'restore the favourable conservation condition'.

Targets:

- There should be no decline or change in the distribution of these sand dune habitats, unless it is the result of natural processes, including erosion, and succession.
- Physical structure: functionality and sediment supply-The target for this attribute is to maintain the natural circulation of sediment and organic matter throughout the entire dune system, without any physical obstructions.
- The target is to ensure that the hydrological regime continues to function naturally and that there are no increased nutrient inputs in the groundwater.
- The target is to maintain the range of coastal habitats, including transitional zones, subject to natural processes, including erosion and succession.
- The target is to achieve up to 10% bare sand with the exception of pioneer slacks which can have up to 20% bare sand. This target is assessed subject to natural processes.
- Vegetation structure: vegetation height-The target for this attribute is to maintain structural variation within the sward.
- Vegetation composition: plant health of dune grasses- The target for this attribute is that more than 95% of the dune grasses should be healthy.

- Vegetation composition: typical species & sub-communities-The target for this attribute is to maintain a typical flora for the particular sand dune habitat.
- Vegetation composition: cover of S. repens- The target is therefore to keep the cover of *S. repens* below 40%.
- The target is that negative indicators (including non-native species) should represent less than 5% of the vegetation cover.
- The target for this attribute therefore is that the cover of scrub and tree species should be under control or represent no more than 5% of the vegetation cover.

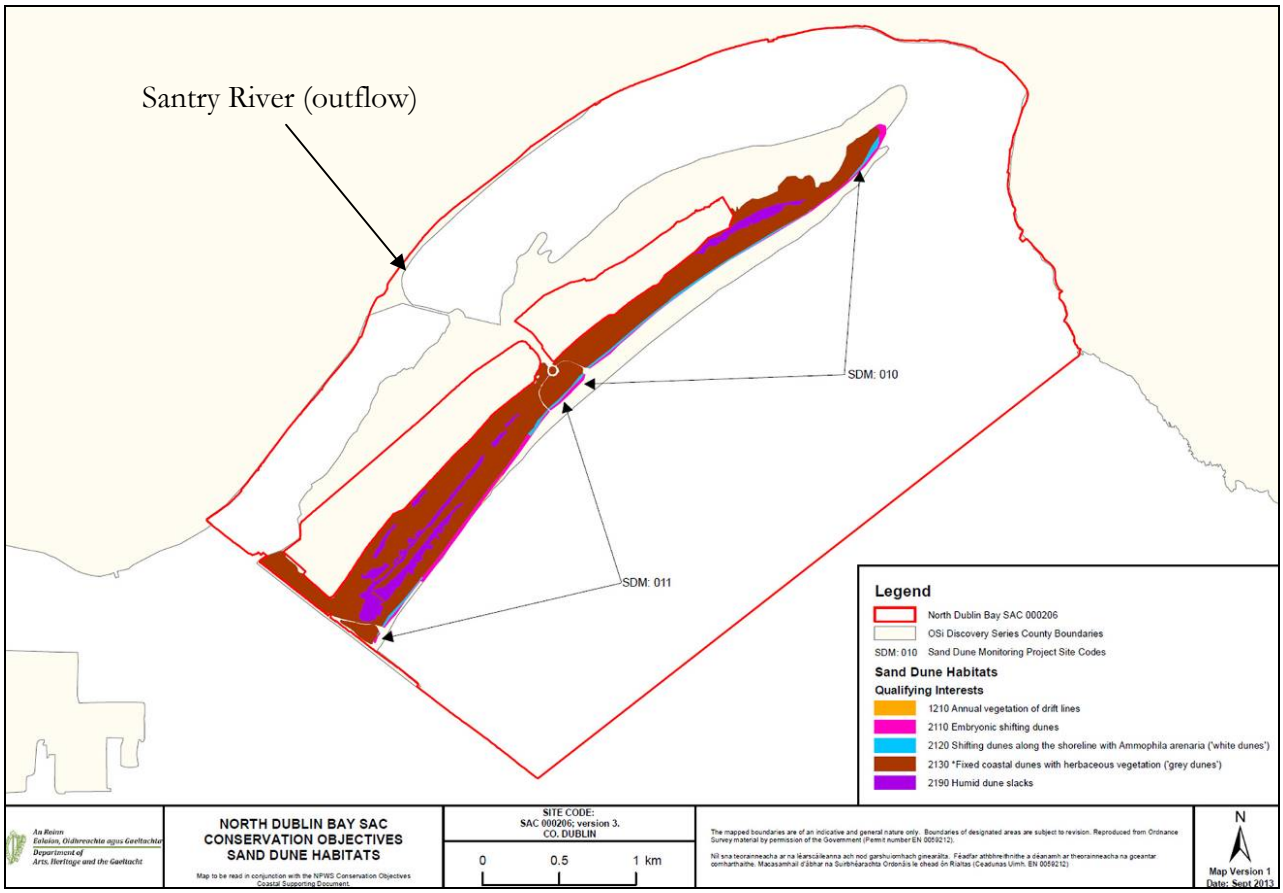

Figure 15. Location of Sand Dune Habitats in North Dublin Bay SAC.

Status of Features of Interest

The Qualifying Interests (QI) (Features of Interest), Special Conservation Interests (SCIs) for the SPA sites and the National conservation status of the QI of two Natura 2000 sites subject to the NIS are seen in Table 5. The site specific conservation Objectives, features of interest and their attributes, measures and targets are seen in Table 6.

Table 5 Qualifying Interests, Conservation Status, Management Objectives, Conditions underpinning site integrity for relevant European sites		
Natura 2000 Site Name & Site Code	**Qualifying Interests**	**Current Conservation Status**
North Dublin Bay SAC (IE000206)	*Annex I Habitats (Features of interest):* Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of drift lines [1210] Salicornia and other annuals colonizing 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] *Annex II species (Features of interest):* Petalwort *Petalophyllum ralfsii* [1395]	 **Unfavourable/Inadequate** **Unfavourable/Inadequate** **Unfavourable/Inadequate** **Unfavourable/Inadequate** **Unfavourable/Inadequate** **Unfavourable/Inadequate** **Unfavourable/Inadequate** **Unfavourable/Bad** **Unfavourable/Inadequate** **Favourable**
North Bull Island SPA (004006)	Oystercatcher (*Haematopus ostralegus*) [A130] Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] Shelduck (*Tadorna tadorna*) [A048] Teal (*Anas crecca*) [A052] Pintail (*Anas acuta*) [A054] Shoveler (*Anas clypeata*) [A056] 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 (*Larus ridibundus*) [A179] Wetlands & Waterbirds [A999]	Amber **Red** **Amber** **Red** **Green** **Amber** **Amber** **Amber** **Amber** **Amber** **Red** **Amber** **Amber** **Red** **Red** **Green** **Red**

Table 6 Detailed Conservation Objectives for Natura 2000 sites		
Attribute	**Measure**	**Target**
North Dublin Bay SAC		
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/m²	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 colonising mud and sand [1310] (Restore the favourable conservation condition)		
Habitat area	Hectares	Area stable or 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: sediment supply	Presence/ absence of physical barriers	Maintain, or where necessary 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 the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation structure: vegetation height	Centimetres	Maintain structural variation within 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 subcommunities	Percentage cover	Maintain the presence of species-poor communities listed in SMP (McCorry and Ryle, 2009)

Table 6 Detailed Conservation Objectives for Natura 2000 sites		
Attribute	**Measure**	**Target**
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 (Glauco-Puccinellietalia maritimae [1330] (Maintain the favourable conservation condition)		
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
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 variation within 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 subcommunities	Percentage cover at a representative number of monitoring stops	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%
Mediterranean salt meadows (*Juncetalia maritimi*) [1410] (Maintain the favourable conservation condition)		
Habitat area	Hectares	Area stable or 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: 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 variation within sward
Vegetation structure:	Percentage cover at a	Maintain more than 90% of area outside creeks vegetated

Table 6 Detailed Conservation Objectives for Natura 2000 sites		
Attribute	**Measure**	**Target**
vegetation cover	representative number of monitoring stops	
Vegetation composition: typical species and subcommunities	Percentage cover at a representative number of monitoring stops	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%
Embryonic shifting dunes [2110] (Restore the favourable conservation condition)		
Habitat area	Hectares	Area stable or 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 sediment supply	Presence/ absence of physical barriers	Maintain natural circulation of sediments 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: plant health of for dune 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 subcommunities (*Leymus arenarius*)	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 lymegrass
Vegetation composition: 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
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: functionality sediment supply	Presence/ absence of physical barriers	Maintain natural circulation of sediments 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: 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 subcommunities	Percentage cover at a representative number of Monitoring stops	Maintain the presence of species-poor communities dominated by marram grass (*Ammophila arenaria*) and/or lymegrass (*Leymus arenarius*)
Vegetation composition: 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

Table 6 Detailed Conservation Objectives for Natura 2000 sites		
Attribute	**Measure**	**Target**
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: functionality sediment supply	Presence/ absence of physical barriers	Maintain natural circulation of sediments 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 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 in the sward
Vegetation composition: typical species and subcommunities	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
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: functionality sediment supply	Presence/ absence of physical barriers	Maintain natural circulation of sediments 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 the 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 the sward
Vegetation composition: typical species and subcommunities	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*)

Table 6 Detailed Conservation Objectives for Natura 2000 sites		
Attribute	**Measure**	**Target**
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
Area 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		
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 (ha)	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	No significant decline

Table 6 Detailed Conservation Objectives for Natura 2000 sites		
Attribute	**Measure**	**Target**
	(Hectares)	
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: 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 Arctic tern among the post-breeding aggregation of terns
Wetlands [A999] (Maintain the favourable conservation condition)		
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		
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
Wetlands [A999] (Maintain the favourable conservation condition)		
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

Table 7 Potential for adverse effects on the qualifying Interests and conservation objectives of Natura 2000 sites.		
Natura 2000 Site Name & Site Code	**Qualifying Interests**	**Potential for adverse effects**
North Dublin Bay SAC (IE000206)	*Annex I Habitats (Features of interest):* Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of drift lines [1210] Salicornia and other annuals colonizing 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] *Annex II species (Features of interest):* Petalwort *Petalophyllum ralfsii* [1395]	Without standard construction and operational controls adverse impacts would be seen on the Santry River. These impacts could result in the introduction suspended sediments or pollution associated with construction or operational activities into the Santry River and to the downstream marine Natura 2000 sites. There is no indication of contaminated material or material on site that could cause a significant environmental impact. The introduction of material from construction or operational activities would be deemed not to have a significant effect on Natura 2000 sites as there are no instream works, works in vicinity of the river are minor in nature and there would be dilution and settlement or silt, between the proposed works and the Natura 2000 sites. However, despite this, standard construction and operational mitigation measures are proposed to prevent impacts on local water quality in the Santry River. The potential impacts outlined above would not be expected to impact on the: Habitat area, Community extent on Community Structure: Zostera density Community distribution. *Mudflats and sandflats not covered by water at low tide* [1140]. Habitat area, Habitat distribution, Physical structure: functionality and sediment supply, Vegetation structure: zonation, Vegetation composition: typical species and subcommunities, Vegetation composition: negative indicator species of *Annual vegetation of drift lines* [1210] Habitat area, Habitat distribution, Physical structure: sediment supply, Physical structure: creeks and pans, Physical structure: flooding regime, Vegetation structure: zonation, Vegetation structure: vegetation height, Vegetation structure: vegetation cover, Vegetation composition: typical species and subcommunities, Vegetation structure: negative indicator species-*Spartina anglica* of *Salicornia and other annuals colonising mud and sand* [1310]. Habitat area, Habitat distribution, Physical structure: sediment supply, Physical structure: creeks and pans, Physical structure: flooding regime, Vegetation structure: zonation, Vegetation structure: vegetation height, Vegetation structure: vegetation cover, Vegetation composition: typical species and subcommunities, Vegetation structure: negative indicator species -Spartina anglica of Atlantic salt meadows Glauco-Puccinellietalia maritimae [1330]. Habitat area, Habitat distribution, Physical structure: sediment supply, Physical structure: creeks and pans, Physical structure: flooding regime, Vegetation structure: zonation, Vegetation structure: vegetation height, Vegetation structure: vegetation cover, Vegetation composition: typical species and subcommunities, Vegetation structure: negative indicator species -Spartina anglica of Mediterranean salt meadows Juncetalia maritimi [1410] Habitat area, Habitat distribution, Physical structure: functionality sediment supply, Vegetation structure: zonation, Vegetation composition: plant health of for dune

Table 7 Potential for adverse effects on the qualifying Interests and conservation objectives of Natura 2000 sites.		
Natura 2000 Site Name & Site Code	**Qualifying Interests**	**Potential for adverse effects**
		grasses, Vegetation composition: typical species and subcommunities (Leymus arenarius), Vegetation composition: negative indicator species of Embryonic shifting dunes [2110] Habitat area, Habitat distribution , Physical structure: functionality sediment supply, Vegetation structure: zonation, Vegetation composition: plant health of dune grasses, Vegetation composition: typical species and subcommunities, Vegetation composition: negative indicator species of Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120] Habitat area, Habitat distribution, Physical structure: functionality sediment supply, Vegetation structure: zonation, Vegetation structure: bare ground, Vegetation structure: sward height, Vegetation composition: typical species and subcommunities, Vegetation composition: negative indicator species (including *Hippophae rhamnoides*), Vegetation composition: scrub/trees of Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Habitat area, Habitat distribution, Physical structure: functionality sediment supply, Physical structure: hydrological and flooding regime, Vegetation structure: zonation, Vegetation structure: bare ground, Vegetation structure: vegetation height, Vegetation composition: typical species and subcommunities, Vegetation composition: cover of *Salix repens*, Vegetation composition: negative indicator species, Vegetation composition: scrub/trees of Humid dune slacks [2190] Distribution of populations, Population size, Area of suitable habitat, Hydrological conditions: soil moisture, Vegetation structure: height and cover of Petalwort *Petalophyllum ralfsii* [1395] The mitigation measures outlined in the outline CEMP and this AA Screening and NIS should be carried out to ensure that no silt or pollution enters the Santry River from the construction or operation phases of the proposed project and create localised pollution. However, the level of effect on SAC, without the use of standard construction phase controls, is not deemed to be significant due to the, lack of in stream works, the small scale of the proposed development, the distance to the SAC and the mixing and settlement in the Santry River
North Bull Island SPA (004006)	Oystercatcher (*Haematopus ostralegus*) [A130] Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] Shelduck (*Tadorna tadorna*) [A048] Teal (*Anas crecca*) [A052] Pintail (*Anas acuta*) [A054] Shoveler (*Anas clypeata*) [A056] Golden Plover (*Pluvialis apricaria*) [A140] Grey Plover (*Pluvialis squatarola*) [A141]	Without standard construction and operational controls adverse impacts would be seen on the Santry River. These impacts could result in the introduction suspended sediments or pollution associated with construction or operational activities into the Santry River and to the downstream marine Natura 2000 sites. There is no indication of contaminated material or material on site that could cause a significant environmental impact. The introduction of material from construction or operational activities would be deemed not to have a significant effect on Natura 2000 sites as there are no instream works, works in vicinity of the river are minor in nature and

Table 7 Potential for adverse effects on the qualifying Interests and conservation objectives of Natura 2000 sites.		
Natura 2000 Site Name & Site Code	**Qualifying Interests**	**Potential for adverse effects**
	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 (*Larus ridibundus*) [A179] Wetlands & Waterbirds [A999]	there would be dilution and settlement or silt, between the proposed works and the Natura 2000 sites. However, despite this, standard construction and operational mitigation measures are proposed to prevent impacts on local water quality in the Santry River. Given the nature of the potential effects outlined above, the proposed project would not be expected to effect the: Distribution and Range, timing and intensity of use of areas of the SPA for Oystercatcher (*Haematopus ostralegus*) [A130], Light-bellied Brent Goose (*Branta bernicla hrota*) [A046], Shelduck (*Tadorna tadorna*) [A048], Teal (*Anas crecca*) [A052], Pintail (*Anas acuta*) [A054], Shoveler (*Anas clypeata*) [A056], 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 (*Larus ridibundus*) [A179]. The area Wetlands & Waterbirds [A999] The area of Wetlands [A999] The mitigation measures outlined in the outline CEMP and this AA Screening and NIS should be carried out to ensure that no silt or pollution enters the Santry River from the construction or operation phases of the proposed project and create localised pollution. However, the level of effect on SAC, without the use of standard construction phase controls, is not deemed to be significant due to the, lack of in stream works, the small scale of the proposed development, the distance to the SAC and the mixing and settlement in the Santry River.

Analysis of the Potential Impacts

Introduction

The proposed development will involve the removal of the existing terrestrial habitats on site (Appendix I), considerable re-profiling, excavations and the construction of roads, dwellings and associated services. The project also proposes to re-profile an area within 10m of the river and landscape the riparian corridor. An outlined CEMP has been prepared to detail the standard construction phase controls that will be incorporated on site to limit construction impacts. Additional measures are outlined in relation to operational impacts.

Construction Impacts

The outline CEMP has been prepared to outline the construction and operation phase mitigation measures in addition to detailing the potential impacts on sensitive receptors within the Zone of Influence (ZOI) and to designated conservation sites including the Natura 2000 sites downstream of the proposed development. The proposed construction of the proposed development, would potentially impact on the existing ecology of the site and the surrounding area. These potential construction impacts would include impacts that may arise during the site clearance, re-profiling of the site and the building phases of the proposed development. The proposed demolition of existing structures and development of the new onsite buildings will entail the loss of certain habitats on site[2] Amenity grassland, Built land and the Flower beds and borders on site, as well as Scrub, Ornamental/non-native shrub) and Mixed broadleaved/conifer woodland areas. The treeline habitats on Greencastle Road will remain and it is not proposed to divert or carry out instream works in the Santry River. However, re-profiling works will be carried out on the southern bank of the river and without appropriate controls has the potential to impact negatively on the Santry River.

Designated Natura 2000 sites within 15km

The proposed development is not within a designated conservation site. It should be noted that the proposed development site is on the Santry River and the nearest Natura 2000 sites are the North Bull Island SPA and the North Dublin Bay SAC both located 3.2km downstream of the proposed development site. The Santry River is not a salmonid river and there are no features of interest of these conservation sites that would migrate through this site. No other Natura 2000 sites have a direct hydrological connection or pathway from the proposed development site. The upstream water quality of the river 800m is classed as poor (Source: EPA WFD data).

Runoff during site demolition, re-profiling, the construction and operation of project elements could impact on the Santry River, with water quality or downstream/upstream impacts. Impacts on the Santry River would be seen as the primary vector for impacts on conservation sites. Ensuring water quality and compliance with Inland Fisheries Ireland procedures/ conditions and the Water Pollution Acts would be seen as the primary method of ensuring no significant impact on designated conservation sites.

The project has consulted with Inland Fisheries Ireland (IFI) since 2016 and the proposed works will be carried out based on best practice mitigation procedures and compliance with IFI requirements or conditions, including the prevention of silt and or pollutants entering watercourses. In addition, the project will have to comply with SUDS, Dublin City Council requirements and the provision of additional measures such as petrochemical interceptors and silt interception. Standard construction phase and operational controls in relation to onsite drainage will be in place and no impact is foreseen in relation to designated conservation sites.

Terrestrial Ecology

During the site visits no flora, bird or terrestrial mammal species of conservation importance were recorded on site or in NPWS or NBDC records.

Common mammalian species. Loss of habitat and habitat fragmentation may affect some common mammalian species and there is expected to be mortality during construction.

[2] Classified to Fossitt (2000).

Amphibians and reptiles. Frogs and reptiles were not observed on site - There are a no pond / wet ditch areas within the study area. However, the Santry River flows through the site and frogs may occur on site. The common lizard may occur on site but, was not observed. The proposed development will remove some potential foraging habitats on site. Some mortality may occur during construction.

Bat Fauna. As outlined in the Aardwolf bat survey "*no evidence of past or current use by bats of any of the onsite structures or trees was found*". "*The removal of the existing buildings will have no negative impacts on bats as the structures are not in use by these animals."*

Operational Impacts

No SUDS drainage is currently present on site with a significant un-attenuated hardstanding and roof area. Once constructed all onsite drainage will be connected to separate foul and surface water systems. Surface water runoff will comply with SUDS. The biodiversity value of the site would be expected to improve as the landscaping matures.

Designated Conservation sites within 15km

Currently the site has no attenuation or SUDS control or petrochemical interception. The proposed development includes a sustainable drainage strategy. This will improve the drainage network, particularly during extreme weather events as surface water from the site will be attenuated to greenfield runoff rates. The development will comply with DCC requirements and the Water Pollution Acts and measures will be in place to prevent downstream impacts. No significant impacts on designated sites are likely.

Terrestrial Ecology

As the landscaping elements improve with maturity it would be expected that the biodiversity value of the site to birds and flora would also increase, particularly in the vicinity of the green roofs and wildflower meadows.

Bat Fauna

As outlined in the ecological report "the proposed development will change the local environment as new structures are to be erected in place of the existing buildings, new roads and parking areas constructed and some of the existing vegetation will be removed. The removal of the onsite buildings will not negatively impact bats as none are present. No bat roosts will be lost due to this development and the species expected to occur onsite should persist." Lighting on site may reduce the foraging activity on site but this would be expected to be a minor impact. Lighting is not proposed in the riparian corridor or in the vicinity of the treeline.

Mitigation Measures & Monitoring

Standard construction and operational controls will be incorporated into the proposed development project to minimise the potential negative impacts on the ecology within the ZOI including the Santry River.

Designated Conservation sites within 15km

As the main potential vector for impacts would be seen to be via the Santry River, no additional controls are required besides those outlined below, during the construction and operational phases of the development, to mitigate against potential negative impacts on designated conservation sites. The mitigation has been designed to ensure that the project will comply with the Water Pollution Acts and standard DCC and IFI Conditions in relation to construction and drainage. All construction and operational phase controls outlined in the CEMP will be followed. The CEMP should be updated following any additional conditions received during planning and approved by IFI and DCC prior to the commencement of the relevant phase on site.

Development Construction

Contamination of watercourses. As existing drains are present on site, in proximity to the Santry River a project ecologist should be appointed prior to works or site clearance commencing on site. All works in the riparian corridor will be carried out in consultation with IFI and the project ecologist following the best practice guidelines for construction in the vicinity of watercourses. All tanks and underground storage areas/tanks should be cleaned, existing services and drains on site leading to the Santry River should be blanked off/ or removed prior to the commencement of demolition on site. Toilet facilities will be supplied on site, away from drains and maintained regularly. Raw or uncured waste concrete will not be disposed of within 20m of a drain. Runoff from works including pumping from excavations should only be carried out in consultation with the project ecologist with mitigation in place for silt and petrochemical interception.

No instream works are proposed. All works in the riparian corridor should have sufficient mitigation measures to prevent silt from runoff during works. This should include measures outlined by the project ecologist including silt fences and immediate landscaping of the riparian corridor following works.

Use of generators and small plant on site

Drip trays placed below all small plant. Spill kits will be present on all working sites to clean up spillages. A record of all spillages will be kept and monitored. Generators and small plant will not be used within 10m of drains.

Plant refuelling activities

All mobile plant to be refuelled in a central refuelling area in a compound, at a minimum of 50m from a watercourse, where a spillage containment sump will be constructed within the refuelling area. All collected fuel will be disposed offsite under license. A record of all spillages will be kept and monitored. Petrochemical interceptors should be maintained regularly.

Storage of materials

Material, sediment being washed into drains. Stockpiling of loose materials and soil will be kept to a minimum of 20m from watercourses and drains. In the event that stockpiles are required, they will have suitable barriers to prevent runoff of fines into the drainage system. Damping down of stockpiles will need to take pace in dry windy weather to prevent wind-blown movement of fines.

Spillages that could contaminate the drainage network. Fuel, oil and chemical storage should be sited within a bunded area. The bund will be able to take the volume of the largest container plus 10% and be located at least 10m away from drains, ditches, excavations and other locations where it may cause pollution. Bunds should be kept clean and spills within the bund area will be cleaned immediately to prevent groundwater contamination.

Ecology

- Relevant guidelines and legislation (Section 40 of the Wildlife Acts, 1976 to 2012) in relation to the removal of trees and timing of nesting birds will need be followed. If this is not possible trees to be felled should be inspected by a qualified ecologist.
- Replanting of the perimeter trees should be carried out, where possible and bird boxes should be placed on site in the vicinity of newly planted trees to reinstate nesting resource lost during site clearance.
- Construction operations outside of daylight should be kept to a minimum in order to minimise disturbance to fauna in addition to roosting bird species.
- Boundary vegetation: Linear features such as rivers and treelines serve as commuting corridors for bats (and other wildlife) and the onsite boundary vegetation should be retained and/or replaced once construction ends. Planting schemes should attempt to link in with existing wildlife corridors, both onsite and off, to provide continuity of wildlife corridors. On this site this would be important in the vicinity of the Santry River.
- A pre-construction bat survey should be carried out. If bats are encountered during any works at the site the relevant works will be suspended until the advice of a suitably qualified and licenced bat ecologist is sought. A derogation licence may need to be sought from NPWS in order to permit removal of bats and mitigate for the loss of any roosts on the site.
- A single stand of Japanese knotweed is present on site. As outlined in DCC (2016)[3] "this plant is very prevalent along waterways in Dublin City but is also more widespread away from water than either Giant Hogweed or Himalayan Balsam. NBDC records show it to be present along the Dodder, Liffey, Tolka, Cammock and Santry rivers as well as the Grand and Royal Canals." Prior to construction commencing an Invasive species management plan should be prepared and the Japanese knotweed should be dealt with in compliance with best practice.

Surface Water Discharge and Site Drainage

Appropriate storage and settlement facilities will be provided on site. The construction company will locate the areas of high risk early in the process.

Areas of high risk include

- Fuel and chemical storage
- Refuelling Areas
- Vehicle and Equipment washing areas
- Site Compound

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 the watercourse. In most cases this will involve collecting the run-off and routing it to treatment by filtration, settlement or specialist techniques. As well as treatment immediately prior to discharge, water can be treated at source and end route to the discharge point - though this does not necessarily negate the need for further treatment before discharge. Widely used techniques include, Silt trap and surface drainage protection. Concrete lorries will not be permitted to wash out on site apart from cleaning the chute into a container and then emptied into a skip.

[3] Dublin City Council 2016. Invasive Species Action Plan for Dublin City(2016-2020)

Riparian Corridor Construction Stage

As significant site clearance is involved in the project and the site is on sloping land adjacent to a river, measures need to be put in place to ensure that runoff from the site during construction is contained and that silt is intercepted. A silt interception system will be prepared in consultation with the project ecologist. The purpose of this is to ensure that silt is removed from runoff prior to entering the stream throughout the construction process. The following measures will be carried out to ensure that the site runoff is suitably contained during construction:

1. The riparian buffer of 10m will be established, landscaped and marked out prior to site clearance works on the remainder of the site. It is important that this area is cleared and landscaped in late spring/early summer as a portion of this area is within the potential flood zone of the river and landscaping needs to be well established prior to any risk of flooding, in order to limit any silt entering the stream during a flood. Inland Fisheries Ireland should be consulted prior to any works within the riparian corridor. Works will commence with the placing of silt fences in the riparian corridor. It is important that the bases of these are buried deeply in the soil as this area has the potential to be flooded and they could cause downstream impacts if not installed correctly. The riparian buffer of 10m will be established, landscaped and marked out to avoid machinery access, prior to site clearance works on the remainder of the site.
2. The area in the riparian corridor will be sloped so that any runoff during works will run parallel to the river and be caught by silt fences at the end of the site. All planting and landscaping should be carried out immediately.
3. Following the completion of this element of the project this area of the site will be closed off to machinery access.

Drainage on site outside the riparian corridor.

1. 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.
2. Silt fences will be placed along the edge of the riparian corridor (outside of future construction areas) to capture runoff from the site. These will also prevent machinery from entering the riparian corridor.
3. The final stage of the attenuation will be prepared in a period of dry weather. All main onsite drainage infrastructure will be connected at this stage.
4. Mitigation measures including silt fences will be in place (in consultation with the project ecologist and IFI) to capture silt from runoff and prevent it from entering the stream during the bridge upgrade.
5. Appropriate storage and settlement facilities will be provided on site. This would include the provision of silt and petrochemical interception for water pumped from basement areas.
6. 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 the watercourse. In most cases this will involve collecting the run-off and routing it to treatment by filtration, settlement or specialist techniques.
7. Additional mitigation if required will be placed on roadworks to capture silt that may not be caught by road sweeping, before runoff enters the Santry River.

Figure 16. Measures to protect the Santry River

Residual Impacts

The construction and operational mitigation proposed for the development satisfactorily addresses the mitigation of potential impacts on the sensitive receptors through the application the standard construction and operational phase controls. Residual impacts for construction and operational phases are outlined in Tables 2 (a & b) and 3 (a & b) respectively. The overall impact on the ecology of the proposed development will result in a long term slight neutral residual impact on the ecology of the area and locality overall. This is primarily as a result of the loss of terrestrial habitats on site, supported by the creation of attenuation features, additional biodiversity features such as green roofs, standard construction and operational controls and a sensitive native landscaping strategy. The implementation of SUDS drainage on site and riparian features in consultation with IFI would be seen as beneficial to the Santry River.

Adverse Effects on the conservation objectives of Natura 2000 sites likely to occur from the project (post mitigation)

The principle pathway for impacts to Natura 2000 sites is via the Santry River. Standard construction and operational phase controls will be in place as outlined to ensure the Santry River is not impacted during the works. North Dublin Bay SAC, North Bull Island SPA, or their features of interest will not be impacted by the proposed works as there is a significant distance between the proposed works, no instream works are proposed and standard mitigation measures will be in place to ensure good water quality within the River is maintained.

Based on the successful implementation of the construction phase controls and proposed works to be carried out in accordance with the CEMP and landscape plan, it is likely that there will be no significant ecological impact arising from construction and the day to day operation of the proposed development. Standard construction and operational phase in addition to ecological monitoring control measures have been outlined above to ensure that the proposed project does not impact on sensitive receptors, conservation areas or watercourses. These measures have been designed to protect the river, which is potentially the primary vector of impacts from the site, and ensure that it is not impacted during construction and /or operational phases of the proposed development.

Natura Impact Statement Conclusions

This NIS has involved the examination, analysis and evaluation of all relevant information including, a description of the proposed project, its construction methodology, the environment in which the project will be placed, an outline CEMP, Natura 2000 sites within 15km and has applied the precautionary principle in the preparation of the conclusion. It is the professional opinion of the author of this report that there will be no adverse effects on the integrity of any Natura 2000 sites. The proposed works are located proximal to the Santry River which is hydrologically linked to the North Dublin Bay SAC and North Bull Island SPA.

Construction and operation of the proposed development on the former Chivers site in Coolock will create localised light and noise disturbance. Standard Construction and operational phase controls will be in place to ensure there are no significant impacts on the Santry River which leads to conservation sites. Surface water discharge from site will be developed in accordance with the requirements of the Drainage Division as set out in the Greater Dublin Strategic Drainage Study's 'Technical Document on New Development' with regard to SUDS, DCC conditions and Water Pollution Acts. The proposed development site is within a significant urban area with existing both domestic and industrial pressures. The construction and presence of this development would not be deemed to have a significant cumulative impact. No significant impacts are likely on Natura 2000 sites, alone in combination with other plans and projects based on the implementation of standard construction phase mitigation measures.

No in combination effects are foreseen. The proposed development site is within an urban environment with existing background noise and activity levels. In combination effects on surrounding conservation sites or species/habitats of conservation importance are not likely to be significant.

This report presents an Appropriate Assessment Screening and NIS for the proposed development. It outlines the information required for the competent authority to screen for appropriate assessment and to determine whether or not the proposed development, either alone or in combination with other plans 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.

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

No significant effects are likely on Natura 2000 sites, their features of interest or conservation objectives.

5. Data used for the AA Screening and NIS assessment

NPWS site synopses and Conservation objectives of sites within 15km were examined. The most recent SAC and SPA boundary shapefiles were downloaded and overlaid on Bing road map and satellite imagery. Several site visits were carried out to determine if the site contained possible threats to a NATURA 2000 site or any NATURA 2000 species or habitats.

6. References

The following references were used in the preparation of this AA Screening and NIS.

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.

Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities, Department of the Environment, Heritage and Local Government 2009; http://www.npws.ie/publications/archive/NPWS_2009_AA_Guidance.pdf

Managing NATURA 2000 Sites: the provisions of Article 6 of the Habitats Directive 92/43/EEC, European Commission 2000; http://ec.europa.eu/environment/nature/Natura2000/management/docs/art6/provision_of_art6_en.pdf

Assessment of Plans and Projects Significantly Affecting NATURA 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC; http://ec.europa.eu/environment/nature/Natura2000management/docs/art6/Natura_2000_assess_en.pdf

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; http://ec.europa.eu/environment/nature/Natura2000/management/docs/art6/guidance_art6_4_en.pdf

Guidance document on the implementation of the birds and habitats directive in estuaries and coastal zones with particular attention to port development and dredging; http://ec.europa.eu/environment/nature/Natura2000/management/docs/guidance_doc.pdf

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NPWS (2012b). Baldoyle Bay SAC (site code 199)Conservation objectives supporting document - coastal habitats

NPWS (2015) Conservation objectives for Ireland's Eye SPA [004117]. Generic Version 4.0. Department of Arts, Heritage and the Gaeltacht.

NPWS (2013) Conservation Objectives: Rogerstown Estuary SPA 004015. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2015) Conservation objectives for Howth Head Coast SPA [004113]. Generic Version 4.0. Department of Arts, Heritage and the Gaeltacht.

NPWS (2015) Conservation Objectives: North Bull Island SPA 004006. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2013) Conservation Objectives: Malahide Estuary SPA 004025. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2015) Conservation objectives for Howth Head SAC [000202]. Generic Version 4.0. Department of Arts, Heritage and the Gaeltacht.

NPWS (2015) Conservation objectives for Ireland's Eye SAC [002193]. Generic Version 4.0. Department of Arts, Heritage and the Gaeltacht.
NPWS (2013) Conservation Objectives: Malahide Estuary SAC 000205. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
NPWS (2013) Conservation Objectives: North Dublin Bay SAC 000206. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
NPWS (2013) Conservation Objectives: Rockabill to Dalkey Island SAC 003000. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
NPWS (2013b) Rockabill to Dalkey Island SAC (site code: 3000)Conservation objectives supporting document. -Marine Habitats and Species Version 1
NPWS (2013) Conservation Objectives: Rogerstown Estuary SAC 000208. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
NPWS (2013). Conservation Objectives: North Dublin Bay SAC 000206. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

Appendix I: Habitats and species

Habitats encountered were classified according to Fossitt (2000) and are seen in Figure 11.8. Distinct habitats were noted and species detailed in Table 11.3. Bird species encountered on site were also noted.

Figure AI. H*abitats referred to in the text Fossitt (2000) terminology (Oscar Traynor Road Inset).*

Fossitt	Habitat and species description
BL3	  *Buildings and artificial surfaces* -.The majority of the Chivers site (60%) comprised of buildings and artificial surfaces which consisted of the former Chivers factory and associated hardstanding areas. The site has been derelict for a number of years and had been vandalised extensively with little remaining of the interior features. A substantial amount of the roof glass had been broken allowing water to enter interior of the building (inset). As the site had been derelict for some years opportunistic flora species had begun to grow in cracks and joints and in areas where debris had accumulated. Species included bramble larger specimens of butterfly-bush (*Buddleja davidii*) right across the BL3 area in addition to (*Rubus fruticosus agg.*), ragworts (*Senecio spp.*),blackcurrant (*Ribes nigrum*), nettle (*Urtica dioica*), dandelion (*Taraxacum spp.*), rosebay willowherb (*Epilobium angustifolium*), plantains (*Plantago spp.*), thistles (*Cirsium arvense* & *C. vulgare*), docks (*Rumex spp.*), rapeseed (*Brassica napus*) and hedge bindweed (*Calystegia sepium*). Numerous feral pigeon (*Columba livia f. domestica*) occupy the interior of the building. The bat survey deemed the building to be unsuitable for bat roosts due to temperature extremes and no evidence of bats was noted. The build land in the vicinity of the Oscar Taynor Road is built land comprised of a busy road and footpaths which are of little ecological value.

GA2	 *Amenity grassland (improved)* – Three areas of GA2 were noted on site (Figure 11.8). The larger "greenfield" area was divided by the Santry River and appeared to have not been previously developed. All grassland areas appeared to have been previously maintained but since the site had become derelict maintenance appeared to have ceased. The north eastern site outline extended beyond the existing fence into an area of well-maintained GA2 (inset) (within Cadburys). Species in GA2 consisted of ragworts (*Senecio spp.*) creeping buttercup (*Ranunculus repens*), white clover (*Trifolium repens*), red clover (*Trifolium pratense*), cow parsley (*Anthriscus sylvestris*), bramble (*Rubus fruticosus*), dandelion (*Taraxacum spp.*), daisy (*Bellis perennis*), plantains (*Plantago spp.*), thistles (*Cirsium vulgare*), docks (*Rumex spp.*), nettle (*Urtica dioica*). An old stone bridge crosses the Santry River and has now colonised with amenity grassland. A single small stand of Japanese knotweed (*Fallopia japonica*) was noted on this bridge. Mammal paths (fox) and the remains of several herring gull were noted in this habitat. The amenity grassland in the vicinity of Oscar Traynor Road is well maintained and regularly cut.
BC4	 *Flower beds and borders* – Several areas of the site consisted of flower beds and borders with

	garden shrub species. Many of these areas were planted with firethorn (*Pyracantha* sp), cotoneaster (*Cotoneaster sp.*) and Rose of Sharon (*Hypericum calycinum).*
WS1/ WS3/ WD2	 *WS1 (Scrub)/ WS3 (Ornamental/ non-native shrub)/ WD2 Mixed broadleaved/ conifer woodland* – The south eastern perimeter of the site contained a mixture of habitats that would have been originally planted as BC4-Flower beds and borders but had grown wild and unkempt since the site had become derelict. The majority of species in this area were non-native garden verities including the species in BC4 above and other species including Griselinia littoralis, (New Zealand broadleaf), Rhododendron (*Rhododendron ponticum*), Cherry Laurel (*Prunus laurocerasus*).in addition to butterfly-bush (*Buddleja davidii*) and saplings of sycamore (*Acer pseudoplatanus*). Specimens of Hybrid black poplar (Populus x euramericana), hornbeam (*Carpinus betulus*) and small-leaved lime (*Tilia cordata*) were also noted in this area. The undergrowth of this area is dense with no groundcover. No setts or burrows were found.
FW2	 *Depositing/ lowland rivers* The Santry River divides an area of amenity grassland. Although appearing clear during site

	visits the river appeared to have a paucity of biodiversity. No fish, invertebrates or instream vegetation of significance was noted. The banks consisted mainly of encroaching scrub of bramble (*Rubus fruticosus agg.*), thistles (*Cirsium vulgare*), nettle (*Urtica dioica*), rosebay willowherb (*Epilobium angustifolium*), great willowherb (*Epilobium hirsutum*), ragworts (*Senecio spp.*), Cow Parsley (*Anthriscus sylvestris*), hedge bindweed (*Calystegia sepium*) and meadowsweet (*Filipendula ulmaria*). A moorhen (*Gallinula chloropus*) was noted in the river during the 2016 survey. The Water Framework Directive water quality status of this section of the Santry River is "unassigned" but 850m upstream it is classed as "poor". As can be seen from figure AI this section of the river is in an urban environment with potential inputs from both domestic and industrial areas.
WL2	 *Treelines* – A single treeline was noted on the north east boundary of the site. As outlined in the tree survey this treeline is primarily made up of Hybrid black poplar (*Populus x euramericana*). And Leyland cypress x *Cuprocyparis leylandii.* Beneath the treeline vegetation was relatively sparse but included nettle (Urtica dioica), dandelion (Taraxacum spp.), plantains (Plantago spp.), thistles (Cirsium arvense & C. vulgare), docks (Rumex spp.), and Ivy (Hedera helix) and lords and ladies (*Arum maculatum*). It is proposed to retain this treeline.

Table 11.3. *Terrestrial habitats and floral species composition.*

The following bird species were noted on site (Table AI).

Common Name	Scientific Name	Conservation Status
Woodpigeon	*Columba palumbus*	Green
Feral pigeon	Columba livia f. domestica	Green
Herring Gull (dead on site & flying overhead)	*Larus argentatus*	Red-listed (90%breeding decline over 30 years to 2000*)*
Robin	*Erithacus rubecula*	Green
Great Tit	*Parus major*	Green
Wren	*Troglodytes troglodytes*	Green
Blackbird	*Turdus merula*	Green
Starling	*Sturnus vulgaris*	Green
Raven	*Corvus corax*	Green

Table AI. *Species of Birds noted during on-site surveys.*

No flora or terrestrial fauna species or habitats of National or international conservation importance were noted on site during the surveys. As previously discussed no flora species of conservation importance were noted on site by the NPWS or NBDC. No amphibians or reptiles were noted on site. However, frogs would be expected given the presence of the Santry Rover on site. It would not be expected that this river would form an important breeding areas for frogs due to the fast flowing nature of the river. In relation to bird Species, no bird species on Annex I of the EU Birds Directive were noted on site by the NPWS or NBDC. Herring gulls are assumed to frequent the site given the presence of a carcass on site.

Invasive Species

A single small stand of Japanese knotweed was noted on site on the stone bridge over the Santry River. No other stands were noted on site, including along the banks of the watercourse. No other invasive plant or animal species listed under the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011) Section 49, the Third Schedule: Part 1 Plants, Third Schedule: Part 2A Animals were noted on site. No terrestrial or aquatic invasive species such as giant rhubarb, Himalayan balsam, giant hogweed etc. that could hinder removal of soil from the site during groundworks. The presence of invasive species on site are addressed in the CEMP.

Discussion Terrestrial Species and habitats

As can be seen from Figure AI the proposed development site consists primarily of Built Land (BL3) and Amenity Grassland (GA2) with Treelines (WL2)/ WS1 (Scrub)/ WS3 (Ornamental/non-native shrub)/ WD2 Mixed broadleaved/conifer around the perimeter of the site. No flora or terrestrial fauna species or habitats of National or international conservation importance were noted during the survey surveys. The Santry River flows through the site and has a paucity of diversity. As previously discussed no flora or terrestrial fauna species of conservation importance were noted on site by NPWS or NBDC. In relation to bird species no bird species on Annex I of the EU Birds Directive were noted on site by NPWS or NBDC. However, it is expected that herring gulls frequent the site.

Bats

As outlined in EIAR Volume 2, Appendix 10.1, the bat survey carried out by Conor Kelleher noted that "the main building onsite shows poor potential for use by bats being large and uninsulated, frequently disturbed and recently vandalised. Internal timber partitions have been demolished or burnt and these would have been the most favourable places for roosting bats. A full examination of the building yielded no evidence of past or current bat presence. No sign of bats was observed on external walls. All smooth-sided containers, cisterns, basins etc. were inspected for bat corpses but none was found. The other structures in the grounds; the small bridge and culvert, were also fully inspected for bats or their signs and none were found. The onsite trees were inspected for their potential to harbour bats and any evidence of the presence of a roost. The trees along the site boundaries have limited potential for roosting bats as they are mostly tall, thin specimens and, in some cases, multi-stemmed with no features such as hollows or crevices that might be used by bats. Individual bats may occasionally rest behind ivy-cover but, in the absence of hollows within the tree beneath, large roosts would not be present."

In summary "no evidence of past or current use by bats of any of the onsite structures or trees was found during the present survey. Due to the high boundary treelines and surrounding the site, the grounds are well vegetated and very sheltered and so are favourable for swarming insects which then attract bats and, during the summer months, one or two bats may be expected to hunt onsite occasionally. A follow up survey was carried out on the 14th March 2019 and the results of this survey concur with the results of the 2016 survey, in that no evidence of past or current use by bats of any of the onsite structures or trees was found.