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Natura Impact Statement - Information for a Stage 2 (Natura Impact Statement) AA for an Amendment to Permitted Development (under ACP Ref.: 317438-23 / DCC Reg. Ref.: LRD6009/23-S3) at St. Vincent's Hospital, Richmond Road and Convent Avenue, Fairview, Dublin 3.



03rd February 2026

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On behalf of: Richmond Village Development Company Limited.

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Document Control Sheet			
Project	Natura Impact Statement - Information for a Stage 2 (Natura Impact Statement) AA for an Amendment to Permitted Development (under ACP Ref.: 317438-23 / DCC Reg. Ref.: LRD6009/23-S3) at St. Vincent's Hospital, Richmond Road and Convent Avenue, Fairview, Dublin 3.		
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Introduction

The following Natura Impact Statement (NIS) has been prepared by **Altemar Ltd.** the request of Richmond Village Development Company Limited for proposed modifications to a permitted development at St. Vincent's Hospital, Richmond Road and Convent Avenue, Fairview, Dublin 3.

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

A NIS or Stage 2 Appropriate Assessment is not required for the effects of the project on all other listed Natura sites above because it can be excluded on the basis of the best objective scientific information following screening that the plan or project, individually and/or in combination with other plans or projects, will have a significant effect on the European Site/s. The site is not an important foraging habitat for wintering birds and the building heights would not be seen to impact on flightlines. The buildings would be clearly visible to birds.'

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

Altemar Ltd.

Since its inception in 2001, Altemar has been delivering ecological and environmental services to a broad range of clients. Operational areas include residential, infrastructural, renewable, oil & gas, private industry, local authorities, EC projects and State/semi-State Departments. Bryan Deegan is the managing director of Altemar. Bryan is an environmental scientist and marine biologist with 28 years' experience working in Irish terrestrial and aquatic environments, providing services to the State, Semi-State and industry. Bryan Deegan (MCIEEM) holds a MSc in Environmental Science, BSc (Hons.) in Applied Marine Biology, NCEA National Diploma in Applied Aquatic Science and a NCEA National Certificate in Science (Aquaculture). Bryan Deegan carried out all elements of this Appropriate Assessment Screening. Bird surveys were carried out by Hugh Delaney and Niall Keogh. Hugh Delaney, is a lifelong ornithologist, is local to the Dublin area and is especially familiar with the bird life and its ecology in the environs going back over 30 years. Niall Keogh, is a fulltime freelance ornithologist, based in the Dublin area.

Background to the Appropriate Assessment

The Habitats Directive 92/43/EEC (together with the Birds Directive (2009/1477/EC)) forms the cornerstone of Europe's nature conservation policy. The Directive protects over 1000 animals and plant species and over 200 "habitat types" which are of European importance. In the Habitats Directive, Articles 3 to 9 provide the legislative means to protect habitats and species of European Community interest through the establishment and conservation of an EU-wide network of conservation sites (NATURA, 2000). These are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Birds Directive), Article 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect European sites (Annex 1.1). Article 6(3) establishes the requirement for Appropriate Assessment:

"Any plan or project not directly connected with or necessary to the management of the [EUROPEAN] site but likely to have a significant effect thereon, either individually or in combination with other plans and projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implication for the site and subject to the provisions of paragraph 4, the component national authorities shall agree to the plan or project only after having

ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public."

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

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

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

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

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

[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;

- *The characterisation of the biological integrity and the impact assessment should be based on the best possible indicators specific to the European assets which must also be useful to monitor the plan or project implementation."*

Stages of the Appropriate Assessment

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

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

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

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

Stage 1 Screening Assessment

Management of the Site

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

Description of the Proposed Project

Richmond Village Development Company Limited, intend to apply for planning permission for a Large-scale Residential Development (LRD) consisting of modifications to the LRD permission under ACP Ref.: 317438-23 / DCC Reg. Ref.: LRD6009/23-S3 at this site at St. Vincent's Hospital, Richmond Road and Convent Avenue, Fairview, Dublin 3. The site includes protected structures under RPS Ref. 2032 (St. Vincent's Hospital), RPS Ref. 8788 (Richmond House) and RPS Ref. 8789 (Brooklawn). The application site also includes sections of public road and footpaths to facilitate service connections via Griffith Court, Philipsburgh Avenue and Griffith Avenue, part of Grace Park Wood to provide a pedestrian and cycle connection, and works along Richmond Road to facilitate services and associated upgrades. The site is bounded by Grace Park Wood, Griffith Court, Richmond Road and Convent Avenue.

The proposed development relates to modifications to the permitted Large-scale Residential Development (LRD) under ACP Ref.: 317438-23 / DCC Reg. Ref.: LRD6009/23-S3. The proposed development will consist of alterations to permitted residential Blocks C, DE, L, and J, to increase the total number of apartments by 27 no., from 354 no. to 381 no., all within the existing permitted building envelopes, with no increase in height, massing or site coverage. The amendments will increase the total number of residential units within the overall development from 779 no. to 806 no. units (37 no. studios, 391 no. 1 bed apartments, 327 no. 2 bed apartments and 51 no. 3 bed apartments).

The proposed modifications consist of the following:

- **Block C –** Internal reconfiguration to replace 55 sq.m of internal communal amenity space at ground-floor level to provide 1 no. additional one-bed apartment, together with the conversion of 1 no. permitted two-bed apartment to a one-bed apartment. Alterations to permitted landscaping and circulation areas. Associated modifications to the permitted west elevation to provide a new entrance. Net Change: +1 no. one-bed apartment.

- **Block DE -** Internal reconfiguration and partial replacement of permitted internal communal amenity areas at ground, first and sixth floor levels to provide 7 no. additional apartments (comprising 1 no. studio, 4 no. one-bed and 2 no. two-bed apartments). Works include a revised entrance foyer and provision of a management suite (relocated from Block J), at ground floor level. Associated modifications to permitted elevations including new balconies and revised window arrangements on the south, north and east elevations, omission of permitted external façade shading elements (brise soleil) on the south and east elevations and a new entrance and canopy on the north elevation, and associated alterations to permitted landscaping. Net change: +7 no. apartments.

- **Block L -** Internal reconfiguration and alterations at ground floor level to replace 1 no. permitted two-bed apartment with 2 no. studio apartments. At first to fourth floor levels, internal reconfiguration to replace 2 no. two-bed apartments and 1 no. three-bed apartment with 2 no. one-bed apartments and 4 no. studio apartments at each level. Associated modifications to permitted elevations including additional balconies and openings on the south and west elevations. Net Change: +13 no. apartments.

- **Block J –** Replacement of permitted amenity and management areas at ground-floor level to provide 2 no. two-bed apartments and 2 no. one-bed apartments. Internal reconfiguration to provide 2 no. additional two-bed apartments within permitted double-height space at first-floor level. Associated modifications to all permitted elevations, including the provision of a new entrance on the western elevation, alterations to façade articulation, and revised distribution of approved external materials and extension of communal open space. Net Change: +6 apartments. It is also proposed to omit Condition No's 5, 6 and 7 of the parent permission (ACP Ref.: 317438-23), which relate to Build-to-Rent (BTR) covenants, in respect of permitted

units within Blocks DE and F, as the proposed amendments seek to change the permitted development from a Build-to-Rent apartment scheme to a standard apartment scheme.

The proposed site outline, location, and site plan are demonstrated in Figures 1-4.

Landscape

The landscape strategy for the proposed development has been designed by Niall Montgomery + Partners to accompany this planning application. The proposed landscape general arrangement plan is demonstrated in Figure 5.



Figure 1. Site outline and location



Figure 2. Site outline



Figure 3. Proposed site plan



Figure 4. Permitted landscape general arrangement plan



Figure 5. Proposed landscape plan (sheet 1)



Figure 6. Proposed landscape plan (sheet 2)



Figure 7. Proposed landscape plan (sheet 3)

Drainage

An Engineering Services Report was prepared by OCSC Consulting Engineers to accompany the permitted planning application. This report outlines the following drainage strategy for the proposed development:

Stormwater Drainage

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

'*The existing units and hardstanding areas currently discharge surface water to the local combined infrastructure, with no apparent treatment or attenuation facilities in place.*

Public records indicate an existing 525 mm concrete stormwater sewer within the site boundary. This sewer flows in the southerly direction towards Richmond Road before discharging to the 1350 mm sewer on Richmond Road. This sewer discharges to the Tolka River immediately downstream of the site.'

It should be noted that the existing units and hardstanding areas currently discharge surface water to the local combined infrastructure, which in turn ultimately outfalls to Ringsend Wastewater Treatment Plant (WwTP).

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

'*The proposed development is to be served by a sustainable drainage system that is to be integrated with the developments landscaping features and is typically to comprise green roofs, blue podiums, intensive landscaping, pervious paving and filter drains, rain gardens, infiltration basins, trapped road gullies, flow control devices, attenuation storages.*

The overall development is divided into a number of surface water subcatchments as a result of the natural topography, site layout, and other site constraints. All surface water runoff is to be attenuated and treated within the new development site boundary, before ultimately discharging to the existing public surface water network on Richmond Road.'

SuDS

The following SuDS measures are to be implemented into the proposed drainage strategy:

- Green Roofs
- Blue Podium
- Pervious Paving
- Filter Drains
- Trapped Road Gullies
- Underground Pipe Network
- Silt Traps
- Geocellular Storage Systems
- Flow Control Device
- Oil Separator

Foul Wastewater Drainage

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

'Irish Water records a 300 mm sewer within the site boundary with a 900 mm concrete sewer on Richmond Road. This 900 mm sewer flows in an easterly direction and is treated at Ringsend.'

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

'*The overall development is to be separated into 2nr. individual gravity wastewater catchments and is to be drained by a gravity wastewater network, based on the natural topography of the development site. It is proposed to provide two individual connections to the existing 900mm public wastewater sewer on Richmond Road (one for the hospital and one for the residential part of the development). All proposed wastewater sewer design is to be carried out in accordance with Irish Water's Code of Practice for Wastewater Infrastructure and submitted as part of the PCE application process.*'

Amendment Application

A technical note to address the civil engineering aspects of the proposed amendments has been prepared by OCSC Consulting Engineers to accompany this planning application. It outlines the following in relation to drainage on site:

'Surface Water Drainage
The surface water strategy remains as permitted. The amendments to provide an additional 27 residential units do not increase the impermeable hardstanding or building footprint draining to the surface water network; therefore, the permitted surface water drainage design remains adequate and requires no modification.

Wastewater Drainage
The wastewater strategy remains as permitted. The original planning application assessed 811 residential units, with permission granted for only 779 units. The amendments will increase the total units to 806, which remains lower than the previously assessed capacity; therefore, the permitted wastewater strategy remains adequate and requires no modification. Uisce Éireann issued a Confirmation of Feasibility (COF) on 31st January 2023 and a Statement of Design Approval (SODA) on 3rd March 2023. A new connections application was submitted on 9th May 2025 (Ref. CDS2500331301) and any comments or updates requested by Uisce Éireann will be considered and incorporated accordingly.'

The permitted drainage layout (sheets 1-3) is demonstrated in Figures 8-10. The proposed catchment layout is demonstrated in Figure 11.

Flood Risk Assessment

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

'*The assessment is carried out in full compliance with the requirements of "The Planning System & Flood Risk Management Guidelines" published by the Department of the Environment, Heritage and Local Government in November 2009. As detailed in the previous sections of this report, the proposed buildings for this development are located within Flood Zone C. Pluvial and groundwater flooding will be managed through the implementation of the mitigation measures outlined in Section 5.3. Therefore, in accordance with the Planning System and Flood Risk Management Guidelines for Planning Authorities, there is no significant risk for flooding in the proposed development and it is appropriate for use.*

6.1 Recommendations
It has been demonstrated in the earlier sections that the site is not at risk of flooding from external sources, or as a result of the proposed development. In order to minimise the risk of flooding within the development, it is recommended that all drainage infrastructure is designed and installed in accordance with the relevant standards. As the proposed units are located outside the 1 in 100 and 1 in 1000-year fluvial flood extents. The Dublin Pluvial Study identified a portion of the site as being at risk of pluvial flooding. The proposed development includes a new surface water network which will mitigate the pluvial risk to the site.'

Ringsend WwTP

During construction it is proposed to discharge to foul and surface water based on monitoring on site. Ringsend WWTP is required to operate under an EPA licence (D0034-01) and meet environmental legislative requirements as set out in such licence. It is noted that a planning permission for a new upgrade to this facility was received in 2019 and is currently in the process of construction/ implementation. The upgrade works commenced in 2018 and are near completion. The latest confirmed timeline stated that the upgrade works were due for completion by the end of 2025.When all the proposed works are complete, the Ringsend Wastewater Treatment Plant will be able to treat wastewater for up to 2.4 million population equivalent while meeting the required standards.

As outlined by Uisce Éireann in relation to Ringsend Wastewater Treatment Plant[2] '*Uisce Éireann completed construction of the infrastructure to treat the wastewater for a population equivalent of 2.1 million at the end of 2023. Following a period of testing and commissioning the upgraded assets are operational.*

Compliance with the Urban Wastewater Treatment Directive is assessed retrospectively based on the attainment of 12 months compliance with the UWWTD Emission Limit Values (ELVs). We are monitoring the performance of the plant closely with a view to achieving this at the earliest possible time. We are also continuing works on the remaining project elements to deliver the capacity for a population equivalent of 2.4 million by the end of 2025.'

Ringsend WwTP will have capacity for the proposed development within the proposed construction and operational phases of the project.

[2] https://www.water.ie/projects/local-projects/ringsend-wastewater-treatment-plant-upgrade-project

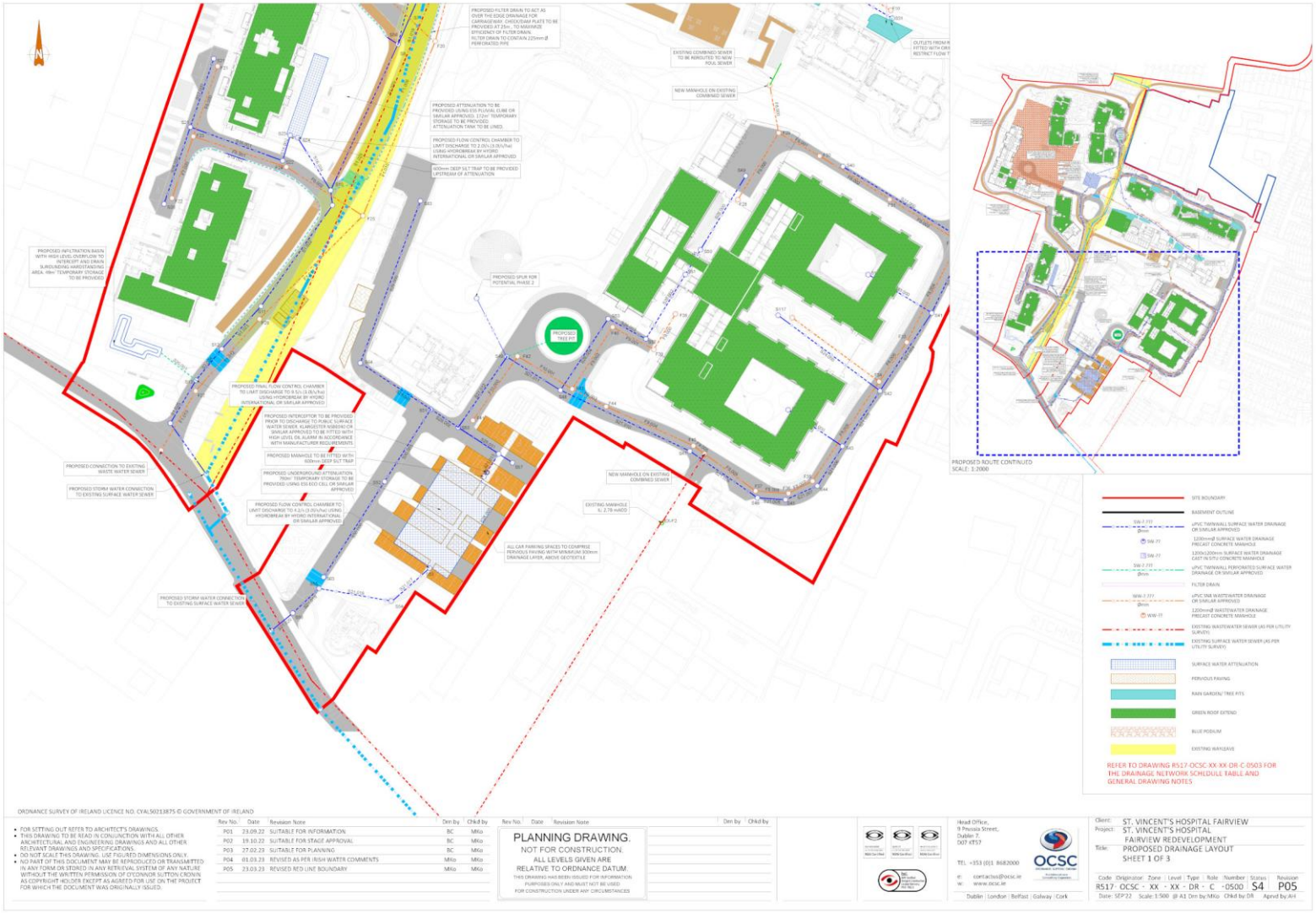


Figure 8. Permitted drainage layout (sheet 1)

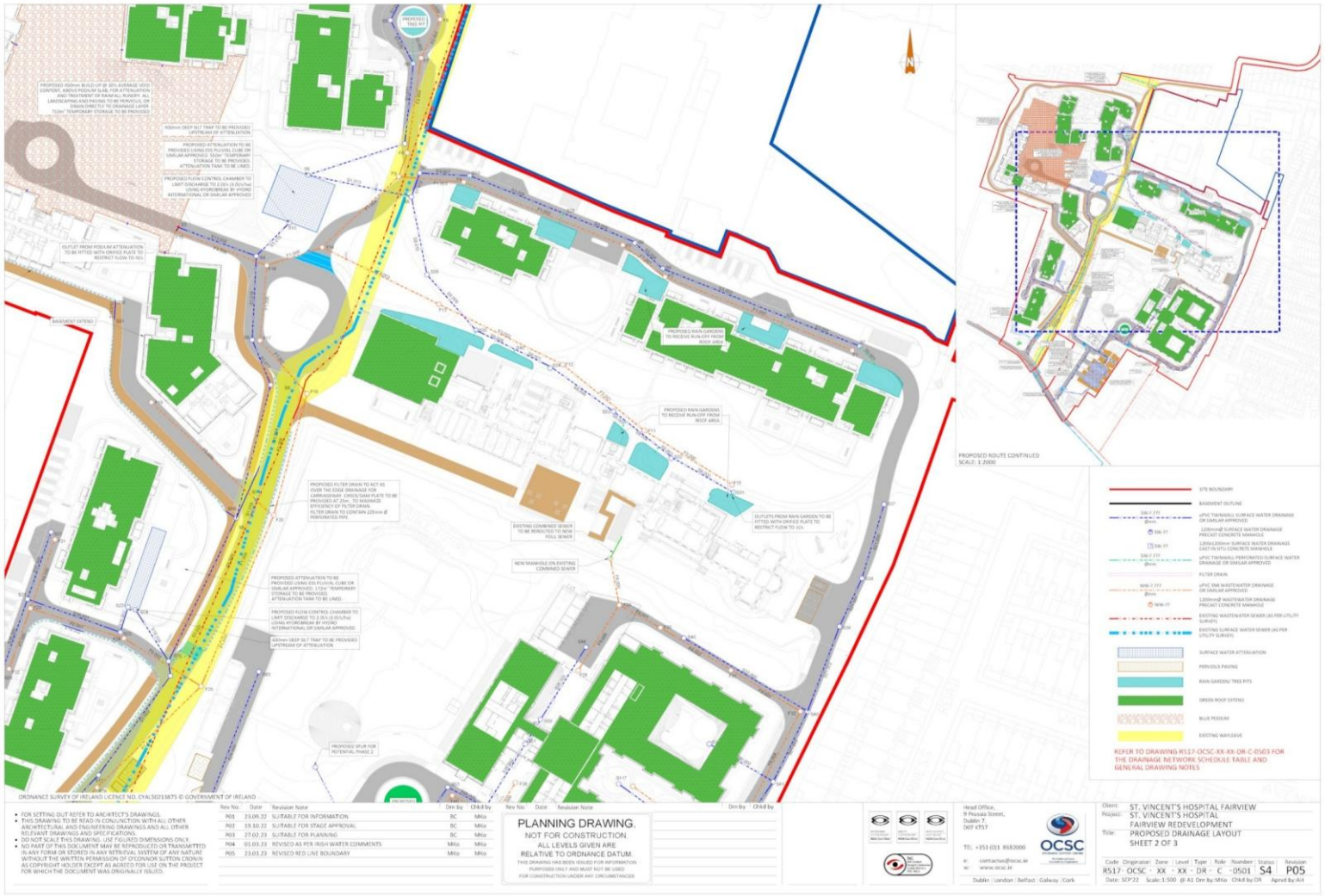


Figure 9. Permitted drainage layout (sheet 2)

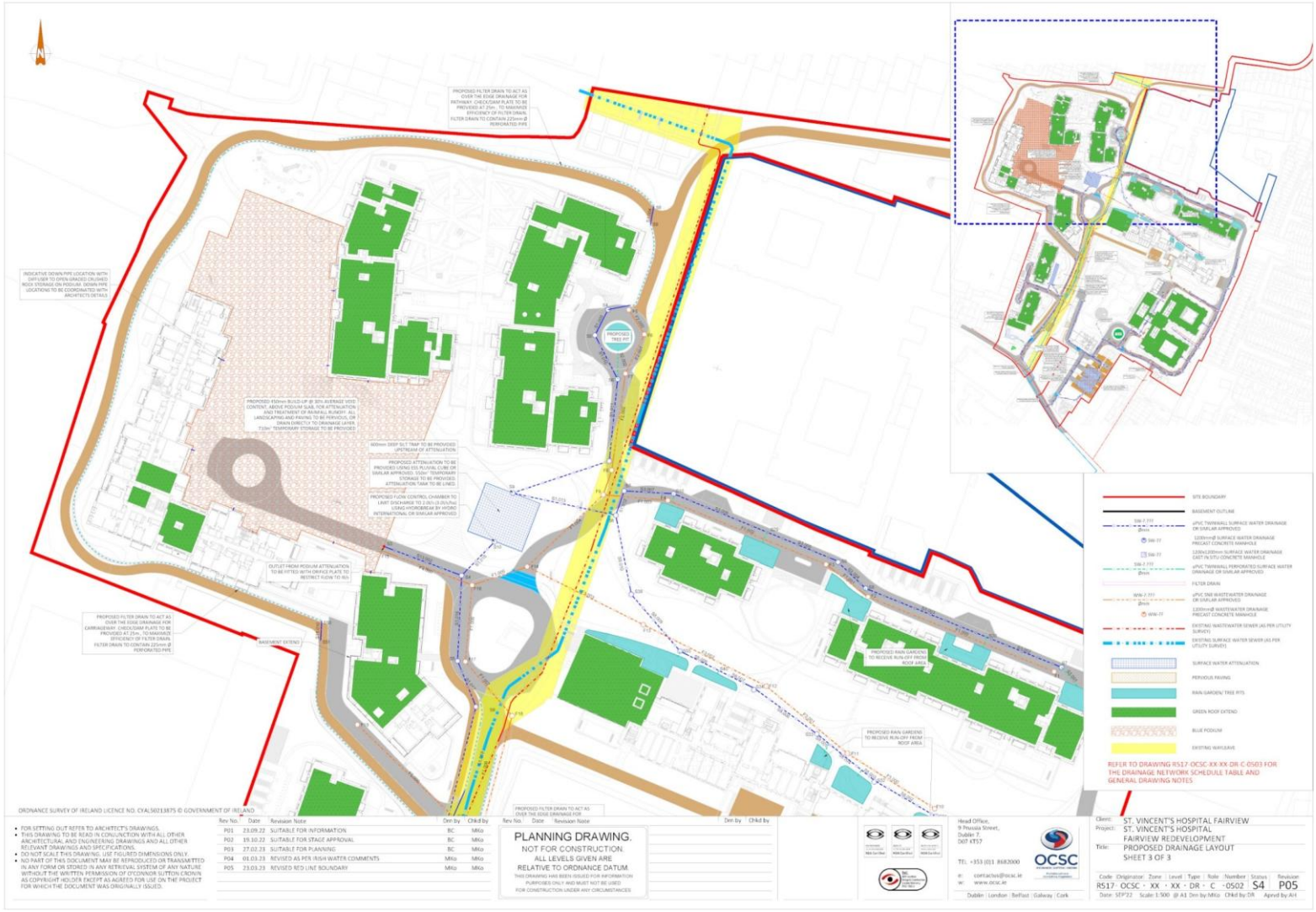


Figure 10. Permitted drainage layout (sheet 3)

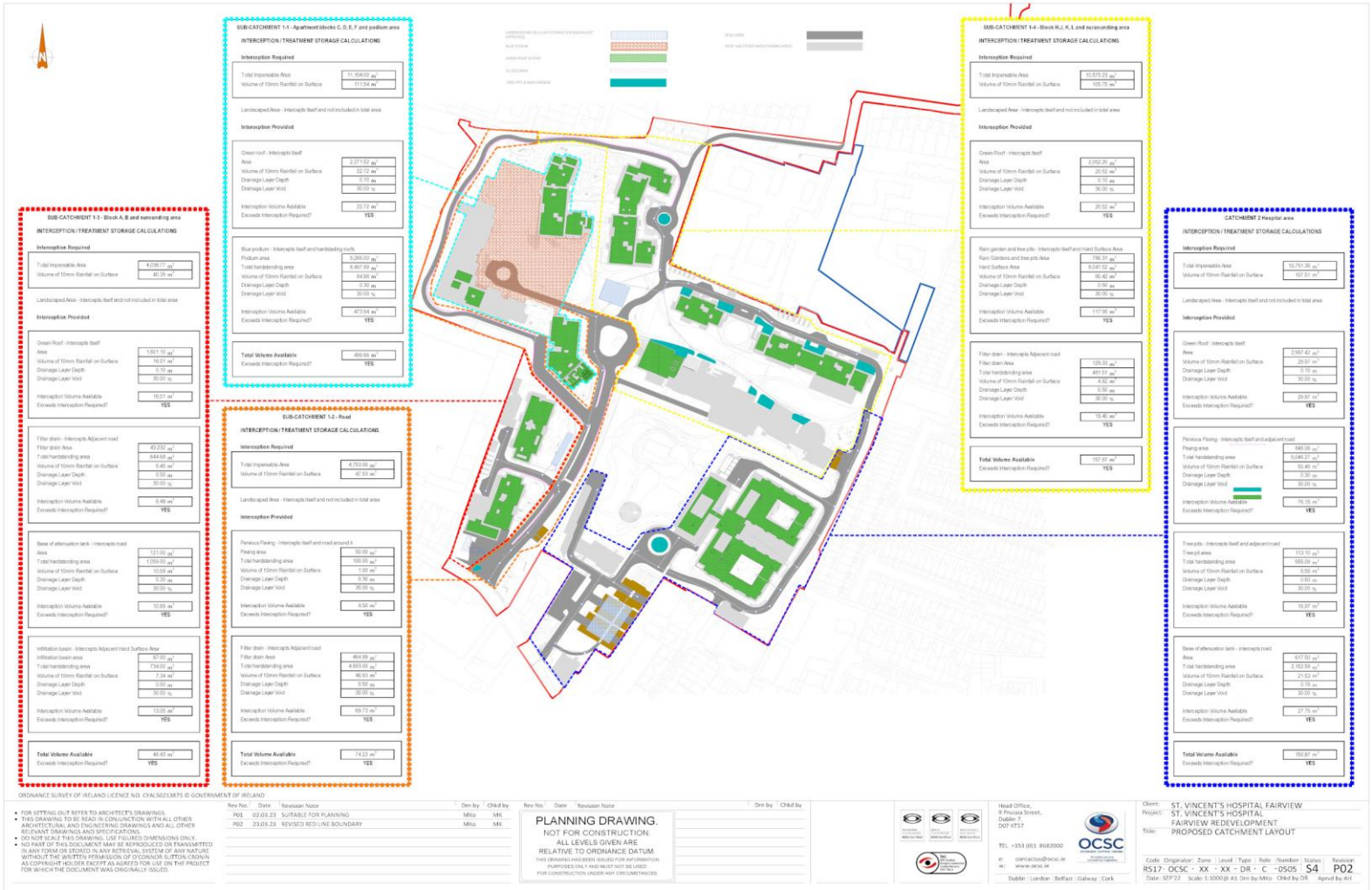


Figure 11. Permitted catchment layout

Construction Environmental Management Plan

O'Connor Sutton Cronin & Associates (OCSC) have been commissioned to undertake this Construction Environmental Management Plan (CEMP) report associated with the site at St. Vincent's Hospital, Richmond Road and Convent Avenue, Fairview, Dublin 3. As outlined in the CEMP:

'*As the development is subject to the planning application process, it is not possible to put exact dates against a timeline at this stage. However, key project milestones are considered as follows:*

- *Receipt of a Grant of Planning Permission;*
- *Progression through detailed design stage;*
- *Issue of tender documents to shortlisted main contractors followed by period for tender returns, assessment and award of contract;*
- *Mobilisation of contractor;*
- *Completion of works.*

The above is a very high-level estimate of the key project milestones. Associated durations of the respective stages are also dependent on a number of factors but a high level, preliminary estimate would suggest the construction works including infrastructure works will take approximately 48 to 60 months upon commencement.

A more detailed programme will be developed by the Contractor once appointed and included in the updated version of this plan. All statutory consents and licences required to commence an onsite activity will be obtained ahead of work commencing and giving the appropriate notice periods.

These will include but are not limited to:

- *Construction notices.*
- *Connections to existing utilities and main sewers.*
- *Licence to discharge from the site to public systems.'*

Construction Sequence

'*It is proposed to initially demolish selected existing buildings and existing hardstanding surfaces. In addition, the ground will be removed/remediated/reused as appropriate, to facilitate the basement structures. Following excavation of the basement, piling with be installed. The Basement slab, walls and columns and cores will be constructed to support the ground flood/podium areas. Once the ground floor and podiums are constructed, the Superstructures described below will be constructed.*'

Enabling Works

- *'Secure site and set up contractor welfare facilities and site accommodation;*
- *Locate and terminate existing live services;*
- *Install tree protection and remove trees that are required to be felled;*
- *Demolish existing structures on the site as per section 7.3;*
- *Excavate and remove material to the required formation including pile mat construction. This will require a bulk excavation and removal from the site;*
- *Maintain existing entrances and incorporate new roads and hardstanding as required;*
- *Make good and install any finished boundary treatments that can be installed at this stage.'*

Substructure

'*The substructure consisting of the basement, foundations and ground floor will be constructed with standard construction techniques. The piling Contractor will be required to carry out their works such that the effect of vibration on the adjacent buildings and surroundings is minimised, and that no damage to these results from construction activity on site.*

The basement will be constructed of Reinforced concrete. it is expected given the heights of the proposed superstructures that the foundations will be supported on pile groups with insitu pile caps. The basement will span between these pile groups and will be constructed in approximately 450mm thick concrete slab. The basement walls will also be constructed in cast insitu concrete in the order of 300mm thick. It is intended that an external waterproof membrane will be incorporated to provide grade 2 protection to the basement

carparking area. A second line of waterproof defense will be provided at core areas and habitable areas within the basement. Refer to the Basement Impact Assessment for more details.'

Superstructure

'The podium slab is intended to be in Cast insitu concrete in the order of 450mm thick, suitably stepped to provide lower areas for landscaped courtyard build-up and street/hard landscape build-ups.

Ground Granulated Blast Furnace Slag will be used throughout the cast insitu concrete works to reduce the overall volume of cement used within the development. The percentage GGBS within the concrete mix will be established at detailed design stage in consideration with the program /striking replacements however the intention is to aim for 50% replacement of cement.

As the basements are located at a sufficient distance to the boundaries, it is proposed at this stage, subject to detailed geotechnical investigations, that then basements would be excavated using bermed excavations, avoiding the need for sheet-pile or secant pile temporary works.

Residential Superstructures

The superstructure layouts are generally repetitive on a floor-by-floor basis and therefore we are proposing to use precast wide slab concrete construction in the order of 225mm in depth spanning to cast insitu walls and blade columns on a grid of approximately 7.5m.

The internal leaf of the external façade will be constructed in a suitably insulated lightweight pressed metal "SFS Type system" with external waterproof membrane. The external leaf will be constructed in solid brick, stonework and glazing as noted on the Architects elevations. The external leaf will be supported at alternate floor levels using a brick relieving angle fixed to the concrete floor slab.

Stability lift and stair cores

Access /stability lift and stair cores will be constructed of solid or precast concrete, of suitable thickness to resist horizontal stability wind loads, vertical loads, and fire ratings. These will be in the order of 250mm in thickness.

Roof Construction

The roofs are intended to support a selection of blue roofs for attenuation purposes, green biodiverse roofs, and landscaped areas. The supporting roof will be of concrete proprietary warrantied waterproofing system. The entire development comprises of low to medium rise buildings. In this regard it is not considered that any specialised construction techniques will need to be applied on the site.

Hospital Substructure & Superstructure

The proposed scheme consists of strip & pad RC foundations which support rising loadbearing blockwork walls. These walls in turn support precast concrete floors & roofs which are topped with a structural screed. Provision for both vertical and horizontal ties has been included per the requirements for healthcare facilities.

The sloping site conditions have been addressed by placing the new scheme, in both plan and elevation, in the optimum position to ensure a balanced mixture of cut and fill of the existing site levels. Based on the above and confirmed by the targeted SI, the ground floor slab has been designed as ground bearing. In this regard it is not considered that any specialised construction techniques will need to be applied on the site.'

Please note that Minerex has completed data analysis, water balance calculations, technical interpretation and analysis of the following information and data provided; desk based geological data interpretation, reviewing of available site investigations, engineering drawings, planning documents, consideration of construction design and interface with hydrogeological setting, analysis of localised rainfall, consideration of aquifer properties (groundwater quality, flow directions, specific yields etc.), drainage network constraints, commerciality, efficiency and efficacy of treatment types, typical licence conditions, drawn upon its experience in obtaining discharge licences from various county council and considered environmental best practice and industry guidance (e.g. CIRIA).'

Surface water discharge during Construction

Minerex prepared a surface water discharge strategy for the construction phase of the project. This strategy is outlined as follows:

'1. Expected quality of discharge water - likely/typical discharge permit conditions – for foul, surface, and ground

a. DISCHARGE QUALITY - According to site investigation, there are made ground deposits present on the site. Groundwater quality is expected to contain localised minor concentrations of petroleum hydrocarbons associated with made ground deposits typical of that in urban areas. Other parameters are not expected to be elevated above groundwater reference concentrations (European GW Regulations or EPA IGV's). Quality of discharged water to the foul and storm network is expected to be compliant with respective licence conditions following treatment and management by Minerex.

b. Typical Emission Limit Values in discharge licences;

a. FOUL; Flow rate (variable with network capacity), Temperature (Maximum 35 degrees C), pH (6-10 pH units), Suspended Solids (24hr Average 100mg/l, Maximum 200mg/l), BOD (24hr Average 100mg/l, Maximum 200mg/l), COD-Cr (24hr Average 200mg/l, Maximum 400mg/l), Total Petroleum Hydrocarbons (24hr Average 5mg/l, Maximum 5mg/l),Mineral Oils (24hr Average 10mg/l, Maximum 10mg/l). Maximum allowable daily load (kg/day) will also be stipulated for each of the emission limit values (apart from pH and temperature).

b. STORM; Flow rate (variable with network capacity), Temperature (Maximum 25 degrees C), pH (6-9 pH units), BOD (24hr Average 5mg/l, Maximum 10mg/l), COD (24hr Average 20mg/l, Maximum 40mg/l), Suspended Solids (24hr Average 20mg/l, Maximum 30mg/l), Phosphates (as PO4-P) (Maximum 1mg/l), Sulphates (as SO4) (Maximum 100mg/l), Ammonium as N (1mg/l), Nitrates as N (Maximum 10mg/l N), Total petroleum hydrocarbons (Maximum 1mg/l). Maximum allowable daily load (kg/day) will also be stipulated for each of the emission limit values (apart from pH and temperature).

c. GROUND; Not suitable for this development. Recharge to groundwater is not considered a viable option for this site due to clay rich geology encountered and its likely associated low permeability. Infiltration rates calculated based on results of soakaway tests during site investigation and the construction design associated with basement, drainage and attenuation tank excavations within this development indicate that groundwater recharge is lower than expected abstraction volumes associated with site dewatering such that a shallow (<5mbGL) percolation area would not be viable. Drilling at depth into limestone bedrock (depth to rock varies across the site, 15.5 – 22.5mbGL) in any location on the site or drilling into granular deposits between cohesive localised clay deposits (of approximately 1m thickness in localised areas) is not considered a viable economic option due to relatively low volumes of discharge expected and cost associated with higher level of treatment and disposal to storm sewer vs. cost of drilling and well installation and same level of treatment required.

2. High-level methods / treatment train that can be committed to, to achieve the likely/typical discharge permit conditions.

Dewatering via suitably installed dewatering wells/sumps containing pumps to abstract groundwater and surface water (rainfall landing on the site) into a flocculation system and settlement and floating oil adsorption lined pond system from which compliant water will be abstracted via floating pumps that take water preferentially from near the surface. The system will contain sensors that will record live data to monitor discharge rate (Flow), cumulative volume, pH, temperature, turbidity (proxy for suspended solids), rainfall and water level which will display on a remotely monitored telemetry and integrated automation system. This system contains automatic controls to switch on and off pumps remotely based on the live data received from sensors on the site, meaning it can detect the water quality in the treatment system and divert the discharge to either the foul sewer, the storm sewer or cease pumping depending on compliance with the discharge licence conditions (i.e. if pH approaches pH 9, then flow will divert from storm to foul, if flow approaches pH 10, discharge ceases or pumping ceases from certain areas of the site only until suitable mitigation or treatment is

applied. The telemetry system will also be monitored by a competent person who also checks the CCTV cameras that are installed in the system to monitor water quality. Water samples will be taken at the frequency that the discharge licence dictates and sent to an accredited laboratory for analysis. Weekly discharge licence reports will be submitted to the licensing authorities containing details of emission limit value compliance and flows. The aim of employing this technology is to assist in achieving a 100% Dry Compliant Site.

3. It would be ideal if we could quantify maximum discharge rate / quantities per day – but I do understand that this may be undefinable.

Discharge Volumes are Expected to range from 5-15 l/s with highest flows expected at commencement of dewatering and during heavy rainfall events.

4. Likely method of returning water to ground.

After consideration of ground conditions, discharging of treated ground and surface runoff water to ground is not considered technically viable so not relevant.'

Identification of Relevant European Sites

The development site is located within a densely populated urban environment. The proposed works are not within a European site and there is no direct pathway to a European site. The European sites within 15 km, and those with a hydrological pathway to the subject site, are seen in Figures 12 & 13 and Table 1. European sites screened in for NIS are seen in Table 2.

Table 1. Proximity to designated sites of conservation importance

Code	European Site	Distance	Direct Hydrological / Biodiversity Connection
Special Areas of Conservation			
IE000210	South Dublin Bay SAC	3.7 km	No
IE000206	North Dublin Bay SAC	3.9 km	No
IE000199	Baldoyle Bay SAC	7.4 km	No
IE000202	Howth Head SAC	9.2 km	No
IE003000	Rockabill to Dalkey Island SAC	9.8 km	No
IE000205	Malahide Estuary SAC	9.9 km	No
IE002193	Ireland's Eye SAC	11.8 km	No
IE002122	Wicklow Mountains SAC	14.2 km	No
IE000208	Rogerstown Estuary SAC	14.2 km	No
IE001209	Glenasmole Valley SAC	14.3 km	No
Special Protection Area			
IE004024	South Dublin Bay and River Tolka SPA	1.1 km	No
IE004006	North Bull Island SPA	3.8 km	No
IE004236	North-west Irish Sea SPA	6.8 km	No
IE004016	Baldoyle Bay SPA	7.8 km	No
IE0004025	Malahide Estuary SPA	9.9 km	No
IE0004117	Ireland's Eye SPA	11.5 km	No
IE0004113	Howth Head Coast SPA	12.1 km	No
IE004172	Dalkey Islands SPA	13.7 km	No
IE004040	Wicklow Mountains SPA	14.5 km	No
IE004015	Rogerstown Estuary SPA	14.5 km	No

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

European Site Code	Name	Screened IN/OUT	Details/Reason
Special Areas of Conservation			
IE000210	South Dublin Bay SAC	**IN**	**Conservation Objectives** The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level. **Qualifying Interests** Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of drift lines [1210] Salicornia and other annuals colonising mud and sand [1310] Embryonic shifting dunes [2110] **Potential Impact** The development site is located approximately 3.7 km from the South Dublin Bay SAC. There is no direct hydrological pathway from the proposed development to this SAC. However, during the construction and operational phases of development, there are a number of indirect hydrological pathways from the development to this SAC via surface water discharge and combined/foul water discharge. During construction, surface water drainage will be directed to the existing local combined infrastructure (which outfalls to Ringsend WwTP), an existing public surface water network located on Richmond Road (which in turn outfalls to the River Tolka). During operation, surface water drainage will be directed to an existing public surface water network located on Richmond Road, which in turn outfalls to the River Tolka. Surface water drainage that is directed to the combined network will ultimately be treated along this public network at Ringsend WwTP. Ringsend WWTP is required to operate under an EPA licence (D0034-01) and meet environmental legislative requirements as set out in such licence and this discharge will not have a significant downstream effect on the qualifying interests of this SAC. However, in the absence of mitigation, there is the potential for significant downstream effects on the qualifying interests of this SAC via the indirect hydrological pathways of surface water to the River Tolka (discharge to existing public surface water network located on Richmond Road). Given that the River Tolka outfalls to the marine environment at Dublin Bay, the scale of the proposed redevelopment, and the minimum distance from the subject site to this SAC (3.7 km), it is considered that there is the potential for silt and contaminated surface water runoff to enter the River Tolka with the potential for downstream impacts on this SAC. Mitigation measures are required. Foul wastewater during operation will be directed to an existing public foul network located on Richmond Road, which in turn discharges to Ringsend Wastewater Treatment Plant (WwTP) for

European Site Code	Name	Screened IN/OUT	Details/Reason
			treatment. Foul wastewater will be treated at Ringsend WwTP. In the absence of mitigation, no significant effects on the qualifying interests of this SAC are likely via the indirect hydrological pathway of foul wastewater drainage. The proposed amendment to the permitted development does not alter the footprint, massing or height of any apartment blocks and does not introduce any change to the surface water or foul drainage strategy previously assessed. Accordingly, the potential hydrological pathways to South Dublin Bay SAC remain unchanged from those identified in the permitted development. In the absence of mitigation measures, it is considered that significant effects on the qualifying interests of this SAC are likely via the indirect hydrological pathways to the River Tolka during construction (surface water discharge to existing public surface water network located on Richmond Road) and operation (surface water discharge to existing public surface water network located on Richmond Road). **Stage 2 AA (Natura Impact Statement) is Required.**
IE000206	North Dublin Bay SAC	**IN**	**Conservation Objectives:** To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected. **Qualifying Interests** 1140 Mudflats and sandflats not covered by seawater at low tide 1210 Annual vegetation of drift lines 1310 Salicornia and other annuals colonising mud and sand 1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) 1395 Petalwort (*Petalophyllum ralfsii*) 1410 Mediterranean salt meadows (*Juncetalia maritimi*) 2110 Embryonic shifting dunes 2120 Shifting dunes along the shoreline with *Ammophila arenaria* 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes) 2190 Humid dune slacks **Potential Impact** The proposed development site is located approximately 3.9 km from the North Dublin Bay SAC. There is no direct hydrological pathway from the proposed development to this SAC. However, during the construction and operational phases of development, there are a number of indirect hydrological pathways from the proposed development to this SAC via surface water discharge and foul water discharge. During construction, surface water drainage will be directed to the existing local combined infrastructure (which outfalls to Ringsend WwTP) and an existing public surface water network located on Richmond Road (which in turn outfalls to the River Tolka). During

European Site Code	Name	Screened IN/OUT	Details/Reason
			operation, surface water drainage will be directed to an existing public surface water network located on Richmond Road, which in turn outfalls to the River Tolka. Surface water drainage that is directed to the combined network will ultimately be treated along this public network at Ringsend WwTP. Ringsend WWTP is required to operate under an EPA licence (D0034-01) and meet environmental legislative requirements and the proposed discharge will not have a significant downstream effect on the qualifying interests of this SAC. However, in the absence of mitigation, there is the potential for significant downstream effects on the qualifying interests of this SAC via the indirect hydrological pathways of surface water to the River Tolka (discharge to existing public surface water network located on Richmond Road). Given that the River Tolka outfalls to the marine environment at Dublin Bay, the scale of the proposed redevelopment, and the minimum distance from the subject site to this SAC (3.9 km), it is considered that there is the potential for silt and contaminated surface water runoff to enter the River Tolka with the potential for downstream impacts on this SAC. Out of an abundance of caution mitigation measures are required to protect this SAC from significant effects. Foul wastewater will be directed to an existing public foul network located on Richmond Road, which in turn discharges to Ringsend Wastewater Treatment Plant (WwTP) for treatment. Foul wastewater will be treated at Ringsend WwTP. In the absence of mitigation, no significant effects on the qualifying interests of this SAC are likely via the indirect hydrological pathway of foul wastewater drainage. Ringsend WWTP is required to operate under an EPA licence (D0034-01) and meet environmental legislative requirements. The proposed amendment to the permitted development does not alter the footprint, massing or height of any apartment blocks and does not introduce any change to the surface water or foul drainage strategy previously assessed. Accordingly, the potential hydrological pathways to North Dublin Bay SAC remain unchanged from those identified in the permitted development. Out of an abundance of caution in the absence of mitigation measures, it is considered that significant effects on the qualifying interests of this SAC are likely via the indirect hydrological pathways to the River Tolka during construction (surface water discharge to existing public surface water network located on Richmond Road) and operation (surface water discharge to existing public surface water network located on Richmond Road). **Stage 2 AA (Natura Impact Statement) is Required.**
Special Protection Areas			

European Site Code	Name	Screened IN/OUT	Details/Reason
IE004024	South Dublin Bay and River Tolka Estuary SPA	**IN**	**Conservation Objectives** To maintain or restore the favourable conservation condition of the bird species listed as Conservation Interests for this SPA. To maintain the favourable conservation condition of the wetland habitat in South Dublin Bay and River Tolka Estuary SPA as a resource for the regularly occurring migratory waterbirds that utilise it. **Qualifying Interests** *Branta bernicla hrota* (Light-bellied Brent Goose) [A046] *Haematopus ostralegus* (Oystercatcher) [A130] *Charadrius hiaticula* (Ringed Plover) [A137] *Pluvialis squatarola* (Grey Plover) [A141] *Calidris canutus* (Knot) [A143] *Calidris alba* (Sanderling) [A144] *Calidris alpina* (Dunlin) [A149] *Limosa lapponica* (Bar-tailed Godwit) [A157] *Tringa totanus* (Redshank) [A162] *Chroicocephalus ridibundus* (Black-headed Gull) [A179] *Sterna dougallii* (Roseate Tern) [A192] *Sterna hirundo* (Common Tern) [A193] *Sterna paradisaea* (Arctic Tern) [A194] Wetland and Waterbirds [A999] **Potential Impact** The proposed development site is located approximately 1.1 km from this SPA. There is no direct hydrological pathway from the proposed development to this SPA. However, during the construction and operational phases of development, there are a number of indirect hydrological pathways from the proposed development to this SPA via surface water discharge and foul water discharge. During construction, surface water drainage will be directed to the existing local combined infrastructure (which outfalls to Ringsend WwTP) and an existing public surface water network located on Richmond Road (which in turn outfalls to the River Tolka). During operation, surface water drainage will be directed to an existing public surface water network located on Richmond Road, which in turn outfalls to the River Tolka. Surface water drainage that is directed to the combined network will ultimately be treated along this public network at Ringsend WwTP and will not have a significant downstream effect on the qualifying interests of this SPA. However, in the absence of mitigation, there is the potential for significant downstream effects on the qualifying interests of this SPA via the indirect hydrological pathways of surface water to the River Tolka (discharge to existing public surface water network located on Richmond Road). Given that the River Tolka outfalls to the marine environment at Dublin Bay, the scale of the proposed redevelopment, and the minimum distance from the subject site to this SPA (1.1 km), it is considered that there is the potential for

European Site Code	Name	Screened IN/OUT	Details/Reason
			silt and contaminated surface water runoff to enter the River Tolka with the potential for downstream impacts on this SPA. Mitigation measures are required. Foul wastewater will be directed to an existing public foul network located on Richmond Road, which in turn discharges to Ringsend Wastewater Treatment Plant (WwTP) for treatment. Foul wastewater will be treated at Ringsend WwTP. In the absence of mitigation, no significant effects on the qualifying interests of this SPA are likely via the indirect hydrological pathway of foul wastewater drainage. The proposed amendment to the permitted development does not alter the footprint, massing or height of any apartment blocks and does not introduce any change to the surface water or foul drainage strategy previously assessed. Accordingly, the potential hydrological pathways to South Dublin Bay and River Tolka Estuary SPA remain unchanged from those identified in the permitted development. Wintering bird surveys conducted over three consecutive seasons (2020/2021, 2021/2022 and 2022/2023) informed the original assessment conclusions. As outlined in Appendix I: '*Results suggest that the site is not significant ex-situ foraging or roosting site for species of qualifying interest from nearby Special protection areas (SPA's). It was apparent that the preferred flightline routes for species such as Brent Geese and Curlew were to the south (birds likely following the Tolka River being a natural landmark) and to the north of the Hospital structure complex itself, although occasional flocks were recorded passing close and over the Hospital*.' Therefore, the proposed development will not result in the loss of important foraging habitats for the qualifying interests of this SPA. Furthermore, the principal open grassland area has remained unmanaged since the original survey period, leading to the establishment of long meadow grassland and progressive encroachment of scrub. The site provides limited suitable foraging habitat for wintering birds. No likely significant effects on wintering bird foraging activity are foreseen as a result of the proposed amendment application. Additionally, the proposed amendments to the parent planning permission do not alter building heights, massing, development extent, and introduces no visual or physical barriers. Structures subject to alterations under the proposed amendment application (at the same height as the parent planning permission) would be clearly visible to birds and the building heights would not be seen to impact on flightlines. No significant effects on ex-situ foraging or qualifying interests of this SPA are likely. Further, given the minimum distance to this SPA (1.1 km) across a densely populated urban environment, no significant noise or vibration impacts on the bird species protected as qualifying interests of this SPA are foreseen. Out of an abundance of caution in the absence of mitigation measures, it is considered that significant effects on the qualifying

European Site Code	Name	Screened IN/OUT	Details/Reason
			interests of this SPA are likely via the indirect hydrological pathways to the River Tolka during construction (surface water discharge to existing public surface water network located on Richmond Road) and operation (surface water discharge to existing public surface water network located on Richmond Road). **Stage 2 AA (Natura Impact Statement) is Required.**
IE004006	North Bull Island SPA	**IN**	**Conservation Objective:** To maintain or restore the favourable conservation conditions of the species and/or habitats listed as Qualifying Interests for this SPA. **Qualifying Interests** A046 Light-bellied Brent Goose (*Branta bernicla hrota*) A048 Shelduck (*Tadorna tadorna*) A052 Teal (*Anas crecca*) A054 Pintail (*Anas acuta*) A056 Shoveler (*Anas clypeata*) A130 Oystercatcher (*Haematopus ostralegus*) A140 Golden Plover (*Pluvialis apricaria*) A141 Grey Plover (*Pluvialis squatarola*) A143 Knot (*Calidris canutus*) A144 Sanderling (*Calidris alba*) A149 Dunlin (*Calidris alpina alpine*) A156 Black-tailed Godwit (*Limosa limosa*) A157 Bar-tailed Godwit (*Limosa lapponica*) A160 Curlew (*Numenius arquata*) A162 Redshank (*Tringa tetanus*) A169 Turnstone (*Arenaria interpres*) A179 Black-headed Gull (*Chroicocephalus ridibundus*) A999 Wetlands **Potential Impact** The proposed development site is located approximately 3.8 km from this SPA. There is no direct hydrological pathway from the proposed development to this SPA. However, during the construction and operational phases of development, there are a number of indirect hydrological pathways from the proposed development to this SPA via surface water discharge and foul water discharge. During construction, surface water drainage will be directed to the existing local combined infrastructure (which outfalls to Ringsend WwTP) and an existing public surface water network located on Richmond Road (which in turn outfalls to the River Tolka). During operation, surface water drainage will be directed to an existing public surface water network located on Richmond Road, which in turn outfalls to the River Tolka. Surface water drainage that is directed to the combined network will ultimately be treated along this public network at Ringsend WwTP and will not have a significant downstream effect on the qualifying interests of this SPA. However, in the absence of

European Site Code	Name	Screened IN/OUT	Details/Reason
			mitigation, there is the potential for significant downstream effects on the qualifying interests of this SPA via the indirect hydrological pathways of surface water to the River Tolka (discharge to existing public surface water network located on Richmond Road). Given that the River Tolka outfalls to the marine environment at Dublin Bay, the scale of the proposed redevelopment, and the minimum distance from the subject site to this SPA (3.8 km), it is considered that there is the potential for silt and contaminated surface water runoff to enter the River Tolka with the potential for downstream impacts on this SPA. Mitigation measures are required. Foul wastewater will be directed to an existing public foul network located on Richmond Road, which in turn discharges to Ringsend Wastewater Treatment Plant (WwTP) for treatment. Foul wastewater will be treated at Ringsend WwTP. In the absence of mitigation, no significant effects on the qualifying interests of this SPA are likely via the indirect hydrological pathway of foul wastewater drainage. The proposed amendment to the permitted development does not alter the footprint, massing or height of any apartment blocks and does not introduce any change to the surface water or foul drainage strategy previously assessed. Accordingly, the potential hydrological pathways to North Bull Island SPA remain unchanged from those identified in the permitted development. Wintering bird surveys conducted over three consecutive seasons (2020/2021, 2021/2022 and 2022/2023) informed the original assessment conclusions. As outlined in Appendix I: '*Results suggest that the site is not significant ex-situ foraging or roosting site for species of qualifying interest from nearby Special protection areas (SPA's). It was apparent that the preferred flightline routes for species such as Brent Geese and Curlew were to the south (birds likely following the Tolka River being a natural landmark) and to the north of the Hospital structure complex itself, although occasional flocks were recorded passing close and over the Hospital*.' Therefore, the proposed development will not result in the loss of important foraging habitats for the qualifying interests of this SPA. Furthermore, the principal open grassland area has remained unmanaged since the original survey period, leading to the establishment of long meadow grassland and progressive encroachment of scrub. The site provides limited suitable foraging habitat for wintering birds. No likely significant effects on wintering bird foraging activity are foreseen as a result of the proposed amendment application. Additionally, the proposed amendments to the parent planning permission do not alter building heights, massing, development extent, and introduces no visual or physical barriers. Structures subject to alterations under the proposed amendment application (at the same height as the parent planning permission) would be clearly visible to birds and the building heights would not be seen

European Site Code	Name	Screened IN/OUT	Details/Reason
			to impact on flightlines. No significant effects on ex-situ foraging or qualifying interests of this SPA are likely. In the absence of mitigation measures, it is considered that significant effects on the qualifying interests of this SPA are likely via the indirect hydrological pathways to the River Tolka during construction (surface water discharge to existing public surface water network located on Richmond Road) and operation (surface water discharge to existing public surface water network located on Richmond Road). **Stage 2 AA (Natura Impact Statement) is Required.**
IE004236	North-West Irish Sea SPA	**IN**	**Conservation Objective:** To maintain or restore the favourable conservation conditions of the species and/or habitats listed as Qualifying Interests for this SPA. **Qualifying Interests** Red-throated Diver *(Gavia stellata)* [A001] Great Northern Diver *(Gavia immer)* [A003] Fulmar *(Fulmarus glacialis)* [A009] Manx Shearwater *(Puffinus puffinus)* [A013] Cormorant *(Phalacrocorax carbo)* [A017] Shag *(Phalacrocorax aristotelis)* [A018] Common Scoter *(Melanitta nigra)* [A065] Black-headed Gull *(Chroicocephalus ridibundus)* [A179] Common Gull *(Larus canus)* [A182] Lesser Black-backed Gull *(Larus fuscus)* [A183] Herring Gull *(Larus argentatus)* [A184] Great Black-backed Gull *(Larus marinus)* [A187] Kittiwake *(Rissa tridactyla)* [A188] Roseate Tern *(Sterna dougallii)* [A192] Common Tern *(Sterna hirundo)* [A193] Arctic Tern *(Sterna paradisaea)* [A194] Guillemot *(Uria aalge)* [A199] Razorbill *(Alca torda)* [A200] Puffin *(Fratercula arctica)* [A204] Little Gull *(Hydrocoloeus minutus)* [A862] Little Tern *(Sternula albifrons)* [A885] **Potential Impacts** The proposed development site is located approximately 6.8 km from this SPA. There is no direct hydrological pathway from the proposed development to this SPA. However, during the construction and operational phases of development, there are a number of indirect hydrological pathways from the proposed development to this SPA via surface water discharge and foul water discharge. During construction, surface water drainage will be directed to the existing local combined infrastructure (which outfalls to Ringsend WwTP) and an existing public surface water network located on Richmond Road (which in turn outfalls to the River Tolka). During operation, surface water drainage will be directed to an existing

Commented [MG1]: Richmond Road

European Site Code	Name	Screened IN/OUT	Details/Reason
			public surface water network located on Richmond Road, which in turn outfalls to the River Tolka. Surface water drainage that is directed to the combined network will ultimately be treated along this public network at Ringsend WwTP and will not have a significant downstream effect on the qualifying interests of this SPA. However, in the absence of mitigation, there is the potential for significant downstream effects on the qualifying interests of this SPA via the indirect hydrological pathways of surface water to the River Tolka (discharge to existing public surface water network located on Richmond Road). Given that the River Tolka outfalls to the marine environment at Dublin Bay, the scale of the proposed redevelopment, and the minimum distance from the subject site to this SPA (6.8 km), it is considered that there is the potential for silt and contaminated surface water runoff to enter the River Tolka with the potential for downstream impacts on this SPA. Mitigation measures are required. Foul wastewater will be directed to an existing public foul network located on Richmond Road, which in turn discharges to Ringsend Wastewater Treatment Plant (WwTP) for treatment. Foul wastewater will be treated at Ringsend WwTP. In the absence of mitigation, no significant effects on the qualifying interests of this SPA are likely via the indirect hydrological pathway of foul wastewater drainage. Wintering bird surveys conducted over three consecutive seasons (2020/2021, 2021/2022 and 2022/2023) informed the original assessment conclusions. As outlined in Appendix I: '*Results suggest that the site is not significant ex-situ foraging or roosting site for species of qualifying interest from nearby Special protection areas (SPA's). It was apparent that the preferred flightline routes for species such as Brent Geese and Curlew were to the south (birds likely following the Tolka River being a natural landmark) and to the north of the Hospital structure complex itself, although occasional flocks were recorded passing close and over the Hospital*.' Therefore, the proposed development will not result in the loss of important foraging habitats for the qualifying interests of this SPA. Furthermore, the principal open grassland area has remained unmanaged since the original survey period, leading to the establishment of long meadow grassland and progressive encroachment of scrub. The site provides limited suitable foraging habitat for wintering birds. No likely significant effects on wintering bird foraging activity are foreseen as a result of the proposed amendment application. Additionally, the proposed amendments to the parent planning permission do not alter building heights, massing, development extent, and introduces no visual or physical barriers. Structures subject to alterations under the proposed amendment application (at the same height as the parent planning permission) would be clearly visible to birds and the building heights would not be seen

European Site Code	Name	Screened IN/OUT	Details/Reason
			to impact on flightlines. No significant effects on ex-situ foraging or qualifying interests of this SPA are likely. In the absence of mitigation measures, it is considered that significant effects on the qualifying interests of this SPA are likely via the indirect hydrological pathways to the River Tolka during construction (surface water discharge to existing public surface water network located on Richmond Road) and operation (surface water discharge to existing public surface water network located on Richmond Road). **Stage 2 AA (Natura Impact Statement) is Required.**

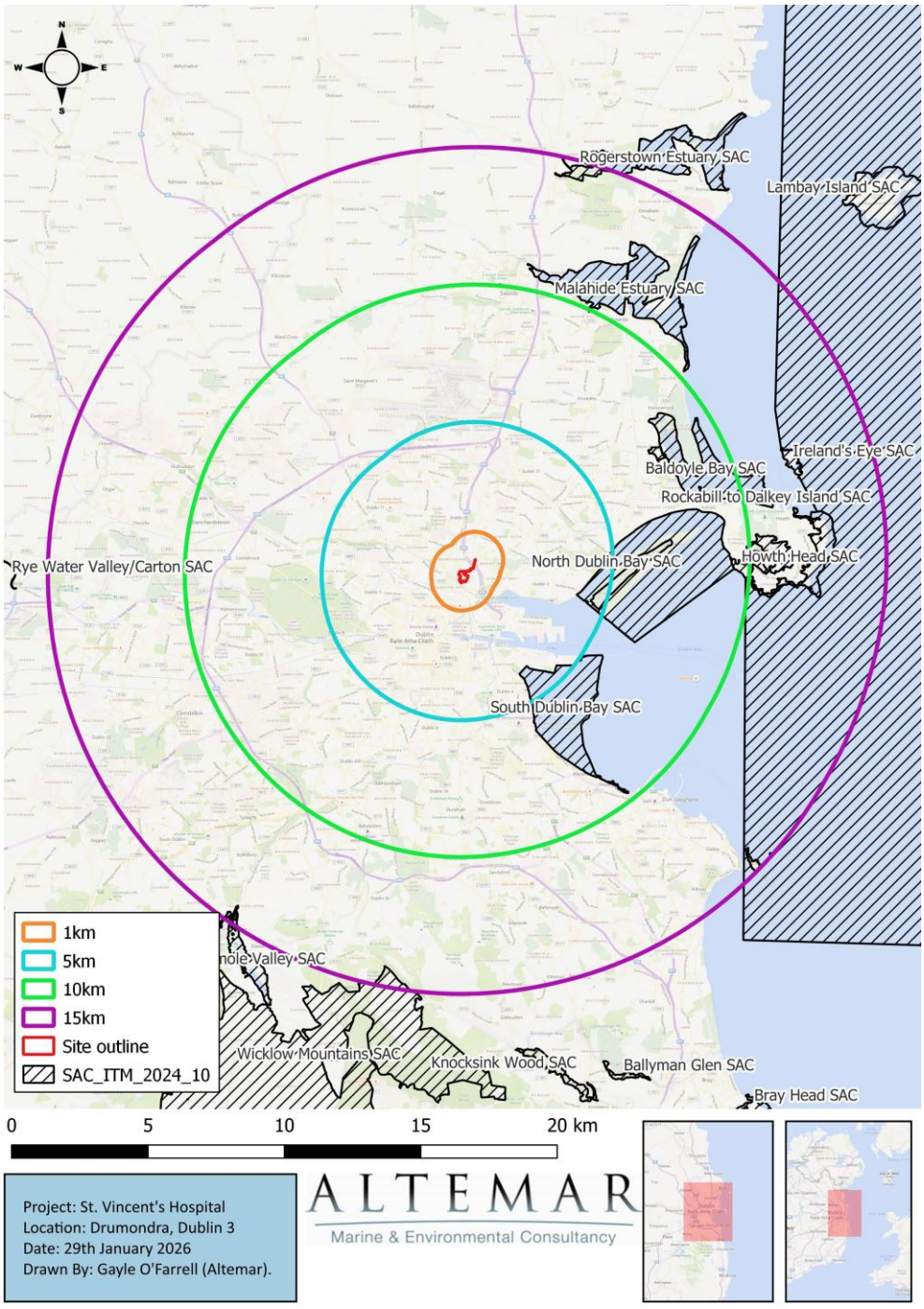


Figure 12. Special Areas of Conservation located within 15km of the proposed development

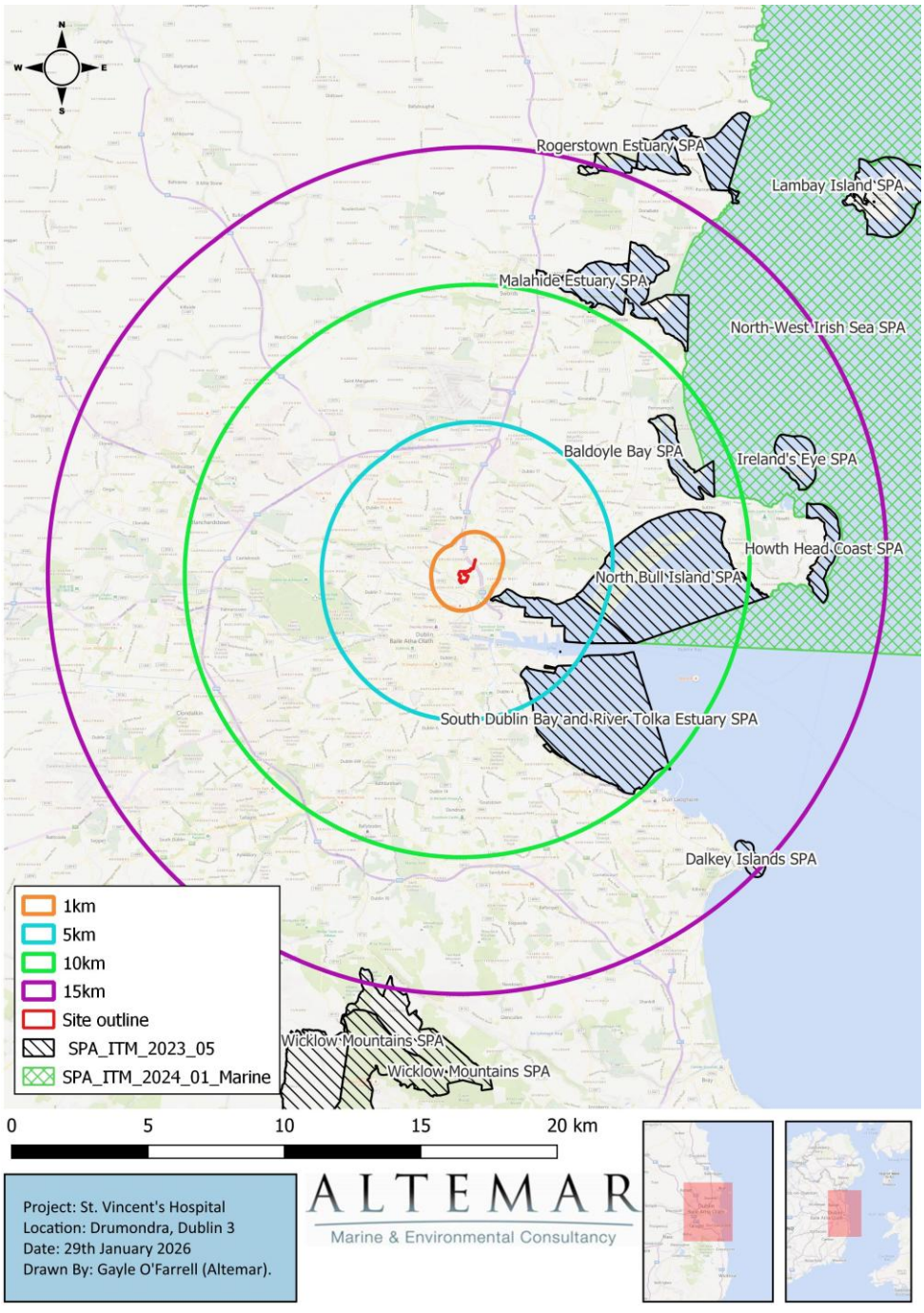


Figure 13. Special Protected Areas located within 15km of the proposed development

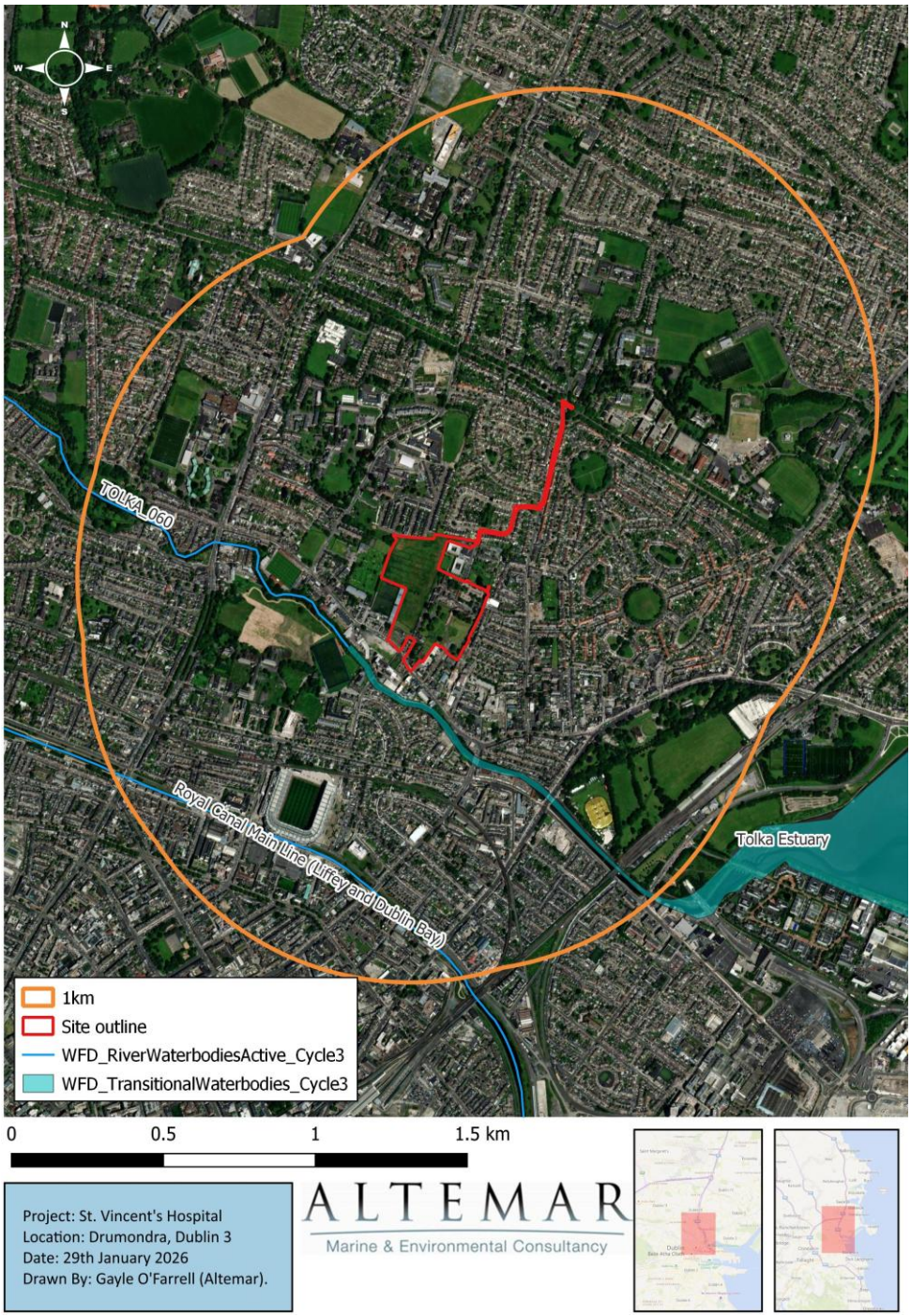


Figure 14. Watercourses within 1 km to the proposed development site.

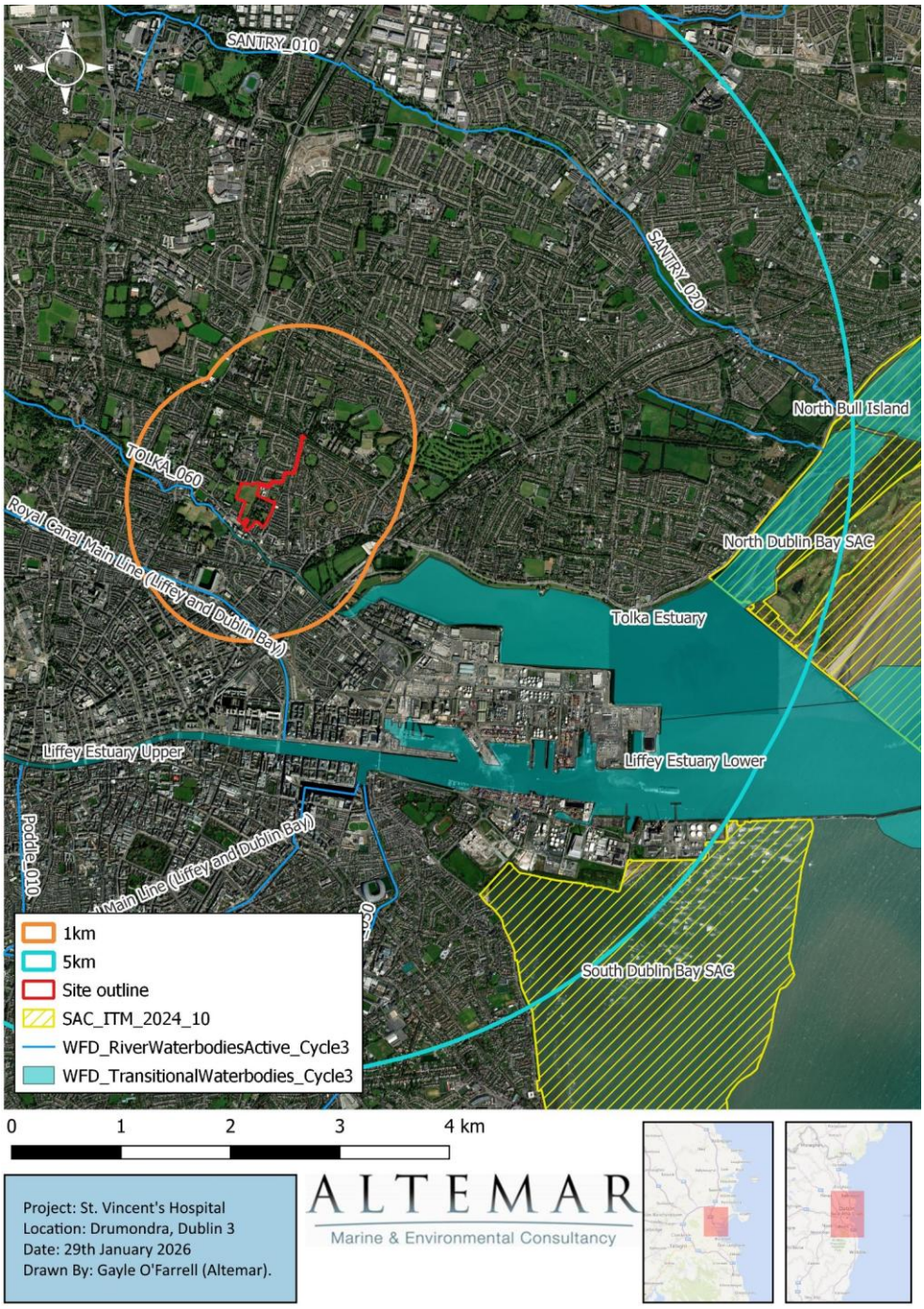


Figure 15. Waterbodies and SACs proximate to the proposed development site

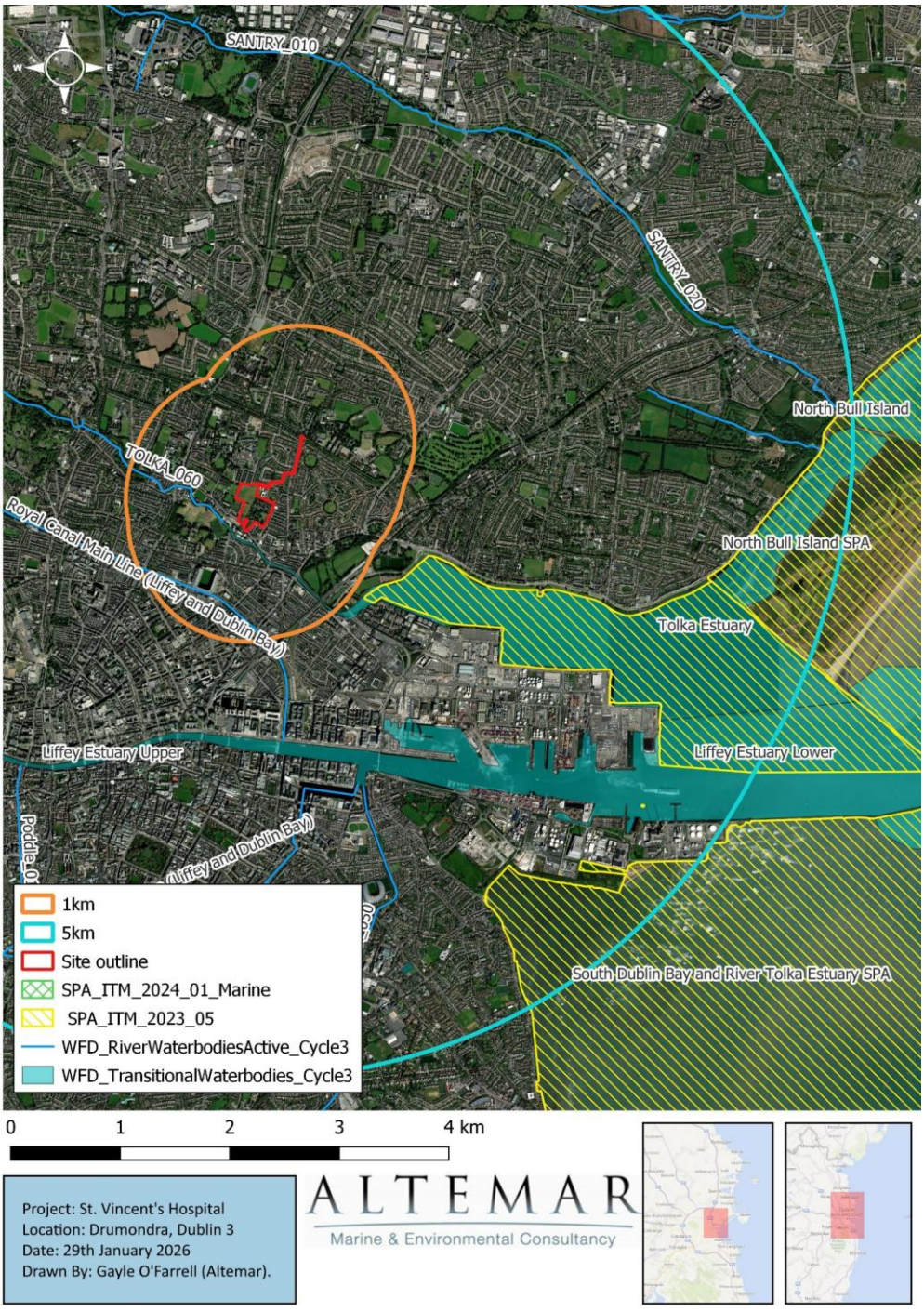


Figure 16. Waterbodies and SPAs proximate to the proposed development site

In-Combination Effects

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

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

Ref. No.	Address	Proposal
Reg. Ref.: 2991/15 & ABP Ref.: PL29N.245745	Lands at St. Joseph's Centre, Gracepark Road, Dublin 9	An Bord Pleanala upheld DCC's decision to grant permission in an Order dated 2nd March 2016, subject to 17 no. conditions for residential development on lands at St. Joseph's Centre, Gracepark Road, Dublin 9.
Richmond Road SHD ABP Ref.: 312352-21	No. 146A and 148-148A Richmond Road, Dublin 3	An SHD application was submitted to An Bord Pleanala on the 23rd of December 2021 on a site which is situated c. 500m to the east of the St. Vincent's Hospital application site. The development comprised the demolition of all existing structures and the construction of mixed use development of a café/retail unit and 183 no. BTR apartments in a part 6 No. to part 10 No. storey building over basement. The development also includes the construction of a new section of flood wall to the River Tolka along the site's southern boundary. The development will also include the repair and maintenance of the existing river wall on site adjacent to the River Tolka. The development also provides ancillary residential amenities and facilities and all associated development. A decision was due to be made by the Board on the 22nd of April 2022, however, the statutory deadline was not met and there is no revised decision date available at present. Further details of the application can be found on: www.richmondroadshd.ie
DCC Reg. Ref.: 2945/15	No. 144 Richmond Road, Drumcondra, Dublin 3	DCC issued a final grant on 11th January 2016 subject to 22 no. conditions for 4 No. storey mixed-use development. Under DCC Reg. Ref. 2556/18, planning permission was granted on 11th October 2018 for the change of use of the 2 No. permitted commercial units to provide 1 No. 3 bed apartment (115.32 sq.m) and all associated site development works
Reg. Ref.: 2957/02 and 5224/05	Unit 1.1,1.2,1.3,1.4 ,2,3,4a Richmond Rd., Unit 4A,4B,5B,5C Richmond Rd. Ind. Est., Richmond Road, Dublin 3	Permission was originally granted for a part 4 No. to 5 No. storey residential and commercial development under DCC Reg. Ref. 2957/02 at the site to the south-east of the subject lands. Under DCC Reg. Ref. 5224/05, permission was granted for amendments to the scheme including the change of use of commercial units to live/work units, redesign of some residential units and in addition, a new 7 No. storey building was granted permission at the site. It appears from Google Maps that the permitted 7 No. storey structure was never constructed at the lands however this decision demonstrates the potential for increased height in the area. Under DCC Reg. Ref. 3151/13, planning permission was granted to retain amendments made to the permitted DCC Reg. Reg. 2957/02 including the reconfiguration of the ground floor to incorporate storeroom, gym and pool and reconfiguration of the upper-level apartments. Under DCC Reg. Ref. 2607/14, planning permission was granted for the change of use of a ground floor office unit to a residential unit. Under DCC Reg. Ref. 4913/07, planning permission was granted for the redevelopment of a derelict building (Protected Structure), which involved the renovation of the building into a 30 No. bedroom short-term respite/convalescent day-care facility (7 No. storeys in total).
SHD ABP Ref.: 303296-18	Griffith Avenue, Marino, Dublin 9 (Griffith Wood)	An Bord Pleanála issued an Order to grant permission for a Strategic Housing Development at Griffith Avenue, Marino, Dublin 9, on the 27th of March 2019. The site is located within c. 1km of St. Vincent's Hospital. The Order was subject to 19 no. conditions. The development is now substantially complete and operated as a PRS scheme and known as Griffith Wood. The permitted development comprises the construction of a residential development (377 apartments and 8 five-bedroom houses). The apartments are in 7 no. residential blocks, ranging in height from 4 to 8 storeys to accommodate 377 no. apartments with associated residential tenant amenity, a mixed use building comprising a creche, café and multi-purpose area. The development also includes extensive new public open spaces and communal courtyards, podiums and roof terraces.
DCC Reg. Ref.: 3601/18 –	No. 87 North Strand Road /	Dublin City Council issued a final grant of permission on 7th December 2018, subject to 17 no. conditions, for demolition of existing structure on site & the construction of a five-storey mixed use development consisting of: ground floor commercial/ café unit, with 14

Ref. No.	Address	Proposal
	Poplar Row, Dublin 3	apartments (six one-bedroomed, seven two-bedroomed and one three-bedroomed) which include balconies to the north, southeast and west elevations with roof terrace on fourth floor level, internal bike storage, refuse store, new common pedestrian access from Poplar Row, with associated landscaping and site works. Dublin City Council issued a final grant of permission for amendments to Reg. Ref.: 3601/18 on 1st July 2020 under Reg. Ref.: 2213/20, subject to 6 no. conditions, for the increase in height to six storeys and 3 no. additional units. We understand the development has been commenced and is nearing completion at time of writing. The site is located to the south east of St. Vincent's Hospital and is now substantially complete.
DCC Reg Ref: 4353/19 & ABP Ref.: 306562-20	No. 17 Richmond Avenue, Drumcondra, Dublin 3	An Bord Pleanála upheld Dublin City Council's decision to refuse permission for the demolition of warehouse and construction of a five storey building for a new 40 no. bedroom student accommodation development at No. 17 Richmond Avenue. The Board's refusal was subject to 2 no items. The first reason for refusal was in relation to the proposed development would be contrary to principles of good streetscape design and would not make a positive contribution to the built environment in terms of design quality, scale, height and relationship to adjacent buildings. The second reason for refusal relates to the development would result in significant overlooking of adjoining sites and have serious and undue impact on existing residential amenities.
Reg . Ref.: 3657/21	17 and 19 Richmond Avenue	Planning permission was granted by DCC, dated the 14th of April 2022, for development at 17 and 19 Richmond Avenue, 100m to the south east of the subject lands. The decision was subject to third party appeals to ABP and the target decision date was the 13/09/22, however, no decision has been issued to date. The development applied for was described as follows in the public notices: "The development will consist of; (A) Demolition of existing dwelling and existing steel shed to the rear of subject site. (B) The construction of 2 no. separate apartment blocks yielding a total of 27 no. apartments (21 no. 1-bed units and 6 no. 2-bed units), comprising (i) Block 1 - 6 storeys in height consisting of 6 No. 1-bed units and 6 No. 2-bed units (ii) Block 2 - 5 storeys in height consisting of 15 No. 1-bed units. (iii) Pedestrian access via Richmond Avenue. (iv) Provision of 60 no. bicycle parking spaces. (v) Communal open space including 2 no. roof gardens. (vi) Substation and Plant rooms. (vii) Bin Storage. (viii) All associated engineering and site development works necessary to facilitate the development." Condition 3 of the notification of decision to grant clarifies that the permission granted is for 21 no. apartments, following revisions at FI stage and conditions attached to the decision. This site is located to the south of the unfinished apartment development to the north, which consists of a four storey shell structure, which detracts from the amenity of the area.
317136	158A, The former Leydens Wholesalers & Distributors, Richmond Road, Dublin 3, D03 YK12	Construction of 133 apartments and all associated site works. The site is 100m from the subject application site.
WEB1809/23	Ierne Social & Sports Club, Grace Park Road, Drumcondra, Dublin 9	The development will consist of the replacement of existing tennis court with a new 3G artificial turf football pitch measuring 50m by 30m with associated perimeter fencing 2.6m high and ball stop fencing system up to 6m high. The pitch will be provided with flood lighting comprising 6no. columns measuring 11m high with LED light luminaries. Other works will incorporate internal pedestrian pathway with fencing between the existing clubhouse and proposed football pitch.

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

Further Information on European Sites Screened In for NIS

South Dublin Bay SAC (Site code: 000210)

As outlined in the South Dublin Bay SAC Site Synopsis[3] (NPWS, version date 10.12.2015):

'*This site lies south of the River Liffey in Co. Dublin, and extends from the South Wall to the west pier at Dun Laoghaire. It is an intertidal site with extensive areas of sand and mudflats. The sediments are predominantly sands but grade to sandy muds near the shore at Merrion Gates. The main channel which drains the area is Cockle Lake.*

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

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

The bed of Dwarf Eelgrass (Zostera noltii) found below Merrion Gates is the largest stand on the east coast. Green algae (Enteromorpha spp. and Ulva lactuca) are distributed throughout the area at a low density. Fucoid algae occur on the rocky shore in the Maretimo to Dún Laoghaire area. Species include Fucus spiralis, F. vesiculosus, F. serratus, Ascophyllum nodosum and Pelvetia canaliculata.

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

Lugworm (Arenicola marina), Cockles (Cerastoderma edule) and annelids and other bivalves are frequent throughout the site. The small gastropod Hydrobia ulvae occurs on the muddy sands off Merrion Gates.

South Dublin Bay is an important site for waterfowl. Although birds regularly commute between the south bay and the north bay, recent studies have shown that certain populations which occur in the south bay spend most of their time there. The principal species are Oystercatcher (1215), Ringed Plover (120), Sanderling (344), Dunlin (2628) and Redshank (356) (average winter peaks 1996/97 and 1997/98). Up to 100 Turnstones are usual in the south bay during winter. Brent Goose regularly occur in numbers of international importance (average peak 299). Bar-tailed Godwit (565), a species listed on Annex I of the E.U. Birds Directive, also occur.

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

At low tide the inner parts of the south bay are used for amenity purposes. Baitdigging is a regular activity on the sandy flats. At high tide some areas have windsurfing and jet-skiing.

This site is a fine example of a coastal system, with extensive sand and mudflats, and incipient dune formations. South Dublin Bay is also an internationally important bird site.'

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

The European Standard Data Form (2020)[4] states that:

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

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

As outlined in the Conservation objectives supporting document[5] (NPWS, 2013), it is an objective:

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

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

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

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

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

[4] https://www.npws.ie/sites/default/files/protected-sites/natura2000/NF000210.pdf

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

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

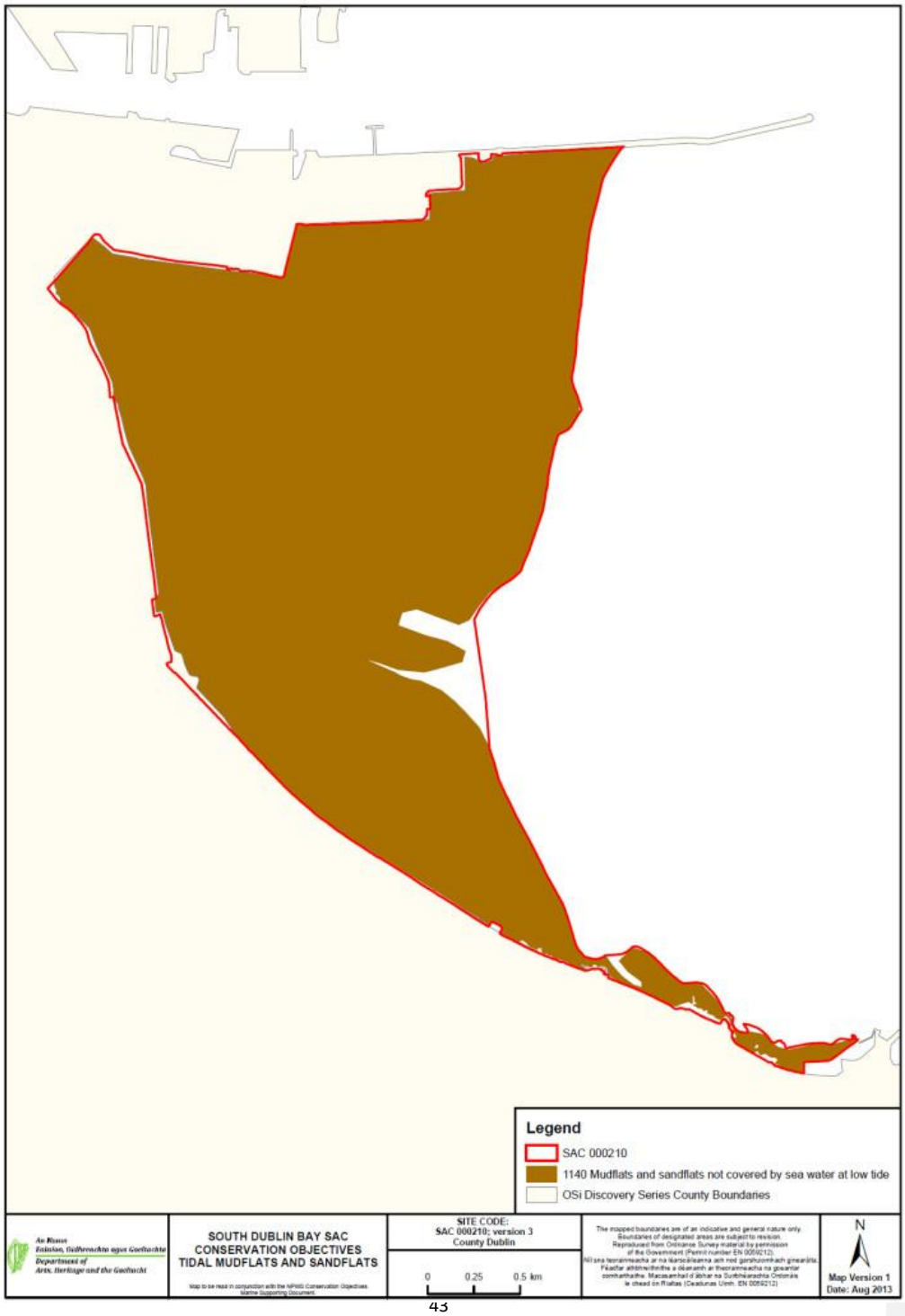
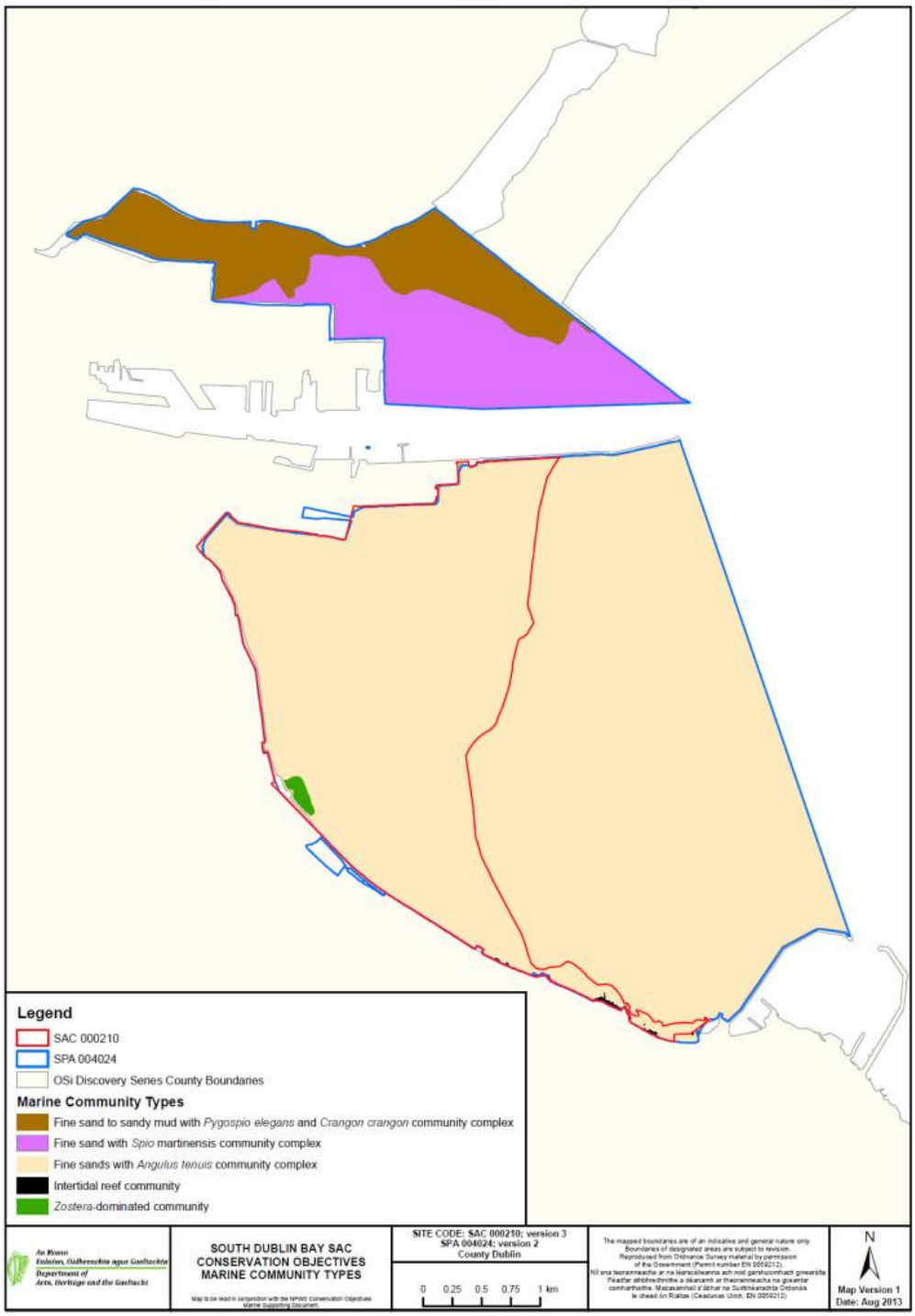


Figure 2. Distribution of community types in South Dublin Bay SAC



North Dublin Bay SAC (Site code: 000206)

As outlined in the North Dublin Bay SAC Site Synopsis[6] (NPWS, version date 12.08.2013):

'*This site covers the inner part of north Dublin Bay, the seaward boundary extending from the Bull Wall lighthouse across to the Martello Tower at Howth Head. The North Bull Island is the focal point of this site.*

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

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

North Bull Island is a sandy spit which formed after the building of the South Wall and Bull Wall in the 18th and 19th centuries. It now extends for about 5 km in length and is up to 1 km wide in places. A well-developed and dynamic dune system stretches along the seaward side of the island. Various types of dunes occur, from fixed dune grassland to pioneer communities on foredunes. Marram Grass (Ammophila arenaria) is dominant on the outer dune ridges, with Lyme-grass (Leymus arenarius) and Sand Couch (Elymus farctus) on the foredunes. Behind the first dune ridge, plant diversity increases with the appearance of such species as Wild Pansy (Viola tricolor), Kidney Vetch (Anthyllis vulneraria), Common Bird's-foot-trefoil (Lotus corniculatus), Common Restharrow (Ononis repens), Yellow-rattle (Rhinanthus minor) and Pyramidal Orchid (Anacamptis pyramidalis). In these grassy areas and slacks, the scarce Bee Orchid (Ophrys apifera) occurs.

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

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

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

The island shelters two intertidal lagoons which are divided by a solid causeway. The sediments of the lagoons are mainly sands with a small and varying mixture of silt and clay. The north lagoon has an area known as the "Salicornia flat", which is dominated by Salicornia dolichostachya, a pioneer glasswort species, and covers about

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

25 ha. Beaked Tasselweed (Ruppia maritima) occurs in this area, along with some Narrow-leaved Eelgrass (Zostera angustifolia). Dwarf Eelgrass (Z. noltii) also occurs in Sutton Creek. Common Cordgrass (Spartina anglica) occurs in places but its growth is controlled by management. Green algal mats (Enteromorpha spp., Ulva lactuca) cover large areas of the flats during summer. These sediments have a rich macrofauna, with high densities of Lugworms (Arenicola marina) in parts of the north lagoon. Mussels (Mytilus edulis) occur in places, along with bivalves such as Cerastoderma edule, Macoma balthica and Scrobicularia plana. The small gastropod Hydrobia ulvae occurs in high densities in places, while the crustaceans Corophium volutator and Carcinus maenas are common. The sediments on the seaward side of North Bull Island are mostly sands. The site extends below the low spring tide mark to include an area of the sublittoral zone.

Three rare plant species which are legally protected under the Flora (Protection) Order, 1999 have been recorded on the North Bull Island. These are Lesser Centaury (Centaurium pulchellum), Red Hemp-nettle (Galeopsis angustifolia) and Meadow Saxifrage (Saxifraga granulata). Two further species listed as threatened in the Red Data Book, Wild Clary/Sage (Salvia verbenaca) and Spring Vetch (Vicia lathyroides), have also been recorded. A rare liverwort, Petalophyllum ralfsii, was first recorded from the North Bull Island in 1874 and has recently been confirmed as still present. This species is of high conservation value as it is listed on Annex II of the E.U. Habitats Directive. The North Bull is the only known extant site for the species in Ireland away from the western seaboard.

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

The tip of the North Bull Island is a traditional nesting site for Little Tern. A high total of 88 pairs nested in 1987. However, nesting attempts have not been successful since the early 1990s. Ringed Plover, Shelduck, Mallard, Skylark, Meadow Pipit and Stonechat also nest. A well-known population of Irish Hare is resident on the island

The invertebrates of the North Bull Island have been studied and the island has been shown to contain at least seven species of regional or national importance in Ireland (from the Orders Diptera, Hymenoptera and Hemiptera).

The main land uses of this site are amenity activities and nature conservation. The North Bull Island is the main recreational beach in Co. Dublin and is used throughout the year. Much of the land surface of the island is taken up by two golf courses. Two separate Statutory Nature Reserves cover much of the island east of the Bull Wall and the surrrounding intertidal flats. The site is used regularly for educational purposes. North Bull Island has been designated a Special Protection Area under the E.U. Birds Directive and it is also a statutory Wildfowl Sanctuary, a Ramsar Convention site, a Biogenetic Reserve, a Biosphere Reserve and a Special Area Amenity Order site.

This site is an excellent example of a coastal site with all the main habitats represented. The site holds good examples of nine habitats that are listed on Annex I of the E.U. Habitats Directive; one of these is listed with priority status. Several of the wintering bird species have populations of international importance, while some of the invertebrates are of national importance. The site contains a numbers of rare and scarce plants including some which are legally protected. Its proximity to the capital city makes North Dublin Bay an excellent site for educational studies and research.'

The European Standard Data Form (2020)[7] states that:

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

'*The North Bull Island sand spit is a relatively recent depositional feature, formed as a result of improvements to Dublin Port during the 18th and 19th centuries. It is almost 5km long and 1km wide and runs parallel to the coast between Clontarf and Sutton. The sediment which forms the island is predominantly glacial in origin and siliceous in nature. Between the island and the mainland there occurs two sheltered intertidal areas which are separated by a solid causeway constructed in 1964. The seaward side of the island has a fine sandy beach. A substantial area of shallow marine water is included in the site. The interior of the island is excluded from the site as it has been converted to golf courses. The proximity of the North Bull Island to Dublin City results in it being a very popular recreational area. It is also very important for educational and research purposes. Nature conservation is a main landuse within the site.*

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

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

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

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

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

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

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



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

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

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

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

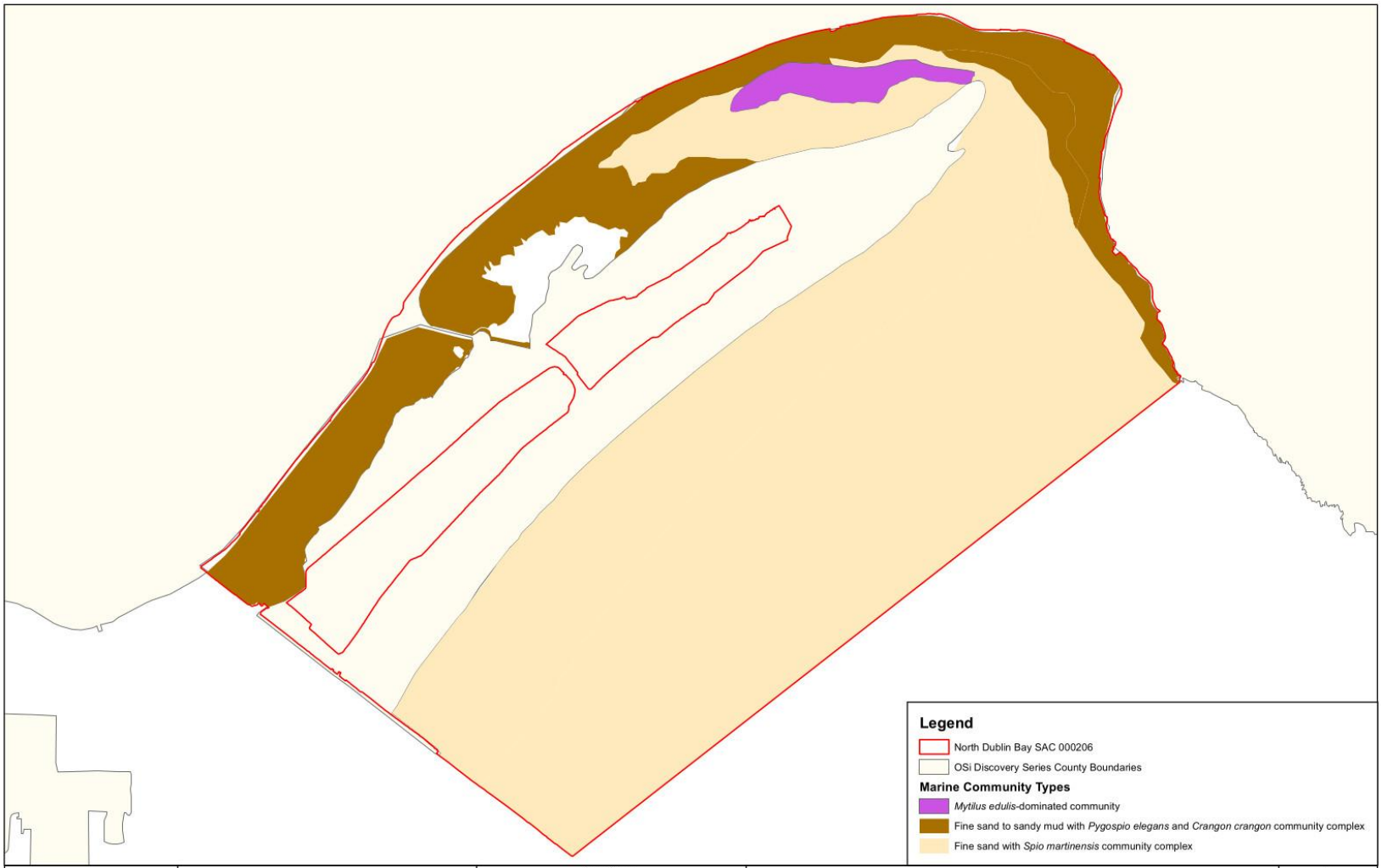
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The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision. Reproduced from Ordnance Survey material by permission of the Government (Permit number EN 0059212).

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

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Map Version 1
Date: Sept 2013



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

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

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

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

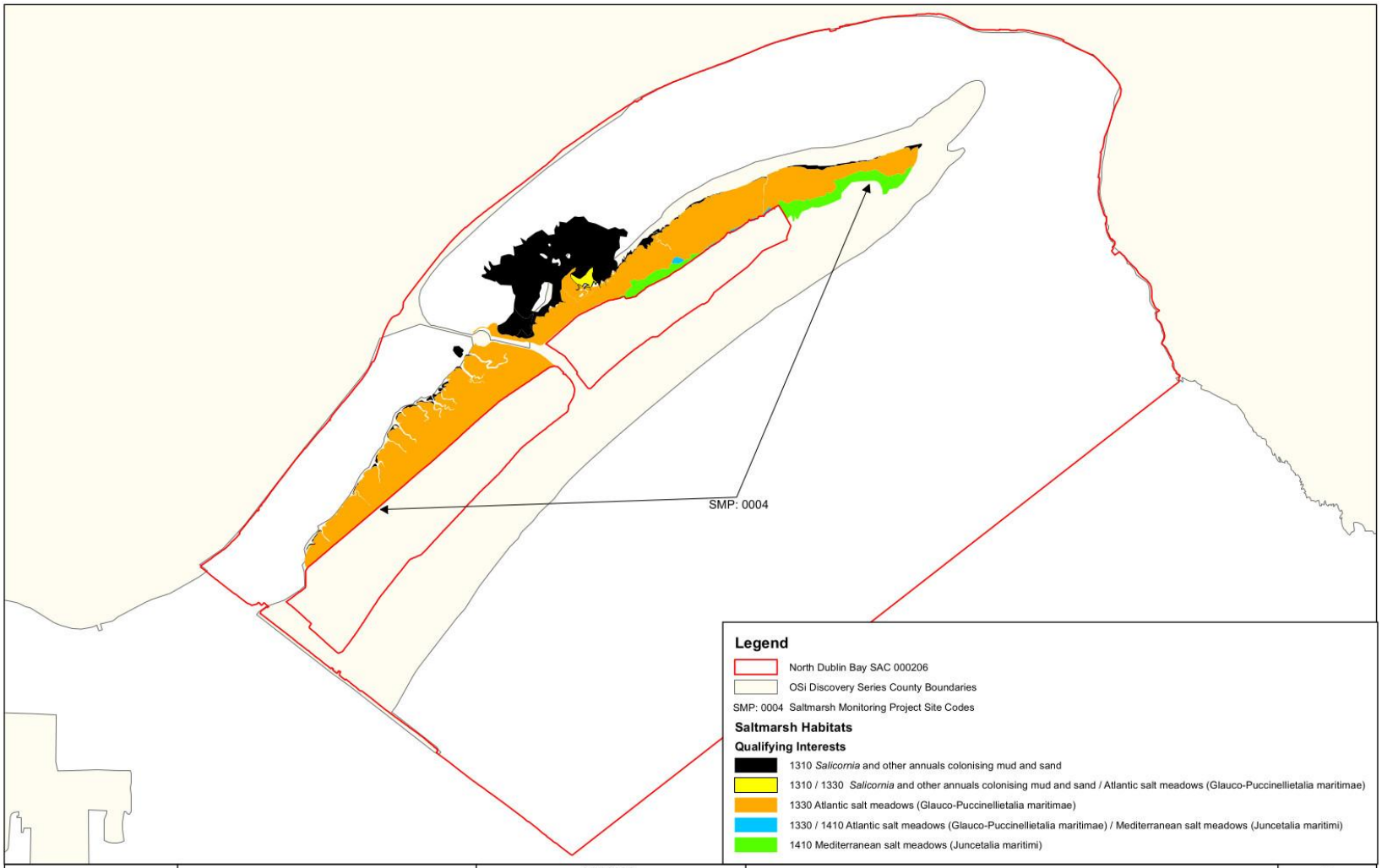
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The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision. Reproduced from Ordnance Survey material by permission of the Government (Permit number EN 0059212).

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

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Map Version 1
Date: Sept 2013



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

MAP 5:
NORTH DUBLIN BAY SAC
CONSERVATION OBJECTIVES
SALTMARSH HABITATS

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

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

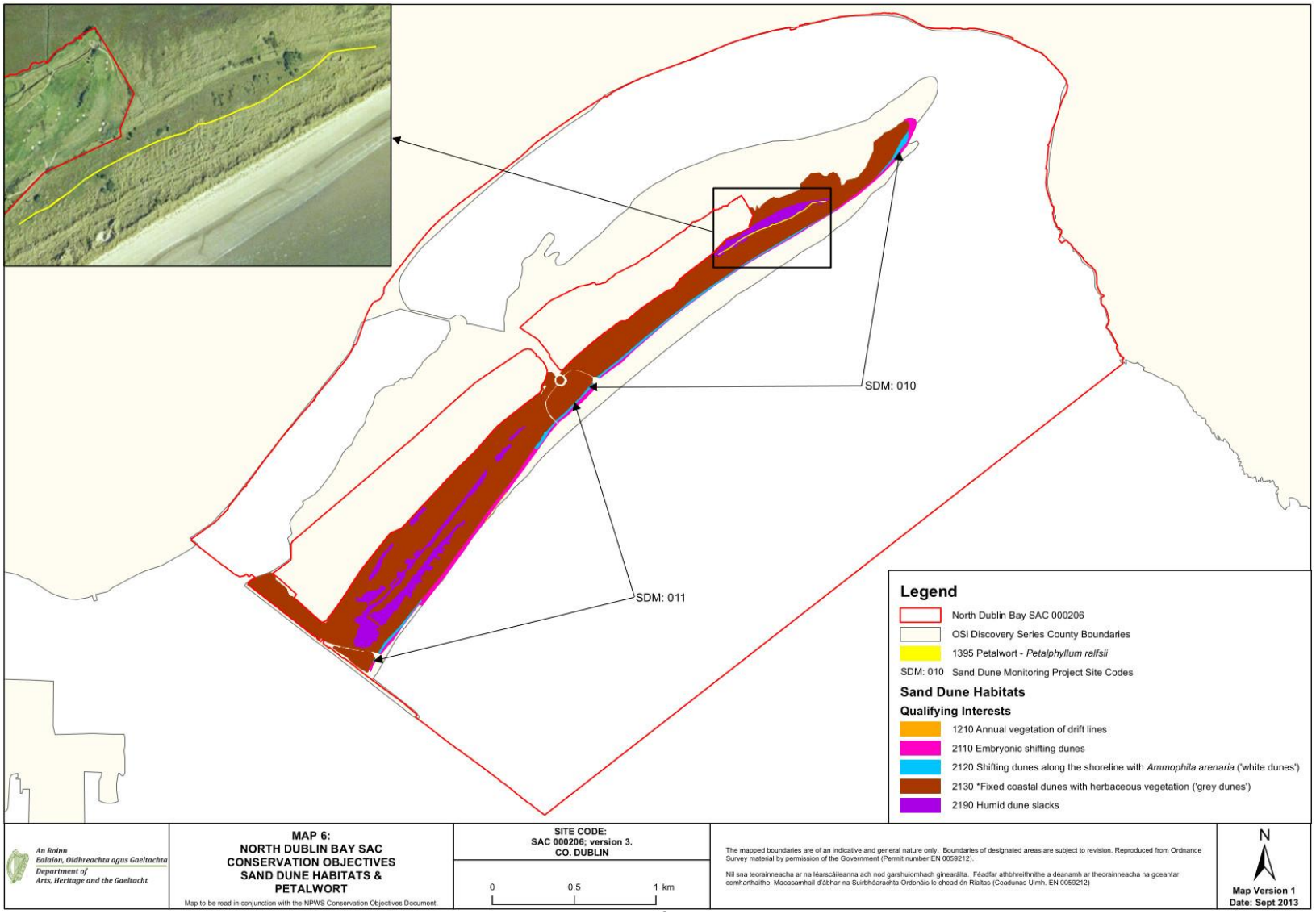
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The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision. Reproduced from Ordnance Survey material by permission of the Government (Permit number EN 0059212).

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

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Map Version 1
Date: Sept 2012



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

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

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

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

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Map Version 1
Date: Sept 2013

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

As outlined in the South Dublin Bay and River Tolka Estuary SPA Site Synopsis[8]. (NPWS, version date 30.05.2015):

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

In the south bay, the intertidal flats extend for almost 3 km at their widest. The sediments are predominantly well-aerated sands. Several permanent channels exist, the largest being Cockle Lake. A small sandy beach occurs at Merrion Gates, while some bedrock shore occurs near Dun Laoghaire. The landward boundary is now almost entirely artificially embanked. There is a bed of Dwarf Eelgrass (Zostera noltii) below Merrion Gates which is the largest stand on the east coast. Green algae (Ulva spp.) are distributed throughout the area at a low density. The macroinvertebrate fauna is well-developed, and is characterised by annelids such as Lugworm (Arenicola marina), Nephthys spp. and Sand Mason (Lanice conchilega), and bivalves, especially Cockle (Cerastoderma edule) and Baltic Tellin (Macoma balthica). The small gastropod Spire Shell (Hydrobia ulvae) occurs on the muddy sands off Merrion Gates, along with the crustacean Corophium volutator. Sediments in the Tolka Estuary vary from soft thixotrophic muds with a high organic content in the inner estuary to exposed, well-aerated sands off the Bull Wall. The site includes Booterstown Marsh, an enclosed area of saltmarsh and muds that is cut off from the sea by the Dublin/Wexford railway line, being linked only by a channel to the east, the Nutley stream. Sea water incursions into the marsh occur along this stream at high tide. An area of grassland at Poolbeg, north of Irishtown Nature Park, is also included in the site.

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

The site is an important site for wintering waterfowl, being an integral part of the internationally important Dublin Bay complex – all counts for wintering waterbirds are five year mean peaks for the period 1995/96 to 1999/2000. Although birds regularly commute between the south bay and the north bay, recent studies have shown that certain populations which occur in the south bay spend most of their time there. An internationally important population of Light-bellied Brent Goose (368) occurs regularly and newly arrived birds in the autumn feed on the Eelgrass bed at Merrion. At the time of designation the site supported nationally important numbers of a further nine species: Oystercatcher (1,145), Ringed Plover (161), Grey Plover (45), Knot (548), Sanderling (321), Dunlin (1,923), Bar-tailed Godwit (766), Redshank (260) and Black-headed Gull (3,040). Other species occurring in smaller numbers include Great Crested Grebe (21), Curlew (127) and Turnstone (52). Little Egret, a species which has recently colonised Ireland, also occurs at this site.

South Dublin Bay is a significant site for wintering gulls, with a nationally important population of Black-headed Gull, but also Common Gull (330) and Herring Gull (348). Mediterranean Gull is also recorded from here, occurring through much of the year, but especially in late winter/spring and again in late summer into winter.

Both Common Tern and Arctic Tern breed in Dublin Docks, on a man-made mooring structure known as the E.S.B. dolphin – this is included within the site. Small numbers of Common Tern and Arctic Tern were recorded nesting on this dolphin in the 1980s. A survey in 1995 recorded nationally important numbers of Common Tern nesting here (52 pairs). The breeding population of Common Tern at this site has increased, with 216 pairs recorded in 2000. This increase was largely due to the ongoing management of the site for breeding terns. More recent data highlights this site as one of the most important Common Tern sites in the country with over 400 pairs recorded here in 2007.

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

South Dublin Bay is an important staging/passage site for a number of tern species in the autumn (mostly late July to September). The origin of many of the birds is likely to be the Dublin breeding sites (Rockabill and the Dublin Docks) though numbers suggest that the site is also used by birds from other sites, perhaps outside the state. This site is selected for designation for its autumn tern populations: Roseate Tern (2,000 in 1999), Common Tern (5,000 in 1999) and Arctic Tern (20,000 in 1996).

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

The European Standard Data Form (2020)[9] states that:

'*This site comprises a substantial part of Dublin Bay. It includes virtually all of the intertidal area in the south bay, as well as much of the Tolka Estuary to the north of the River Liffey. A portion of the shallow bay waters is also included. In the south bay, the intertidal flats extend for almost 3 km at their widest. The sediments are predominantly well-aerated sands. The sands support the largest stand of Zostera noltii on the East Coast. Several permanent channels exist, the largest being Cockle Lake. A small sandy beach occurs at Merrion Gates, while some bedrock shore occurs near Dun Laoghaire. The landward boundary is now almost entirely artificially embanked. Sediments in the Tolka Estuary vary from soft thixotrophic muds with a high organic content in the inner estuary to exposed, well aerated sands off the Bull Wall. The proximity of the site to Dublin City results in it being a very popular recreational area. It is also important for educational and research purposes.*

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

According to the conservation Objectives Supporting Document[10] (NPWS 2014) for the South Dublin Bay and River Tolka Estuary SPA:

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

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

Conservation Objectives for North Bull Island Special Protection Area, and for South Dublin Bay and River Tolka Estuary Special Protection Area, based on the principles of favourable conservation status, are described below

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

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

and summarised in Table 3.1. Note that these objectives should be read and interpreted in the context of information and advice provided in additional sections of this report.

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

This objective is defined by the following attributes and targets:

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

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

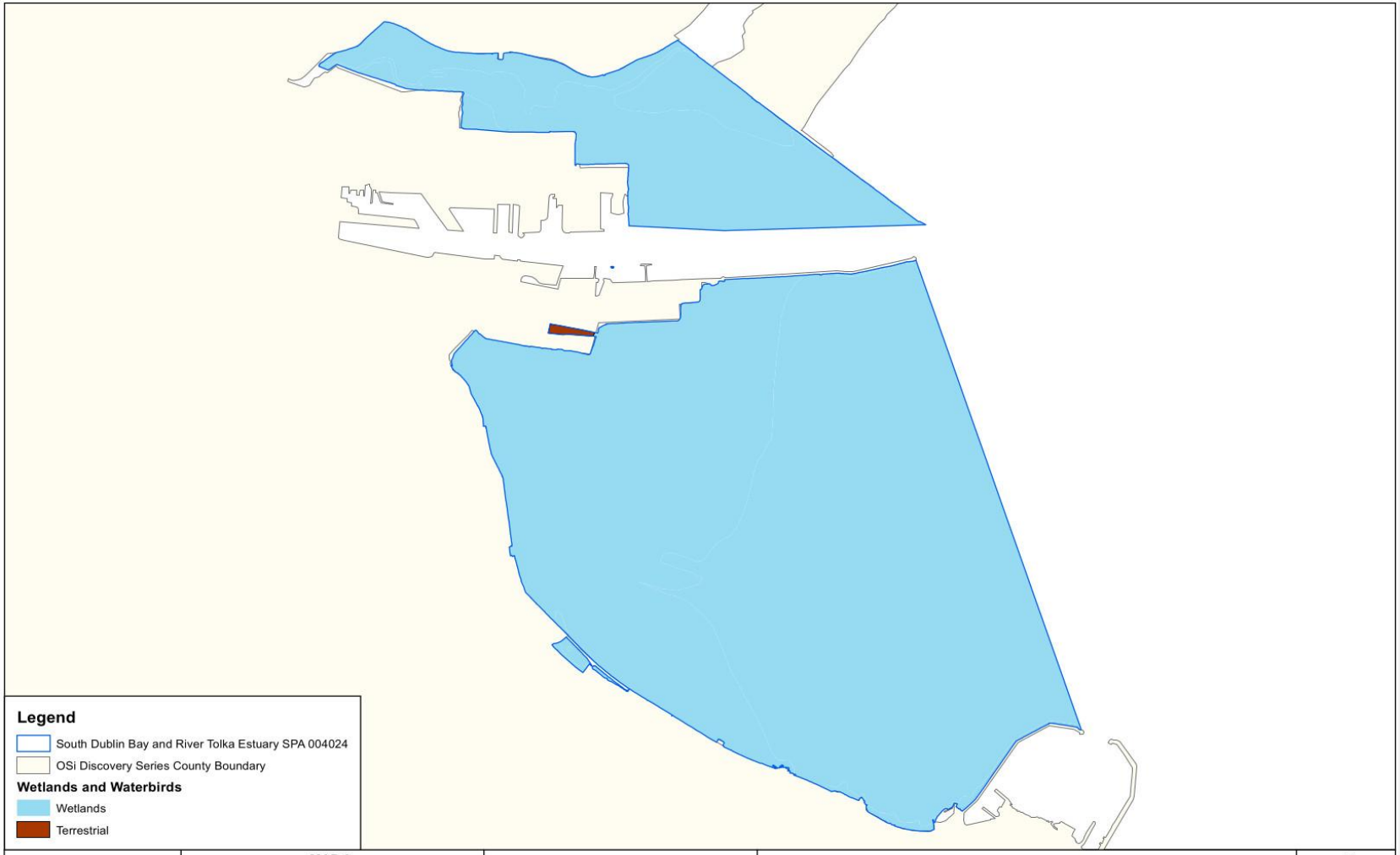
- *Habitat modification: activities that modify discreet areas or the overall habitat(s) within the SPA in terms of how one or more of the listed species use the site (e.g. as a feeding resource) could result in the displacement of these species from areas within the SPA and/or a reduction in their numbers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

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

This objective is defined by the following attributes and targets:

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

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



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MAP 3:
SOUTH DUBLIN BAY AND RIVER TOLKA ESTUARY SPA
CONSERVATION OBJECTIVES
WETLANDS AND WATERBIRDS
Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SPA 004024; version 2. CO. DUBLIN

0 0.5 1 1.5 2 km

The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision.
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Nil sna teorainneacha ar na léarscáileanna ach nod garshuiomhach ginearálta. Féadfar athbhreithnithe a déanamh ar theorainneacha na gceantar comharthaithe. Suirbhéarachta Ordonáis na hÉireann Ceadúnas Uimh EN 0059214. © Suirbhéarachta Ordonáis na hÉireann Rialtas na hÉireann

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Map Version 1
Date: Sep 2014

North Bull Island SPA (Site code: 004006)

As outlined in the North Bull Island SPA Site Synopsis[11] (NPWS, version date 25.03.2014)

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

Saltmarsh extends along the length of the landward side of the island and provides the main roost site for wintering birds in Dublin Bay. The island shelters two intertidal lagoons which are divided by a solid causeway. These lagoons provide the main feeding grounds for the wintering waterfowl. The sediments of the lagoons are mainly sands with a small and varying mixture of silt and clay. Green algal mats (Ulva spp.) are a feature of the flats during summer. These sediments have a rich macro-invertebrate fauna, with high densities of Lugworm (Arenicola marina) and Ragworm (Hediste diversicolor).

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

The North Bull Island SPA is of international importance for waterfowl on the basis that it regularly supports in excess of 20,000 waterfowl. The site supports internationally important populations of three species, Light-bellied Brent Goose (1,548), Black-tailed Godwit (367) and Bar-tailed Godwit (1,529) - all figures are mean peaks for the five winters between 1995/96 and 1999/2000. The site is one of the most important in the country for Light-bellied Brent Goose. A further 14 species have populations of national importance – Shelduck (1,259), Teal (953), Pintail (233), Shoveler (141), Oystercatcher (1,784), Grey Plover (517), Golden Plover (2,033), Knot (2,837), Sanderling (141), Dunlin (4,146), Curlew (937), Redshank (1,431), Turnstone (157) and Black-headed Gull (2,196). The populations of Pintail and Knot are of particular note as they comprise 14% and 10% respectively of the all-Ireland population totals. Other species that occur regularly in winter include Grey Heron, Little Egret, Cormorant, Wigeon, Goldeneye, Red-breasted Merganser, Ringed Plover and Greenshank. Gulls are a feature of the site during winter and, along with the nationally important population of Black-headed Gull (2,196), other species that occur include Common Gull (332) and Herring Gull (331). While some of the birds also frequent South Dublin Bay and the River Tolka Estuary for feeding and/or roosting purposes, the majority remain within the site for much of the winter. The wintering bird populations have been monitored more or less continuously since the late 1960s and the site is now surveyed each winter as part of the larger Dublin Bay complex.

The North Bull Island SPA is a regular site for passage waders, especially Ruff, Curlew Sandpiper and Spotted Redshank. These are mostly observed in single figures in autumn but occasionally in spring or winter.

The site formerly had an important colony of Little Tern but breeding has not occurred in recent years. Several pairs of Ringed Plover breed, along with Shelduck in some years. Breeding passerines include Skylark, Meadow Pipit, Stonechat and Reed Bunting. The island is a regular wintering site for Short-eared Owl, with up to 5 present in some winters.

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

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

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 European Standard Data Form (2020)[12] states that:

'*The North Bull Island sand spit is a relatively recent depositional feature, formed as a result of improvements to Dublin Port during the 18th and 19th centuries. It is almost 5km long and 1km wide and runs parallel to the coast between Clontarf and Sutton. The sediment which forms the island is predominantly glacial in origin and siliceous in nature. A well-developed dune system runs the length of the island, with good examples of embryonic, shifting marram and fixed dunes, as well as excellent examples of humid dune slacks. Extensive salt marshes also occur. Between the island and the mainland occur two sheltered intertidal areas which are separated by a solid causeway constructed in 1964. The seaward side of the island has a fine sandy beach. A substantial area of shallow marine water is included in the site. Part of the interior of the island has been converted to golf courses. The proximity of the North Bull Island to Dublin City results in it being a very popular recreational area. It is also very important for educational and research purposes. Nature conservation is a main landuse within the site.*

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

The North Bull Island SPA Conservation Objectives Supporting Document[13] (NPWS, 2014) states the following:

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

North Bull Island is one of the finest sand dune systems in Ireland and is internationally important in terms of conservation value (McCorry & Ryle, 2009a). It has several high quality examples of rare and threatened coastal habitats and a wealth of biodiversity, which includes several habitats and species listed in Annexes I and II of the

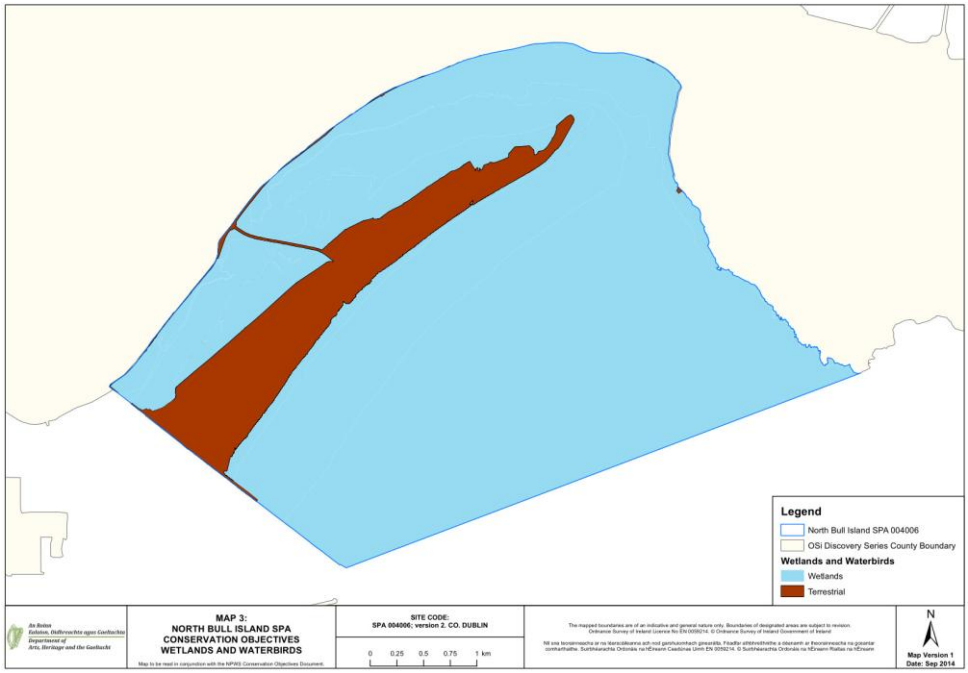
[12] https://www.npws.ie/sites/default/files/protected-sites/natura2000/NF004006.pdf
[13] https://www.npws.ie/sites/default/files/publications/pdf/North%20Bull%20Island%20SPA%20(004006)%20Conservation%20objectives%20supporting%20document%20-%20[Version%201].pdf

EU Habitats Directive. As a consequence, North Bull Island is afforded several other nature conservation designations alongside its status as a Special Protection Area. It was designated as an official bird sanctuary under the Wild Bird Protection Act, 1931, the first bird sanctuary in Ireland (McCorry & Ryle, 2009a), and was established as a National Nature Reserve in 1988 (two parts covered by S.I. 231 and S. I. 232 of 1988). The site has been designated as part of a Special Area of Conservation (North Dublin Bay SAC - NPWS site code 000206). North Bull Island is also a Biogenetic Reserve (Council of Europe) and a UNESCO World Biosphere Reserve.'

The following objectives have been identified:

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

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



North-West Irish Sea SPA (Site code:004236)

''The North-west Irish Sea SPA constitutes an important resource for marine birds. The estuaries and bays that open into it along with connecting coastal stretches of intertidal and shallow subtidal habitats, provide safe feeding and roosting habitats for waterbirds throughout the winter and migration periods. These areas, along with more pelagic marine waters further offshore, provide additional supporting habitats (for foraging and other maintenance behaviours) for those seabirds that breed at colonies on the north-west Irish Sea's islands and coastal headlands. These marine areas are also important for seabirds outside the breeding period.

This SPA extends offshore along the coasts of counties Louth, Meath and Dublin, and is approximately 2,333km2 in area. This SPA is ecologically connected to several existing SPAs in this area.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Common Scoter, Red-throated Diver, Great Northern Diver, Fulmar, Manx Shearwater, Shag, Cormorant, Little Gull, Kittiwake, Black-headed Gull, Common Gull, Lesser Black-backed Gull, Herring Gull, Great Black-backed Gull, Little Tern, Roseate Tern, Common Tern, Arctic Tern, Puffin, Razorbill and Guillemot. The breeding seabird species listed for those SPAs, which abut the North-West Irish Sea SPA are: Fulmar (Lambay Island SPA); Cormorant (Skerries Island SPA; Ireland's Eye SPA; Lambay Island SPA); Shag (Skerries Island SPA; Lambay Island SPA); Lesser Black-backed Gull (Lambay Island SPA); Herring Gull (Skerries Island SPA; Ireland's Eye SPA; Lambay Island SPA); Kittiwake (Lambay Island SPA; Ireland's Eye SPA; Howth Head SPA); Roseate Tern (Rockabill SPA); Common Tern (Rockabill SPA;); Arctic Tern (Rockabill SPA); Little Tern (Boyne Estuary SPA); Guillemot (Lambay Island SPA, Ireland's Eye SPA); Razorbill (Lambay Island SPA, Ireland's Eye SPA); and Puffin (Lambay Island SPA). The Common Tern population that is listed for the nearby South Dublin Bay and River Tolka Estuary SPA is also likely to use this SPA as a foraging resource.

Informed by two surveys of the western Irish Sea region in 2016 an estimated 120,232 and 34,626 individual marine birds occurred in this SPA during autumn and winter respectively. Those marine bird species whose estimated abundances equalled or exceeded 1% of the total estimated size of the winter assemblage are: Red-throated Diver (538), Fulmar (506), Little Gull (391), Kittiwake (944), Black-headed Gull (508), Common Gull (2,866), Herring Gull (6,893), Great Black-backed Gull (2,096), Razorbill (4,638) and Guillemot (13,914).

The estimated 2016 summer abundance of Manx Shearwater in the Northwest Irish Sea SPA is 13,010 and is of international importance. The estimated 2016 autumn and winter abundances of Great Northern Diver in the North West Irish Sea SPA is 248 and 230 respectively and are of international importance. The estimated abundances of Common Scoter over parts of this SPA can reach significant numbers (e.g. 14,567 in December 2018) which is also of international importance.''

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

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

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

Qualifying Interests, Conservation Status, Management Objectives, Conditions underpinning site integrity for relevant European sites		
European Site Name & Code	Qualifying Interests	Current Conservation Status & Trend
	Wetland and Waterbirds [A999]	**N/A**
North Bull Island SPA (004006)	Light-bellied Brent Goose (*Branta bernicla hrota*) [A046]	**Amber**
	Shelduck (*Tadorna tadorna*) [A048]	**Amber**
	Teal (*Anas crecca*) [A052]	**Amber**
	Pintail (*Anas acuta*) [A054]	**Red**
	Shoveler (*Anas clypeata*) [A056]	**Red**
	Oystercatcher (*Haematopus ostralegus*) [A130]	**Amber**
	Golden Plover (*Pluvialis apricaria*) [A140]	**Red**
	Grey Plover (*Pluvialis squatarola*) [A141]	**Amber**
	Knot (*Calidris canutus*) [A143]	**Amber**
	Sanderling (*Calidris alba*) [A144]	**Green**
	Dunlin (*Calidris alpina*) [A149]	**Red**
	Black-tailed Godwit (*Limosa limosa*) [A156]	**Amber**
	Bar-tailed Godwit (*Limosa lapponica*) [A157]	**Amber**
	Curlew (*Numenius arquata*) [A160]	**Red**
	Redshank (*Tringa totanus*) [A162]	**Red**
	Turnstone (*Arenaria interpres*) [A169]	**Green**
	Black-headed Gull (*Chroicocephalus ridibundus*) [A179]	**Red**
	Wetland and Waterbirds [A999]	**N/A**
North-west Irish Sea SPA (004236)	Common Scoter (*Melanitta nigra*) [A065]	**Red**
	Red-throated Diver (*Gavia stellata*) [A001]	**Amber**
	Great Northern Diver (*Gavia immer*) [A003]	**Amber**
	Fulmar (*Fulmarus glacialis*) [A009]	**Amber**
	Manx Shearwater (*Puffinus puffinus*) [A013]	**Amber**
	Cormorant (*Phalacrocorax carbo*) [A017]	**Amber**
	Little Tern (*Sterna albifrons*) [A195]	**Amber**
	Kittiwake (*Rissa tridactyla*) [A188]	**Red**
	Black-headed Gull (*Chroicocephalus ridibundus*) [A179]	**Amber**
	Common Gull (*Larus canus*) [A182]	**Amber**
	Lesser Black-backed Gull (*Larus fuscus*) [A183]	**Amber**
	Herring Gull (*Larus argentatus*) [A184]	**Amber**

Qualifying Interests, Conservation Status, Management Objectives, Conditions underpinning site integrity for relevant European sites		
European Site Name & Code	Qualifying Interests	Current Conservation Status & Trend
	Roseate Tern (*Sterna dougallii*) [A192] Arctic Tern (*Sterna paradisaea*) [A194] Puffin (*Fratercula arctica*) [A204] Razorbill (*Alca torda*) [A200] Guillemot (*Uria aalge*) [A199] Little Gull (*Hydrocoloeus minutus*) (A862) Common Tern (*Sterna hirundo*) (A193)	**Amber** **Amber** **Red** **Amber** **Amber** **Amber** **Amber**

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

South Dublin Bay SAC (000210)		
Attribute	**Measure**	**Target**
Mudflats and sandflats not covered by water at low tide [1140] (Maintain the favourable conservation condition)		
Habitat area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes
Community extent	Hectares	Maintain the extent of the *Zostera*-dominated community, subject to natural processes
Community structure: *Zostera* density	Shoots/m^2	Conserve the high quality of the *Zostera*-dominated community, subject to natural processes
Community distribution	Hectares	Conserve the following community types in a natural condition: Fine sands with *Angulus tenuis* community complex.
North Dublin Bay SAC (000206)		
Attribute	**Measure**	**Target**
Mudflats and sandflats not covered by water at low tide [1140] (Maintain the favourable conservation condition)		
Habitat area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes
Community extent	Hectares	Maintain the extent of the *Mytilus edulis*-dominated community, subject to natural processes
Community structure: *Mytilus edulis* density	Individuals/m^2	Conserve the high quality of the *Mytilus edulis* -dominated community, subject to natural processes
Community distribution	Hectares	Conserve the following community types in a natural condition: Fine sand to sandy mud with *Pygospio elegans* and *Crangon crangon* community complex; Fine sand with *Spio martinensis* community complex
Annual vegetation of drift lines [1210] (Restore the favourable conservation condition)		

Habitat area	Hectares	Area increasing, subject to natural processes, including erosion and succession
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation composition: typical species and subcommunities	Percentage cover at a representative number of monitoring stops	Maintain the presence of species-poor communities with typical species: sea rocket (*Cakile maritima*), sea sandwort (*Honckenya peploides*), prickly saltwort (*Salsola kali*) and oraches (*Atriplex* spp.)
Vegetation composition: negative indicator species	Percentage cover	Negative indicator species (including non-natives) to represent less than 5% cover
Salicornia and other annuals colonizing mud and sand [1310] (Restore the favourable conservation condition of Salicornia and other annuals colonizing mud and sand)		
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: North Bull Island 29.10 ha.
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: sediment supply	Presence/ absence of physical barriers	Maintain, or where necessary restore, natural circulation of sediment and organic matter, without any physical obstructions
Physical structure: creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation structure: vegetation height	Centimetres	Maintain structural vegetation with sward
Vegetation structure: vegetation cover	Percentage cover at a representative number of monitoring stops	Maintain more than 90% of area outside creeks vegetated
Vegetation composition: typical species and sub-communities	Percentage cover	Maintain the presence of species-poor communities listed in SMP (McCorry and Ryle, 2009)
Vegetation structure: negative indicator species – *Spartina anglica*	Hectares	No significant expansion of common cordgrass (*Spartina anglica*), with an annual spread of less than 1%.
Atlantic salt meadows [1330] (Maintain the favourable conservation condition)		
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: North Bull Island 81.84ha.
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes

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

Embryonic shifting dunes [2110] (Restore the favourable conservation condition)		
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: North Bull Island – 2.64ha; South Bull – 3.43ha.
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions
Vegetation structure: zonation	Occurrence	Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation composition: plant health of foredune grasses	Percentage Cover	More than 95% of sand couch (*Elytrigia juncea*) and/or lyme grass (*Leymus arenarius*) should be healthy (i.e., green plant parts above ground and flowering heads present)
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain the presence of species-poor communities with typical species: sand couch (*Elytrigia juncea*) and/or lyme grass (*Leymus arenarius*)
Vegetation structure: negative indicator species	Percentage Cover	Negative indicator species (including non-native species) to represent less than 5% cover
Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120] (Restore the favourable conservation condition)		
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: North Bull Island – 2.20ha; South Bull – 0.97ha.
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions
Vegetation structure: zonation	Occurrence	Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation composition: plant health of dune grasses	Percentage Cover	95% of marram grass (*Ammophila arenaria*) and/or lyme-grass (*Leymus arenarius*) should be healthy (i.e. green plant parts above ground and flowering heads present)
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain the presence of species-poor communities dominated by marram grass (*Ammophila arenaria*) and/or lyme-grass (*Leymus arenarius*)
Vegetation structure: negative indicator species	Percentage Cover	Negative indicator species (including non-native species) to represent less than 5% cover
Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] (Restore the favourable conservation condition)		
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: North Bull – 40.29ha; South Bull – 64.56ha.
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions

Vegetation structure: zonation	Occurrence	Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation structure: bare ground	Percentage cover	Bare ground should not exceed 10% of fixed dune habitat, subject to natural processes
Vegetation structure: sward height	Centimetres	Maintain structural variation within sward
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain range of sub-communities with typical species listed in Delaney et. al. (2013)
Vegetation composition: negative indicator species (including *Hippophae rhamnoides*)	Percentage Cover	Negative indicator species (including non-native species) to represent less than 5% cover
Vegetation composition: scrub/trees	Percentage Cover	No more than 5% cover or under control
Humid dune slacks [2190] (Restore the favourable conservation condition)		
Habitat area	Hectares	Area increasing, subject to natural processes, including erosion and succession. For sub-sites mapped: North Bull – 3.96ha; South Bull – 9.15ha.
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions
Physical structure: hydrological and flooding regime	Water table levels; groundwater fluctuations (metres)	Maintain natural hydrological regime
Vegetation structure: zonation	Occurrence	Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation structure: bare ground	Percentage cover	Bare ground should not exceed 5% of dune slack habitat, with the exception of pioneer slacks which can have up to 20% bare ground
Vegetation structure: vegetation height	Centimetres	Maintain structural variation within sward
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain range of sub-communities with typical species listed in Delaney et. al. (2013)
Vegetation composition: cover of *Salix repens*	Percentage cover; centimetres	Maintain less than 40% cover of creeping willow (*Salix repens*)
Vegetation composition: negative indicator species	Percentage Cover	Negative indicator species (including non-native species) to represent less than 5% cover
Vegetation composition: scrub/trees	Percentage Cover	No more than 5% cover or under control
Petalwort (*Petalophyllum ralfsii)* [1395] (Maintain the favourable conservation condition)		
Distribution of populations	Number and geographical spread of populations	No decline
Population size	Number of individuals	No decline

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

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

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

Analysis of the Potential Impacts on European Sites.

The proposed development is not within a designated conservation site. The nearest Natura 2000 site is South Dublin Bay and River Tolka Estuary SPA (1.1 km). Out of an abundance of caution, given the nature of the construction works, and recognising that there are short indirect hydrological pathways to the proximate River Tolka (which ultimately outfalls to the marine environment at Dublin Bay) via surface water runoff (during construction) and via the proposed direction of surface water drainage to an existing public network (during construction and operation), it is considered that there is an indirect hydrological pathway to South Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA, North Dublin Bay SAC, North Bull Island SPA and North-west Irish Sea SPA. Out of an abundance of caution, it is considered that there is the potential for dust and contaminated surface water runoff to enter the River Tolka during construction and operation and reach downstream European Sites. It cannot be ruled out, without mitigation, that the proposed development will have significant effects on the identified European sites.

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

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

Mitigation Measures

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

Table 6. Potential for adverse effects on the qualifying interests and conservation objectives of European sites		
European Site & Site Code	Qualifying Interests	Potential for Adverse Effects
South Dublin Bay SAC	Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of drift lines [1210] Salicornia and other annuals colonising mud and sand [1310] Embryonic shifting dunes [2110]	Given the nature of the works, all of these effects would be expected to be localised in nature restricted to the immediate vicinity of the site. However, without the presence of mitigation measures there is a potential for downstream effects if significant quantities of pollution or silt were introduced into the River Tolka via construction works with potential for downstream impacts on South Dublin Bay SAC. The habitats of conservation interest of this SAC are not on site. However, the range of the species that are of conservational interest may be located downstream of the proposed works. Construction works have the potential for downstream impacts on aquatic biodiversity through the introduction of silt and petrochemicals. Existing drainage networks on site, surface water runoff, haulage, storage of topsoil or works in the vicinity of the drainage networks on onsite could lead to dust, hazardous material, soil or silt laden runoff entering the River Tolka via drainage networks. Impacts on the SAC from upstream sources have the potential to directly impact on the qualifying interests of the SAC in the absence of mitigation measures. In the absence of mitigation measures there is the potential to impact on the distribution number and range of the following qualifying interests if significant quantities of silt and pollution were to enter the River Tolka: • Mudflats and sandflats not covered by seawater at low tide [1140] • Annual vegetation of drift lines [1210] • Salicornia and other annuals colonising mud and sand [1310] • Embryonic shifting dunes [2110] Mitigation measures are required to remove the potential of impacts on the SAC from indirect pathways via the River Tolka.
North Dublin Bay SAC	Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of drift lines [1210] Salicornia and other annuals colonising mud and sand [1310]	Given the nature of the works, all of these effects would be expected to be localised in nature restricted to the immediate vicinity of the site. However, without the presence of mitigation measures there is a potential for downstream effects if significant quantities of pollution or silt were introduced into the River Tolka via construction works with potential for downstream impacts on North Dublin Bay SAC. The habitats of conservation interest of this SAC are not on site. However, the range of the species that are of conservational interest may be located downstream of the proposed works. Construction works have the potential for downstream impacts on aquatic biodiversity through the introduction of silt and petrochemicals. Existing drainage networks on site, surface water runoff, haulage, storage of topsoil or works in the vicinity of the drainage networks on onsite could lead to dust, hazardous material, soil or silt laden runoff entering the River Tolka via drainage networks.

Table 6. Potential for adverse effects on the qualifying interests and conservation objectives of European sites		
European Site & Site Code	Qualifying Interests	Potential for Adverse Effects
	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330] Mediterranean salt meadows (*Juncetalia maritimi*) [1410] Embryonic shifting dunes [2110] Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Humid dune slacks [2190] Petalwort (*Petalophyllum ralfsii*) [1395]	Impacts on the SAC from upstream sources have the potential to directly impact on the qualifying interests of the SAC in the absence of mitigation measures. In the absence of mitigation measures there is the potential to impact on the distribution number and range of the following qualifying interests if significant quantities of silt and pollution were to enter the River Tolka: • Mudflats and sandflats not covered by seawater at low tide [1140] • Annual vegetation of drift lines [1210] • Salicornia and other annuals colonising mud and sand [1310] • Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330] • Mediterranean salt meadows (*Juncetalia maritimi*) [1410] • Embryonic shifting dunes [2110] • Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120] • Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] • Humid dune slacks [2190] • Petalwort (*Petalophyllum ralfsii*) [1395] Mitigation measures are required to remove the potential of impacts on the SAC from indirect pathways via the River Tolka.
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] Grey Plover (*Pluvialis squatarola*) [A141] Knot (*Calidris canutus*) [A143] Sanderling (*Calidris alba*) [A144] Dunlin (*Calidris alpina*) [A149] Bar-tailed Godwit (*Limosa lapponica*) [A157]	Given the nature of the works, all of these effects would be expected to be localised in nature restricted to the immediate vicinity of the site. However, without the presence of mitigation measures there is a potential for downstream effects if significant quantities of pollution or silt were introduced into the River Tolka via construction works with potential for downstream impacts on South Dublin Bay and River Tolka Estuary SPA. The habitats of conservation interest of this SPA are not on site. However, the range of the species that are of conservational interest may be located downstream of the proposed works. Construction works have the potential for downstream impacts on aquatic biodiversity through the introduction of silt and petrochemicals. Existing drainage networks on site, surface water runoff, haulage, storage of topsoil or works in the vicinity of the drainage networks on onsite could lead to dust, hazardous material, soil or silt laden runoff entering the River Tolka via drainage networks. Impacts on the SPA from upstream sources have the potential to directly impact on the qualifying interests of the SPA in the absence of mitigation measures. In the absence of mitigation measures there is the potential to impact on the

Table 6. Potential for adverse effects on the qualifying interests and conservation objectives of European sites		
European Site & Site Code	Qualifying Interests	Potential for Adverse Effects
	Redshank (*Tringa totanus*) [A162] Black-headed Gull (*Chroicocephalus ridibundus*) [A179] Roseate Tern (*Sterna dougallii*) [A192] Common Tern (*Sterna hirundo*) [A193] Arctic Tern (*Sterna paradisaea*) [A194] Wetland and Waterbirds [A999]	distribution number and range of the following qualifying interests if significant quantities of silt and pollution were to enter the River Tolka: • Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] • Oystercatcher (*Haematopus ostralegus*) [A130] • Ringed Plover (*Charadrius hiaticula*) [A137] • Grey Plover (*Pluvialis squatarola*) [A141] • Knot (*Calidris canutus*) [A143] • Sanderling (*Calidris alba*) [A144] • Dunlin (*Calidris alpina*) [A149] • Bar-tailed Godwit (*Limosa lapponica*) [A157] • Redshank (*Tringa totanus*) [A162] • Black-headed Gull (*Chroicocephalus ridibundus*) [A179] • Roseate Tern (*Sterna dougallii*) [A192] • Common Tern (*Sterna hirundo*) [A193] • Arctic Tern (*Sterna paradisaea*) [A194] Mitigation measures are required to remove the potential of impacts on the SPA from indirect pathways via the River Tolka.
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]	Given the nature of the works, all of these effects would be expected to be localised in nature restricted to the immediate vicinity of the site. However, without the presence of mitigation measures there is a potential for downstream effects if significant quantities of pollution or silt were introduced into the River Tolka via construction works with potential for downstream impacts on North Bull Island SPA. The habitats of conservation interest of this SPA are not on site. However, the range of the species that are of conservational interest may be located downstream of the proposed works. Construction works have the potential for downstream impacts on aquatic biodiversity through the introduction of silt and petrochemicals. Existing drainage networks on site, surface water runoff, haulage, storage of topsoil or works in the vicinity of the drainage networks on onsite could lead to dust, hazardous material, soil or silt laden runoff entering the River Tolka via drainage networks. Impacts on the SPA from upstream sources have the potential to directly impact on the qualifying interests of the SPA in the absence of mitigation measures. In the absence of mitigation measures there is the potential to impact on the

Table 6. Potential for adverse effects on the qualifying interests and conservation objectives of European sites		
European Site & Site Code	Qualifying Interests	Potential for Adverse Effects
	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]	distribution number and range of the following qualifying interests if significant quantities of silt and pollution were to enter the River Tolka: • Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] • Shelduck (*Tadorna tadorna*) [A048] • Teal (*Anas crecca*) [A052] • Pintail (*Anas acuta*) [A054] • Shoveler (*Anas clypeata*) [A056] • Oystercatcher (*Haematopus ostralegus*) [A130] • Golden Plover (*Pluvialis apricaria*) [A140] • Grey Plover (*Pluvialis squatarola*) [A141] • Knot (*Calidris canutus*) [A143] • Sanderling (*Calidris alba*) [A144] • Dunlin (*Calidris alpina*) [A149] Mitigation measures are required to remove the potential of impacts on the SPA from indirect pathways via the River Tolka.
North-west Irish Sea SPA	Red-throated Diver *(Gavia stellata)* [A001] Great Northern Diver *(Gavia immer)* [A003] Fulmar *(Fulmarus glacialis)* [A009] Manx Shearwater *(Puffinus puffinus)* [A013] Cormorant *(Phalacrocorax carbo)* [A017] Shag *(Phalacrocorax aristotelis)* [A018]	Given the nature of the works, all of these effects would be expected to be localised in nature restricted to the immediate vicinity of the site. However, without the presence of mitigation measures there is a potential for downstream effects if significant quantities of pollution or silt were introduced into the River Tolka via construction works with potential for downstream impacts on North-west Irish Sea SPA. The habitats of conservation interest of this SPA are not on site. However, the range of the species that are of conservational interest may be located downstream of the proposed works. Construction works have the potential for downstream impacts on aquatic biodiversity through the introduction of silt and petrochemicals. Existing drainage networks on site, surface water runoff, haulage, storage of topsoil or works in the vicinity of the drainage networks on onsite could lead to dust, hazardous material, soil or silt laden runoff entering the River Tolka via drainage networks. Impacts on the SPA from upstream sources have the potential to directly impact on the qualifying interests of the SPA in the absence of mitigation measures. In the absence of mitigation measures there is the potential to impact on the

Table 6. Potential for adverse effects on the qualifying interests and conservation objectives of European sites		
European Site & Site Code	Qualifying Interests	Potential for Adverse Effects
	Common Scoter *(Melanitta nigra)* [A065] Black-headed Gull *(Chroicocephalus ridibundus)* [A179] Common Gull *(Larus canus)* [A182] Lesser Black-backed Gull *(Larus fuscus)* [A183] Herring Gull *(Larus argentatus)* [A184] Great Black-backed Gull *(Larus marinus)* [A187] Kittiwake *(Rissa tridactyla)* [A188] Roseate Tern *(Sterna dougallii)* [A192] Common Tern *(Sterna hirundo)* [A193] Arctic Tern *(Sterna paradisaea)* [A194] Guillemot *(Uria aalge)* [A199] Razorbill *(Alca torda)* [A200] Puffin *(Fratercula arctica)* [A204] Little Gull *(Hydrocoloeus minutus)* [A862] Little Tern *(Sternula albifrons)* [A885]	distribution number and range of the following qualifying interests if significant quantities of silt and pollution were to enter the River Tolka: • Red-throated Diver *(Gavia stellata)* [A001] • Great Northern Diver *(Gavia immer)* [A003] • Fulmar *(Fulmarus glacialis)* [A009] • Manx Shearwater *(Puffinus puffinus)* [A013] • Cormorant *(Phalacrocorax carbo)* [A017] • Shag *(Phalacrocorax aristotelis)* [A018] • Common Scoter *(Melanitta nigra)* [A065] • Black-headed Gull *(Chroicocephalus ridibundus)* [A179] • Common Gull *(Larus canus)* [A182] • Lesser Black-backed Gull *(Larus fuscus)* [A183] • Herring Gull *(Larus argentatus)* [A184] • Great Black-backed Gull *(Larus marinus)* [A187] • Kittiwake *(Rissa tridactyla)* [A188] • Roseate Tern *(Sterna dougallii)* [A192] • Common Tern *(Sterna hirundo)* [A193] • Arctic Tern *(Sterna paradisaea)* [A194] • Guillemot *(Uria aalge)* [A199] • Razorbill *(Alca torda)* [A200] • Puffin *(Fratercula arctica)* [A204] • Little Gull *(Hydrocoloeus minutus)* [A862] • Little Tern *(Sternula albifrons)* [A885] Mitigation measures are required to remove the potential of impacts on the SPA from indirect pathways via the River Tolka.

***Table 7**. Mitigation measures*

Sensitive Receptors	Potential Impacts on SPA & SAC	Mitigation Measures to Prevent Impacts on European sites
South Dublin Bay SAC North Dublin Bay SAC South Dublin Bay and River Tolka Estuary SPA North Bull Island SPA North-West Irish Sea SPA	• Habitat degradation • Silt deposition • Pollution • Silt ingress from site runoff • Downstream impacts • Negative impacts on the aquatic environment, aquatic species and qualifying interests.	**Construction Mitigation** Mitigation measures devised in the Environmental Impact Assessment Report (EIAR) submitted in tandem with the parent application are considered sufficient to mitigate any potential impacts associated with the proposed amendment application. The following mitigation measures will be implemented: Land, Soils, Geology and Hydrogeology **Site Levelling and Excavations** The majority (but not all) of the topsoil stripped from the Site will be re-used on site for backfill (levels in some areas need to be raised) and landscaping with some export required. Any surplus topsoil material will be transported off site and disposed of at a fully authorised soil recovery site. It is predicted that all of the subsoil and stones will be removed from the Site and transported off site and disposed of at a fully authorised soil recovery site. **Storage of soils/aggregates** Aggregate materials such as sands and gravels will be stored in clearly marked receptacles in a secure compound area within the contractors' compound on site. Temporary storage of spoil will be managed to prevent accidental release of dust and uncontrolled surface water run-off which may contain sediment and solid matter. Any excavated material temporarily stockpiled onsite for re-use during reinstatement will be managed to prevent accidental release of dust and uncontrolled surface water run-off which may contain sediment etc. **Storage of hazardous Material** Temporary storage of fuel required for on site for construction traffic. Liquid materials i.e., fuel storage will be located within temporary bunded areas, doubled skinned tanks or bunded containers (all bunds will conform to standard bunding specifications - BS8007-1987) to prevent spillage. Construction activities will necessitate storage of cement and concrete materials, temporary oils, and fuels on site. Small localised accidental releases of contaminating substances including hydrocarbons have the potential to occur from construction traffic and vehicles operating on site. **Import/Export of Materials** There will be a requirement for deliveries of imported engineering fill (sands and gravels), and other construction materials include, steel structure, concrete, cladding, ducting and piping. Construction materials will be brought to site by road. A 'Just in Time' delivery system will operate to minimise storage of materials. Construction materials will be transported in clean vehicles. Lorries/trucks will be properly enclosed or covered during transportation of friable construction materials and spoil to

Sensitive Receptors	Potential Impacts on SPA & SAC	Mitigation Measures to Prevent Impacts on European sites
		prevent the escape material along the public roadway. Where possible it is proposed to source general construction materials from the local area to minimise transportation distances. Soil requiring removal offsite will be removed from site regularly to ensure there is minimal need for stockpiling. Some of the topsoil will be re-used on site for backfill (levels in some areas need to be raised) and landscaping with some export required. Any surplus topsoil material will be transported off site and disposed of at a fully authorised soil recovery site. **Collection of perched groundwater** During excavation works, dewatering (removing of perched groundwater) is necessary to create a dry working environment and prevent water from seeping into the excavation and flooding the construction site. This dewatering activity would occur through the initial excavation phases and could result in the localised lowering of the local shallow (overburden) groundwater table which will not be part of the regional bedrock aquifer. There may also be localised pumping of surface run-off from the excavations during and after heavy rainfall events to ensure that the excavation is kept relatively dry. Based on the depth to bedrock there is no potential for impact on the aquifer water table. The dewatering will occur via suitably installed dewatering wells/sumps containing pumps to abstract groundwater and surface water (rainfall landing on the site). Biodiversity • A project ecologist will be appointed and consulted in relation to all onsite mitigation and drainage during works. • All site clearance works methodologies will have prior approval of a project ecologist. • Staging of project will be carried out to reduce risks of onsite drainage to the River Tolka and subject to the approval of a project ecologist. A drainage strategy has been outlined for the construction stage. This will be followed and monitored by the project ecologist. • Local drainage connections, gullies and watercourses will be protected from dust, silt and surface water throughout the works. • In order to prevent the accidental release of hazardous materials (fuels, paints, cleaning agents, etc.) during site activity, all hazardous materials should be stored within secondary containment designed to retain at least 110% of the storage contents. Temporary bunds for oil/diesel storage tanks should be used on the site during the construction phase of the project. Safe materials handling of all potentially hazardous materials should be emphasised to all construction personnel employed during this phase of the project. • All onsite drainage network connections will be blanked off and sealed at the first phase of the construction works. • There will be no entry of solids or petrochemicals to the drainage network or groundwater during the works.

Sensitive Receptors	Potential Impacts on SPA & SAC	Mitigation Measures to Prevent Impacts on European sites
		• The Site Manager will be responsible for the pollution prevention programme and will ensure that at least daily checks are carried out to ensure compliance. A record of these checks will be maintained. • Spill containment equipment shall be available for use in the event of an emergency. The spill containment equipment shall be replenished if used and shall be checked on a scheduled basis. • 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 e.g. do not remove trees or shrubs during the nesting season (1st March to 31st August). This includes mitigation included building roofs for potential nesting herring gulls. Air Quality **Communications** • The name and contact details of a person to contact regarding air quality and dust issues shall be displayed on the site boundary, this notice board should also include head/regional office contact details. **Site Management** • During working hours, dust control methods will be monitored as appropriate, depending on the prevailing meteorological conditions. Dry and windy conditions are favourable to dust suspension therefore mitigations must be implemented if undertaking dust generating activities during these weather conditions. • A complaints register will be kept on site detailing all telephone calls and letters of complaint received in connection with dust nuisance or air quality concerns, together with details of any remedial actions carried out. **Preparing and Maintaining the Site** • Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible. • Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site. • Fully enclose specific operations where there is a high potential for dust production and the site is active for an extensive period. • Avoid site runoff of water or mud. • Keep site fencing, barriers and scaffolding clean using wet methods.

Sensitive Receptors	Potential Impacts on SPA & SAC	Mitigation Measures to Prevent Impacts on European sites
		• Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below. • Cover, seed or fence stockpiles to prevent wind whipping. **Operating Vehicles / Machinery and Sustainable Travel** • Ensure all vehicles switch off engines when stationary - no idling vehicles. • Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable. • Impose and signpost a maximum-speed-limit of 15 kph haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate). • Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials. • Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing) **Operations** • Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems. • Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate. • Use enclosed chutes and conveyors and covered skips. • Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate. • Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods. **Waste Management** • Avoid bonfires and burning of waste materials. **Measures Specific to Earthworks** • Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.

Sensitive Receptors	Potential Impacts on SPA & SAC	Mitigation Measures to Prevent Impacts on European sites
		• Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable. • Only remove the cover in small areas during work and not all at once. • During dry and windy periods, and when there is a likelihood of dust nuisance, a bowser will operate to ensure moisture content is high enough to increase the stability of the soil and thus suppress dust. **Measures Specific to Construction** • Avoid scabbling (roughening of concrete surfaces) if possible. • Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place. • Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery. • For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust. **Measures Specific to Traffic** • A speed restriction of 15 kph will be applied as an effective control measure for dust for on-site vehicles. • Street and footpath cleaning must be undertaken to minimise dust emissions. This can be carried out using water-assisted dust sweeper(s). If sweeping using a road sweeper is not possible due to the nature of the surrounding area then a suitable smaller scale street cleaning vacuum will be used. • Avoid dry sweeping of large areas. • Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport. • Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable. • Record all inspections of haul routes and any subsequent action in a site log book. • Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned. • Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable). • Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits. • Access gates to be located at least 10 m from receptors where possible.

Monitoring

- Undertake daily on-site and off-site inspections, where receptors (including roads) are nearby, to monitor dust, record inspection results in the site inspection log. This should include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 100 m of site boundary, with cleaning to be provided if necessary.
- Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.
- Monitoring of construction dust deposition along the site boundary to nearby sensitive receptors during the phases of the proposed development is required to ensure mitigation measures are working satisfactorily. This can be carried out using the Bergerhoff method in accordance with the requirements of the German Standard VDI 2119. The Bergerhoff Gauge consists of a collecting vessel and a stand with a protecting gauge. The collecting vessel is secured to the stand with the opening of the collecting vessel located approximately 2m above ground level. The TA Luft limit value is 350 mg/m^2/day during the monitoring period of 30 days (+/- 2 days).

Hydrology

Storage of soils/aggregates

Aggregate materials such as sands and gravels will be stored in clearly marked receptacles in a secure compound area within the contractors' compound on site.

Temporary storage of spoil will be managed to prevent accidental release of dust and uncontrolled surface water run-off which may contain sediment and solid matter. Any excavated material temporarily stockpiled onsite for re-use during reinstatement will be managed to prevent accidental release of dust and uncontrolled surface water run-off which may contain sediment etc.

Storage of hazardous Material

Temporary storage of fuel required for on site for construction traffic. Liquid materials i.e., fuel storage will be located within temporary bunded areas, doubled skinned tanks or bunded containers (all bunds will conform to standard bunding specifications - BS8007-1987) to prevent spillage.

Construction activities will necessitate storage of cement and concrete materials, temporary oils, and fuels on site. Small localised accidental releases of contaminating substances including hydrocarbons have the potential to occur from construction traffic and vehicles operating on site.

Collection of perched groundwater

During the excavation of the proposed basement and other excavation works dewatering (removing of perched groundwater) is necessary to create a dry working environment and prevent water from seeping into the excavation and flooding the construction site. This dewatering activity would occur through the initial excavation phases and could result in the localised lowering of the local shallow (overburden) groundwater table which will not be part of the regional bedrock aquifer. There may also be localised

Sensitive Receptors	Potential Impacts on SPA & SAC	Mitigation Measures to Prevent Impacts on European sites
		pumping of surface run-off from the excavations during and after heavy rainfall events to ensure that the excavation is kept relatively dry. Based on the depth to bedrock there is no potential for impact on the aquifer water table. The dewatering will occur via suitably installed dewatering wells/sumps containing pumps to abstract groundwater and surface water (rainfall landing on the site).

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

A robust series of mitigation measures are proposed. These would ensure that the proposed works would not significantly effect the River Tolka and downstream designated sites. It should be noted that the early implementation of ecological supervision on site will be at the initial mobilisation and enabling works. This is seen as an important element to the project, particularly in relation to the implementation of surface water runoff mitigation strategies.

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

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

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

Conclusion

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

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

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

Data used for the AA Screening/NIS

NPWS site synopses and Conservation objectives of sites within 15km were examined. There is no direct pathway to any Natura 2000 sites beyond 15km of the proposed development site. The most recent SAC and SPA boundary shapefiles were downloaded and overlaid on Bing maps and satellite imagery. Site visits were carried out. The wintering bird surveys are outlined in Appendix I and the site surveys are seen in Appendix II.

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Appendix I-Wintering Bird Survey

Winter Bird Surveys 2021-2022

Introduction

Between September 2021 and March 2022 14 winter bird surveys (two per month) were undertaken at lands at St Vincent's Hospital, in Fairview, North County Dublin, by Hugh Delaney, a freelance Ecologist (Birds primarily) having completed work on numerous sites with ecological consultancies over 10+ years. Hugh is local to the Dun Laoghaire-Rathdown area in Dublin and is especially familiar with the bird life and its ecology in the environs going back over 30 years.

Winter Bird Survey Methodology

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

Site Location

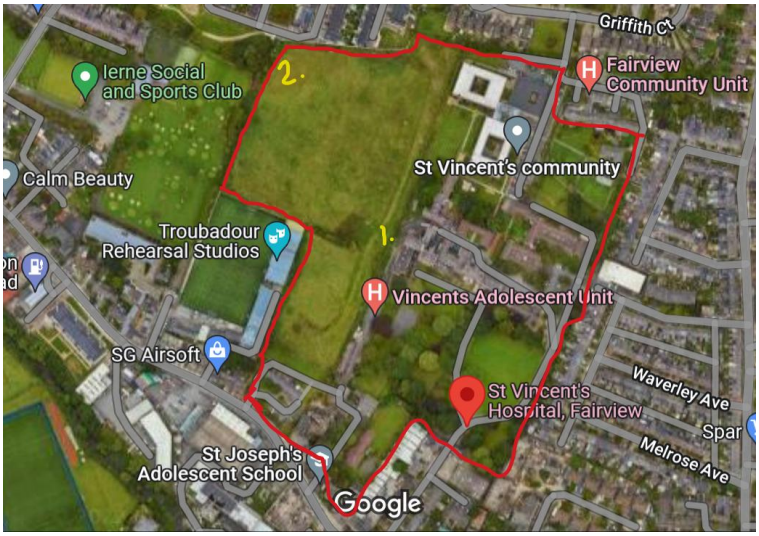


Fig. 1 St Vincent's Hospital Fairview, survey site outlined in red. Green area at west of site being a primary focus of the surveys with the vantage points marked in yellow (Vantage points 1 & 2).

Site Description

Site located in urban north Dublin city, site comprising of larger buildings in east with some small areas of greens and small patches of mixed mature trees. Two areas area of more substantial rough grassland are situated at the west side of the site.

Specific site survey methodology

Vantage point observations were undertaken at locations at the west side of the site these giving optimal views of species passing over the site and also to note any species foraging in this area. Vantage points 1 and 2 were monitored alternately each hour, recording all species passing through and foraging on-site. Additionally, the entire site was traversed over generally in the middle of the day to collect further data on species utilizing the site.

Survey Results

September 19th, 2021

Sunrise- 07.06hrs/Sunset 19.31hrs. Weather – Wind F3 West, Cloud 3/8, Dry, 15c, Excellent visibility. On-site 07.30hrs – 16.30hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Herring Gull, Black-headed Gull, Chiffchaff, Goldcrest, Chaffinch, Goldfinch, Greenfinch, Linnet, Blue Tit, Coal Tit, Great Tit, Blackbird, Swallow, Starling, Grey Wagtail, Meadow Pipit, Buzzard, Hooded Crow, Magpie, Rook, Jackdaw, Feral Pigeon.

07.30hrs-12.00hrs – Alternated hourly between VP.1 and VP.2 at north field at west of site until 11.30hrs. Single Buzzard noted soaring over north field at 10.10hrs and 11.25hrs. Passage of Meadow Pipit (<6) noted passing south over the site during the morning. Small numbers of Herring Gull (<22 in total) and Black-headed Gull (<10 in total) noted passing over the site (fields and buildings to east), none noted foraging on-site. Swallow (<4), Greenfinch (<2) and Chiffchaff (<2) were the only more notable observations foraging on-site.

12.00hrs-16.30hrs – A walk over the entire site (north & south field, Hospital complex, playground, graveyard area and east area etc.) from 11.40-13.00hrs added a few extra species to site list including Goldcrest and Grey Wagtail. Hourly VP's (1 & 2) observed from alternately from 13.00hrs to 16.30hrs, small numbers of Herring Gull (<18) and Black-headed Gull (<7) observed passing over the site, not observed foraging on-site, occasional Herring Gull landing on Hospital buildings observed only. Two Meadow Pipit noted intermittently foraging on north field during afternoon, no other target species recorded.

September 30th, 2021

Sunrise- 07.25hrs/Sunset 19.04hrs. Weather – Wind F4 West, Cloud 8/8, 16c, Occasional light drizzle, Excellent visibility. On-site 07.45hrs – 17.00hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Collared Dove, Herring Gull, Lesser black-backed Gull, Black-headed Gull, Chiffchaff, Blackcap, Goldcrest, Chaffinch, Goldfinch, Greenfinch, Bullfinch, Blue Tit, Coal Tit, Blackbird, Song Thrush, Ring-necked Parakeet, Starling, Grey Wagtail, Pied Wagtail, Meadow Pipit, Sparrowhawk, Grey Heron, Little Egret, Hooded Crow, Magpie, Rook, Jackdaw, Feral Pigeon.

07.45hrs-12.00hrs – Observed from VP. 1 from 07.30-08.45hrs, no target species recorded, Herring Gull (<14) and Black-headed Gull (<8) noted passing over the site mainly moving west. A Sparrowhawk was noted hunting in playground area at 09.27hrs. Two Herring Gull were noted foraging at the green area at Convent Avenue entrance of hospital from 09.10-09.25hrs. A Ring-necked Parakeet was noted calling from the southwest field of site from 10.35-10.45hrs. Grey Heron was noted flying north from VP. 1 following Tolka river (off-site) at 11.15hrs.

12.00hrs – 17.00hrs – Alternately observed from V.P. 1 & 2 from 12.00hrs-16.00hrs, site walked over from 16.00hrs-17.00hrs. Herring Gull (<22), Black-headed Gull (<13) and Lesser black-backed Gull noted passing over the site, none observed foraging on-site. Little Egret noted flying north along Tolka river at 12.40hrs (trajectory off-site). Bullfinch, Greenfinch, Goldfinch, Chaffinch, and Blackcap noted foraging in small numbers in rank vegetation on the main field at west side of site. Grey Wagtail noted foraging on hospital roofs at the south and east side of the site. No target species recorded.

October 9th, 2021

Sunrise- 07.41hrs/Sunset 18.42hrs. Weather – Wind F2 North backing to west, Cloud 6/8, Dry, 15c, Excellent visibility. On-site 07.45hrs – 16.30hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Herring Gull, Lesser black-backed Gull, Black-headed Gull, Blackcap, Goldcrest, Chaffinch, Goldfinch, Linnet, Blue Tit, Coal Tit, Great Tit, Blackbird, Song Thrush, Mistle Thrush, Ring-necked Parakeet, Starling, Grey Wagtail, Pied Wagtail, Meadow Pipit, Buzzard, Grey Heron, Little Egret, Hooded Crow, Magpie, Rook, Jackdaw, Feral Pigeon.

07.45hrs-12.00hrs – Observed alternatively from VP 1 & 2 from 07.45hrs-11.45hrs. Herring Gull (<45), Black-headed Gull (<15) and Lesser black-backed Gull (<5) noted passing over the site mainly at south side of site moving west. Occasional Herring Gull noted landing onto hospital buildings, none observed foraging on-site. One Grey Heron noted passing the south side of the site moving east at 09.35hrs. A Ring-necked Parakeet was noted flying east over VP. 1 and landed into the hospital grounds (playground area) at 10.05hrs. No other target species recorded.

12.00hrs-16.30hrs – Site traversed in entirety from 12.00-13.15hrs. Single Herring Gull noted foraging at the Convent Road entrance to site from 12.20-12.45hrs. Buzzard noted passing east over the south of site at 12.50hrs. VP. 1 & 2 occupied alternatively from 13.30hrs-16.30hrs, Herring Gull (<34), Black-headed Gull (<14) and Lesser black-backed Gull (<2) noted passing over site, none observed foraging on-site. Meadow Pipit (<3) noted foraging on the main west field intermittently during the afternoon. Two Buzzard noted soaring over the west side of the site at 14.45hrs, no other target species recorded.

October 21st, 2021

Sunrise- 08.03hrs/Sunset 18.15hrs. Weather – Wind F3 Northwest, Cloud 3/8, Dry, 8c, Excellent visibility. On-site 08.00hrs – 17.00hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Herring Gull, Lesser black-backed Gull, Black-headed Gull, Goldcrest, Chaffinch, Goldfinch, Bullfinch, Linnet, Blue Tit, Coal Tit, Long-tailed Tit, Blackbird, Song Thrush, Mistle Thrush, Starling, Grey Wagtail, Pied Wagtail, Meadow Pipit, Sparrowhawk, Buzzard, Grey Heron, Little Egret, Cormorant, Hooded Crow, Magpie, Rook, Jackdaw, Feral Pigeon.

08.00hrs-12.00hrs – Observing from VP.1 & VP.2 from 08.00hrs to 12.00hrs, Herring Gull (<65), Black-headed Gull (<25) and Lesser black-backed Gull (<8) recorded passing over site, mainly to east to west over the south side of the site at heights averaging c.30m. A Cormorant was noted following the Tolka going west at 10.42hrs (off-site) and 2 Little Egret were also following same route at 11.15hrs (off-site). Linnet (<15), Meadow Pipit (<4) and Bullfinch (<2) were noted foraging around the green area at the VP's. No other target species recorded.

12.00hrs-17.00hrs – Entire site fully traversed from 12.15-13.30hrs, variety of passerine species similar to that previously recorded, Goldcrest (<4), Grey Wagtail (<2), Mistle Thrush (<2) noted foraging at the east side of the site. A Sparrowhawk was noted hunting at the northeast of the site at 12.50hrs. Small numbers of Herring (<20) and Black-headed Gulls noted passing over the site. Observations at the VP's resumed from 13.45hrs to 17.00hrs, Herring Gull (<30), Black-headed Gull (<15) and Lesser black-backed Gull recorded passing over the site, most birds moving east over the south side of the site. Grey Heron (<1) noted following Tolka river east at 14.05hrs and Little Egret following river at 14.30hrs (both off-site). A Buzzard was noted soaring over the north side of the site at 15.10hrs. No other target species recorded.

November 5th, 2021

Sunrise- 07.31hrs/Sunset 16.44hrs. Weather – Wind F42 Southwest, Cloud 6/8, Dry, 8c, Excellent visibility. On-site 07.45hrs – 16.00hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Collared Dove, Herring Gull, Lesser black-backed Gull, Black-headed Gull, **Brent Goose**, Mallard, Goldcrest, Chaffinch, Goldfinch, Linnet, Blue Tit, Coal Tit, Long-tailed Tit, Blackbird, Song Thrush, Mistle Thrush, Starling, Grey Wagtail, Meadow Pipit, Grey Wagtail, Sparrowhawk, Grey Heron, Hooded Crow, Magpie, Rook, Jackdaw, Feral Pigeon.

07.45hrs-12.00hrs – Observing from VP.'s 1&2 from 07.45-11.45hrs, Herring Gull (<30), Black-headed Gull (<20) and Lesser black-backed Gull (<5) noted passing over the site, most going east to west in middle and south of site. Two Mallard noted passing over the south end of the site at 10.15hrs. A Grey Heron passed north over the south side of the site at 11.05hrs. Meadow Pipit (<4), Chaffinch (<5) and Linnet (<8) foraging in field at VP sites. A Sparrowhawk was noted soaring over VP.2 at 11.30hrs. Site traversed from 11.45-13.00hrs, Goldcrest (<3), Mistle Thrush (<1), Song Thrush (<2), Goldfinch (<8), Grey Wagtail (<1) and Blackbird (<10) noted foraging at the east side of the site. No other target species recorded.

16.00hrs-16.00hrs – Monitoring from VP's from 13.30-16.00hrs, Herring Gull (<84) and Black-headed Gull (<46) noted passing east especially in last hour, returning to roost in Dublin Bay in all likelihood. Meadow Pipit (<6) noted foraging in area adjacent VP sites. Sparrowhawk noted hunting at southwest corner of the site at 14.15hrs. Brent Goose (<70) passed east at 15.45hrs south of the site (off-site) following the same flightline as No.4 in Fig.2 below. No other target species recorded.

November 30th, 2021

Sunrise- 08.16hrs/Sunset 16.11hrs. Weather – Wind F4 West, Cloud 8/8, Dry, 11c, Excellent visibility. On-site 08.15hrs – 15.30hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Collared Dove, Herring Gull, Lesser black-backed Gull, Black-headed Gull, **Brent Goose**, **Redshank**, **Curlew**, Mallard, Goldcrest, Chaffinch, Goldfinch, Greenfinch, Bullfinch, Blue Tit, Coal Tit, Great Tit, Long-tailed Tit, Blackbird, Song Thrush, Redwing, Mistle Thrush, Ring-necked Parakeet, Starling, Grey Wagtail, Peregrine, Hooded Crow, Magpie, Rook, Jackdaw, Raven, Feral Pigeon.

08.15hrs-12.00hrs – Observing from VP.'s 1&2 from 08.15-12.00hrs. At 08.38hrs Curlew (<5) passed west over the site (Height 25m). At 09.56hrs a Peregrine Falcon passed southwest over the site (Height 30m). At 10.08hrs a Redshank was observed passing east over the site (Height 30m), this was the only Redshank recorded passing over the site and likely a bird that was foraging on the Tolka river. Small numbers of Herring Gull (<25), Black-headed Gull (<20) and Lesser black-backed Gull noted passing over the site. Ring-necked Parakeet (<3) were noted at 08.52hrs flying northwest from the hospital buildings. No other target species recorded.

12.00hrs-15.30hrs – Site traversed from 12.00-13.15hrs with typical selection of passerines recorded, Redwing (<4) recorded foraging at east side of site were new to the site. A Herring Gull was noted foraging at the main hospital entrance from 12.10-12.35hrs. VP observations resumed at 13.15hrs until 15.30hrs. Brent Goose (<45) noted passing east at 13.37hrs, off-site and following the Tolka River (Height 30m). Herring Gull (<70) and Black-headed Gull (<30) noted passing east mainly over the site. No other target species recorded.

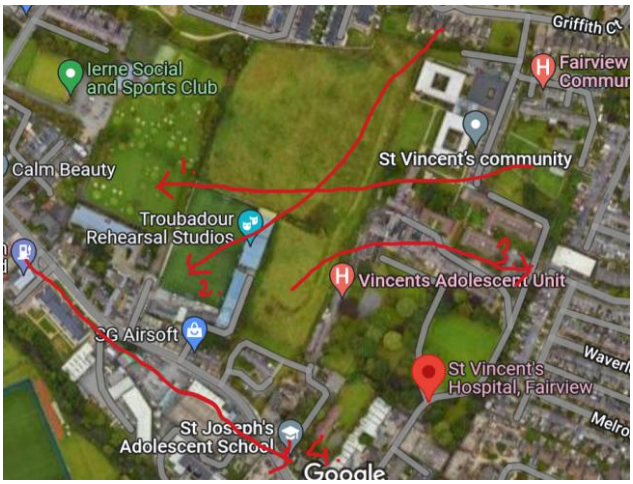


Figure 2. Flightlines for site in November 2021.

30/11/21 08.38hrs No.1 in blue – Curlew (<5), height 25m.

30/11/21 09.56hrs No.2 in blue – Peregrine Falcon (<1), height 30m.

30/11/21 10.08hrs No.3 Redshank (<1), height 30m.

30/11/21 13.37hrs No.4 Brent Goose (<45), Off-site, height 30m.

December 17th, 2021

Sunrise- 08.37hrs/Sunset 16.07hrs. Weather – Wind F3 East, Cloud 8/8, Dry, 9c, Excellent visibility. On-site 09.00hrs – 15.30hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Collared Dove, Herring Gull, Lesser black-backed Gull, Black-headed Gull, **Brent Goose**, **Curlew**, **Oystercatcher,** Goldcrest, Chaffinch, Goldfinch, Greenfinch, Bullfinch, Blue Tit, Coal Tit, Great Tit, Long-tailed Tit, Blackbird, Song Thrush, Mistle Thrush, Ring-necked Parakeet, Sparrowhawk, Starling, Grey Wagtail, Pied Wagtail, Hooded Crow, Magpie, Rook, Jackdaw, Feral Pigeon.

09.00hrs-12.00hrs – Observing from VP's 1&2 from 09.00hrs-12.00hrs. At 09.20hrs Brent Geese (<140) noted passing west to the south of the site (off-site) following Tolka river, height 40m. At 11.07hrs Brent Geese (<120) noted passing west to the north of the site (off-site), height 30m. At 11.09hrs Ring-necked Parakeet (<3) were noted arriving into the site from the north and observed foraging around hospital buildings. A Sparrowhawk was noted hunting Feral Pigeon at the northwest corner of the site at 11.18hrs. Small number of Herring Gull (<40), Black-headed Gull (<20) and Lesser black-backed Gull noted passing over the site during the morning mainly to the south of the site. No other target species recorded.

12.00hrs-15.30hrs – Site traversed from 12.00-12.45hrs, Sparrowhawk noted hunting at 12.16hrs in playground area, Ring-necked Parakeets (<3) also noted foraging around the playground area at this time. VP observations resumed at 12.45hrs. Curlew (<11) flew northeast over the site at 12.51hrs, height 15m. At 13.54hrs Curlew (<22) flew east over the south side of the site, height 20m. At 13.25hrs a Sparrowhawk was noted hunting over the north side of the site. At 13.34hrs Brent Geese (<160) were noted passing southeast over the boundary of the site, height 25m. At 13.38hrs Curlew (<1) and Oystercatcher (<1) passed east over the north side of the site, height 25m. At 13.40hrs Curlew (<30) passed east to north of site (off-site), height 20m. At 13.42hrs Brent Geese (<180) passed southeast over the site, height 20m, orientating towards the Tolka river. At 13.49hrs an Oystercatcher (<1) passed southeast over the site, height 15m. No other target species recorded.

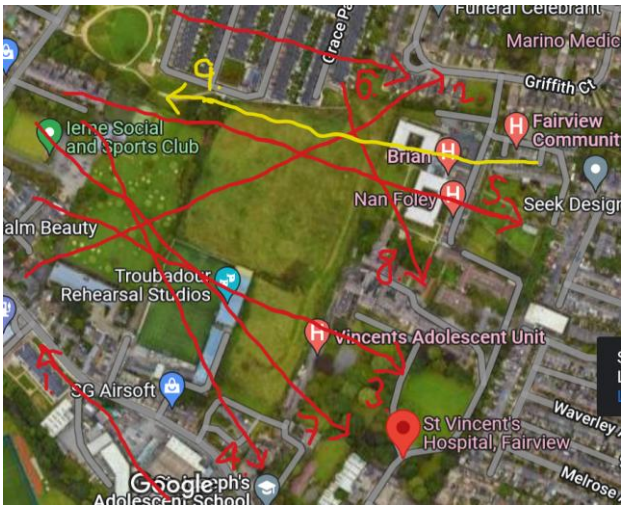


Figure 3. Flightlines for site in December 2021.

17/12/21 09.20hrs No.1 in red – Brent Geese (<140), west, height 30m.

17/12/21 12.51hrs No.2 in red- Curlew (<11), northeast, height 15m.

17/12/21 13.54hrs No.3 in red- Curlew (<22), East, height 20m.

17/12/21 13.34hrs No.4 in red – Brent Geese (<160), height 25m.

17/12/21 13.38hrs No.5 in red – Curlew (<1) and Oystercatcher (<1), height 25m.

17/12/21 13.40hrs No.6 in red – Curlew (<30), height 20m.

17/12/21 13.42hrs No.7 in red – Brent Geese (<180), height 20m.

17/12/21 13.49hrs No.8 in red – Oystercatcher (<1), height 15m.

29/12/21 09.05hrs No.1 in red – Brent Geese (<170), height 35m.

29/12/21 09.20hrs No.1 in red – Brent Geese (<40), height 30m.

29/12/21 11.15hrs No.9 in yellow – Curlew (<15), height 25m.

29/12/21 15.10hrs No.6 in red – Brent Geese (<160), height 30m.

29/12/21 15.30hrs No.5 in red – Curlew (<24), height 25m.

December 29th, 2021

Sunrise- 08.40hrs/Sunset 16.14hrs. Weather – Wind F3 Southwest, Cloud 5/8, Dry, 10c, Excellent visibility. On-site 08.45hrs – 15.45hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Collared Dove, Herring Gull, Lesser black-backed Gull, Black-headed Gull, Common Gull, **Brent Goose**, **Curlew, Snipe,** Goldcrest, Chaffinch, Goldfinch, Redpoll, Bullfinch, Linnet, Blue Tit, Coal Tit, Long-tailed Tit, Blackbird, Song Thrush, Redwing, Mistle Thrush, Buzzard, Sparrowhawk, Starling, Grey Wagtail, Pied Wagtail, Hooded Crow, Magpie, Rook, Jackdaw, Feral Pigeon.

08.45hrs-12.00hrs – Observing from VP's 1&2 from 08.45hrs-12.15hrs, at 09.05hrs Brent Geese (<170) passed west south of the site (off-site), following the Tolka River (flightline no.1). At 09.20hrs Brent Geese (<40) passed west following similar line, south of the site. A Buzzard was noted soaring north over the site at 10.10hrs. At 11.15hrs Curlew (<15) were noted passing west at the north side of the site (flightline no.9). Redwing (<5), Redpoll (<7) and Chaffinch noted foraging around VP area. Two Snipe were flushed to the east of VP.2 at 11.50hrs. Herring Gull (<35) and Black-headed Gull (<20) noted passing over the site. No other target species recorded.

12.00hrs-15.45hrs – Site traversed from 12.30-13.30hrs, Goldcrest (<5), Grey Wagtail (<2), Blackbird (<7) and Song Thrush (<2) noted foraging on-site. A Sparrowhawk was noted hunting at the east of the site at 12.55hrs. VP monitoring resumed at 13.45hrs finishing at 15.45hrs. Brent Geese (<160) noted passing east north of the site (off-site) at 15.10hrs (flightline no.6). Curlew (<24) passed east at the north side of the site at 15.30hrs (flightline no.5). Movement east of gulls late in afternoon with Herring (<90), Black-headed Gull (<110), Common Gull (<12) and Lesser black-backed Gull (<5) recorded. No other target species recorded.

January 6th, 2022

Sunrise- 08.38hrs/Sunset 16.23hrs. Weather – Wind F4 South, Cloud 7/8, Light showers, 7c, Good visibility. On-site 09.00hrs – 16.15hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Herring Gull, Lesser black-backed Gull, Black-headed Gull, Common Gull, **Brent Goose**, **Curlew, Snipe,** Mallard, Cormorant, Goldcrest, Chaffinch, Greenfinch, Goldfinch, Redpoll, Bullfinch, Linnet, Blue Tit, Coal Tit, Long-tailed Tit, Great Tit, Blackbird, Ring-necked Parakeet, Song Thrush, Redwing, Mistle Thrush, Sparrowhawk, Starling, Meadow Pipit, Grey Wagtail, Pied Wagtail, Hooded Crow, Magpie, Rook, Jackdaw, Feral Pigeon.

09.00hrs-12.00hrs – VP monitoring commencing 09.00hrs until 12.00hrs, Brent Geese (<200) noted passing west at 09.10hrs at south of site, off-site, following Tolka (flightline 1). Curlew (<35) noted passing west at 09.40hrs at the northern boundary of the site (flightline 2). Brent Geese (<75) noted passing southeast at 10.50hrs through the site (flightline 3). Herring Gull (<60), Black-headed Gull (<45) and Common Gull (<14) noted passing over the site. Mallard (<3) noted passing west to south of site at 11.15hrs, off-site and following Tolka. Cormorant noted doing the same at 11.35hrs. One Snipe was flushed west of VP.1 at 11.40hrs. No other Target species recorded.

12.00hrs-16.15hrs – Site traversed from 12.15hrs to 13.30hrs. Herring Gull (<2) noted foraging on green at main entrance to hospital from 12.30-13.10hrs. Ring-necked Parakeet (<3) again recorded on hospital grounds foraging near the cemetery area at 13.00hrs. Redwing (<4) noted foraging at northeast side of the site at 13.05hrs. Monitoring at the VP's resumed at 13.45hrs until 16.15hrs, Brent geese (<150) noted passing east at 15.55hrs to the north of the site (off-site), flightline 4. Herring Gull (<120) and Black-headed Gull (<70) noted passing east over the site. Meadow Pipit (<2) and Greenfinch (<4) noted foraging around VP's. No other target species recorded.

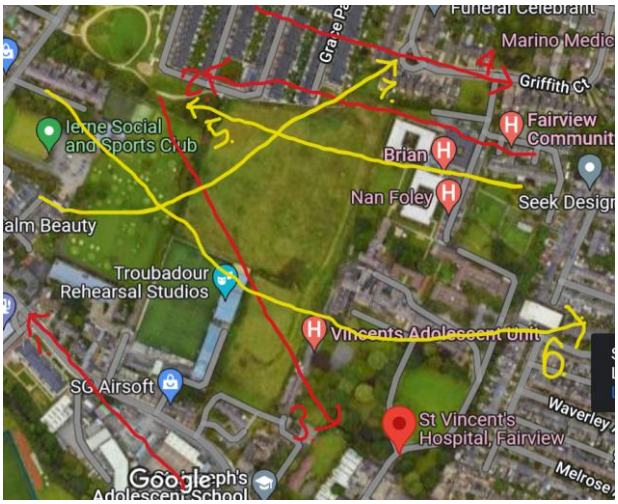


Figure 4. Flightlines for site in January 2022.

06/01/22 09.10hrs No.1 in red - Brent Geese (<200) west, height 35m.

06/01/22 09.40hrs No.2 in red – Brent Geese (<35) west, height 30m.

06/01/22 10.50hrs No.3 in red – Brent Geese (<75) Southeast, height 25m.

06/01/22 15.55hrs No.4 in red – Brent Geese (<150) East, height 40m.

20/01/22 08.33hrs No.1 in red – Brent Geese (<220) West, height 30m.

20/01/22 08.38hrs No.1 in red – Brent Geese (<200) West, height 30m.

20/01/22 09.07hrs No.5 in yellow – Curlew (<3) West, height 30m.

20/01/22 09.44hrs No.4 in red – Brent Geese (<60) West, height 25m.

20/01/22 15.18hrs No.6 in yellow – Brent Geese (<160) East, height 25m.

20/01/22 15.20hrs No.7 in yellow – Brent Geese (<550) Northeast, height 30m.

20/01/22 16.07hrs No.1 in red – Brent Geese (<80) East, height 25m.

20/01/22 16.17hrs No.4 in red – Curlew (<35), East, height 30m.

January 20th, 2022

Sunrise- 08.27hrs/Sunset 16.46hrs. Weather – Wind F2 West, Cloud 5/8, Dry, 7c, Excellent visibility. On-site 08.30hrs – 16.45hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Collared Dove, Herring Gull, Black-headed Gull, Common Gull, **Brent Goose**, **Curlew**, Cormorant, Grey Heron, Little Egret, Chaffinch, Greenfinch, Goldfinch, Redpoll, Bullfinch, Linnet, Blue Tit, Coal Tit, Long-tailed Tit, Great Tit, Blackbird, Ring-necked Parakeet, Song Thrush, Mistle Thrush, Sparrowhawk, Starling, Meadow Pipit, Grey Wagtail, Hooded Crow, Magpie, Jackdaw, Raven, Feral Pigeon.

08.30hrs-12.00hrs – VP 1&2 monitoring commenced from 08.30hrs to 12.00hrs. Brent Geese (<220) noted passing west at 08.33hrs at flightline 1 (off-site). Brent Geese (<200) also noted passing west at flightline 1 at 08.38hrs. At 09.07hrs Curlew (<3) were noted passing west over the north side of the site. At 09.44hrs Brent Geese (<60) were noted passing west north of the site (off-site). Ring-necked Parakeet (<1) noted foraging close to VP 1. Herring Gull (<50), Black-headed Gull (<25) noted passing over the site. Little Egret and Grey Heron noted following course of Tolka river to south of site (off-site) during the morning. No other target species recorded.

12.00hrs-16.45hrs – At 15.18hrs Brent Geese (<160) passed east over the site. At 15.20hrs Brent Geese (<550) passed northeast over the site. At 16.07hrs Brent Geese (<80) passed east south of the site (off-site). At 16.17hrs Curlew (<35) passed east north of the site (off-site). Movement of Gulls east in afternoon with Herring Gull (<minimum 130), Black-headed Gull (<100) and Common Gull (<20) recorded. Cormorant (<1) passed west south of site following Tolka at 16.00hrs (off-site), no other target species recorded.

February 7th, 2022

Sunrise- 07.59hrs/Sunset 17.20hrs. Weather – Wind F4 Southwest, Cloud 7/8, Occasional light showers, 11c, Excellent visibility. On-site 08.30hrs – 17.15hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Collared Dove, Herring Gull, Black-headed Gull, **Brent Goose**, Grey Heron, Chaffinch, Greenfinch, Redpoll, Goldfinch, Blue Tit, Coal Tit, Great Tit, Blackbird, Ring-necked Parakeet, Song Thrush, Sparrowhawk, Starling, Meadow Pipit, Pied Wagtail, Grey Wagtail, Hooded Crow, Magpie, Jackdaw, Raven, Feral Pigeon.

08.30hrs-12.00hrs – On-site commencing at VP 1. at 08.30hrs, Brent Geese (<110) noted passing west south of the site (off-site) at 08.50hrs and (<55) at 09.15hrs. Sparrowhawk noted hunting at the northwest of the site at 10.30hrs. Herring Gull (<40) and Black-headed Gull (<30) noted passing over the site during the morning. A Grey Heron passed over the south side of the site at 10.25hrs. Meadow Pipit (<10) and Greenfinch (<5) noted foraging in area between the VP's. Two Raven passed north over VP 1. At 11.15hrs. No other target species recorded.

12.00hrs-17.15hrs – Site traversed from 12.00hrs to 13.00hrs, VP's monitored from 13.30hrs to 17.15hrs. Brent Geese (<7) passed southwest over the site at 12.41hrs. A Ring-necked Parakeet was noted foraging in the center of the site at 12.30hrs. Herring Gull (<90) and Black-headed Gull (<75) noted passing east over the site in the late afternoon. At 17.05hrs Brent Geese (<200) were noted passing east north of the site (off-site). No other target species recorded.

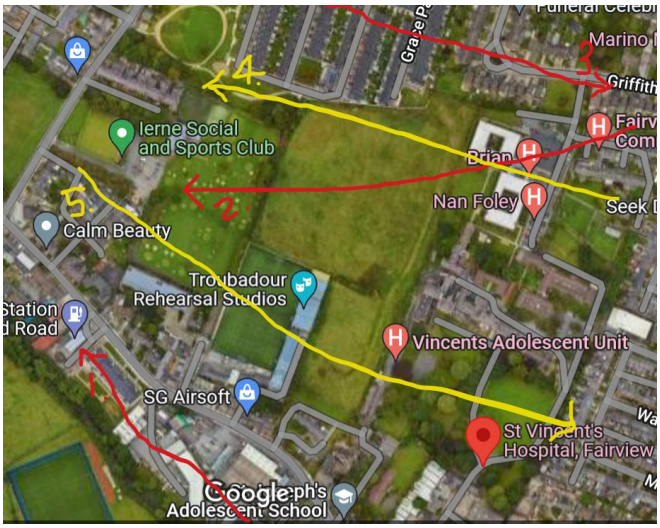


Figure 5. Flightlines for site in February 2022.

07/02/22 08.30hrs No.1 in red - Brent Geese (<110) West, height 30m.

07/02/22 08.50hrs No.1 in red – Brent Geese (<55) West, height 30m.

07/02/22 12.41hrs No.2 in red – Brent Geese (<7) Southwest, height 20m.

07/02/22 17.05hrs No.3 in red – Brent Geese (<200) East, height 25m.

18/02/22 08.25hrs No.1 in red – Brent Geese (<120) West, height 30m.

18/02/22 08.35hrs No.4 in yellow – Brent Geese (<160) & Curlew (<25) West, height 35m.

18/02/22 14.45hrs No.5 in yellow – Brent Geese (<180) East, height 25m.

18/02/22 16.30hrs No.3 in red – Curlew (<20) East, height 30m.

February 18th, 2022

Sunrise- 07.37hrs/Sunset 17.41hrs. Weather – Wind F4 Northwest, Cloud 6/8, Dry, 5c, Excellent visibility. On-site 08.00hrs – 17.15hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Herring Gull, Common Gull, Black-headed Gull, **Brent Goose**, **Curlew,** Grey Heron, Little Egret, Chaffinch, Redpoll, Linnet, Goldfinch, Blue Tit, Coal Tit, Blackbird, Ring-necked Parakeet, Song Thrush, Sparrowhawk, Starling, Meadow Pipit, Pied Wagtail, Grey Wagtail, Hooded Crow, Magpie, Jackdaw, Feral Pigeon.

08.00hrs-12.00hrs – Observing from VP 1&2 from 08.00hrs to 11.30hrs. At 08.25hrs Brent Geese (<120) passed west south of the site (off-site) following the Tolka. At 08.35hrs Brent Geese (<160) and Curlew (<25) passed through the north side of the site. Herring Gull (<45), Common Gull (<15) and Black-headed Gull (20) recorded passing over the site. At 10.15hrs Ring-necked Parakeet (<2) were noted foraging close to VP.2. Redpoll (<10), Meadow Pipit (<5) and Linnet (<10) were noted foraging in area between VP.1 and VP.2. No other target species recorded.

12.00hrs-17.15hrs – Site traversed from 12.00 to 13.15hrs. Grey Wagtail (<2) and Goldcrest (<4) noted foraging in the east of the site, Sparrowhawk noted hunting in two areas in the east of the site. VP monitoring resumed at 13.45hrs. At 14.45hrs Brent Geese (<180) were noted passing through the south side of the site. At 16.30hrs

Curlew (<20) passed east north of the site (off-site). Herring Gull (<130) and Black-headed Gull (<75) noted moving east over the site in late afternoon, no other target species recorded.

March 12th, 2022

Sunrise- 06.47hrs/Sunset 18.24hrs. Weather – Wind F4 South, Cloud 3/8, Dry, 10c, Excellent visibility. On-site 07.15hrs – 17.30hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Herring Gull, Lesser black-backed Gull, Black-headed Gull, **Brent Goose,** Grey Heron, Goldfinch, Chaffinch, Greenfinch, Redpoll, Linnet, Siskin, House Sparrow, Goldcrest, Blue Tit, Coal Tit, Long-tailed Tit, Great Tit, Blackbird, Song Thrush, Buzzard, Sparrowhawk, Meadow Pipit, Pied Wagtail, Grey Wagtail, Hooded Crow, Magpie, Jackdaw, Feral Pigeon.

07.15hrs-12.00hrs – Observing from VP 1&2 from 07.15hrs to 11.30hrs. The only observation of target species were Brent Geese (<420) passing east over the site at 10.30hrs. Herring Gull (<60), Lesser black-backed Gull (<10) and Black-headed Gull (<15) observed passing over the site during the morning. Sparrowhawk observed soaring over the north side of the site at 10.04hrs. Grey Heron (<1) passed east over the south side of the site at 10.18hrs. Siskin and House Sparrow were species newly recorded on-site being observed foraging at the west boundary of the site. No other target species recorded.

12.00hrs-17.00hrs – Site traversed from 12.00-13.00hrs. Sparrowhawk observed hunting at the northeast corner of the site at 12.40hrs. Buzzard (<2) observed soaring over the east of the site at 13.00hrs. VP monitoring resumed at 13.30-17.00hrs with no specific target species recorded, Herring Gull (<40) and Black-headed Gull (<15) observed mainly moving east during afternoon. A Sparrowhawk was recorded hunting at the west side of the site at 14.38hrs.

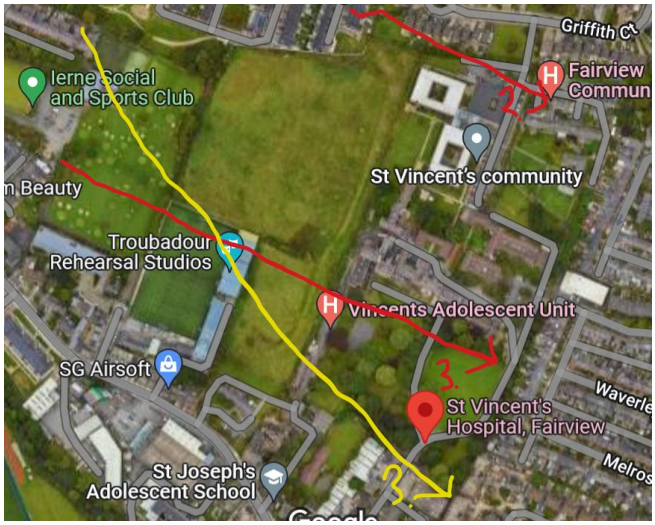


Figure 6. Flightlines for site in March 2022.

12/03/22 10.30hrs No.3 in yellow - Brent Geese (<420) Southeast, height 30m.

23/03/22 14.45hrs No.3 in yellow – Brent Geese (<30) Southeast, height 35m.

23/03/22 16.05hrs No.3 in red – Brent Geese (<50) East, height 30m.

23/03/22 16.15hrs No.2 in red – Brent Geese (<15) East, height 25m.

March 23rd, 2022

Sunrise- 06.20hrs/Sunset 18.43hrs. Weather – Wind F2 Southeast, Cloud 3/8, Dry, 11c, Excellent visibility. On-site 08.15hrs – 16.30hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Herring Gull, Lesser black-backed Gull, Black-headed Gull, **Brent Goose**, Goldfinch, Chaffinch, Greenfinch, Linnet, Bullfinch, Goldcrest, Blue Tit, Coal Tit, Long-tailed Tit, Great Tit, Blackbird, Song Thrush, Mistle Thrush, Buzzard, Sparrowhawk, Meadow Pipit, Pied Wagtail, Grey Wagtail, Hooded Crow, Magpie, Jackdaw, Raven, Feral Pigeon.

07.00hrs-12.00hrs – Observing from VP's 1&2 from 07.00-11.00hrs. No specific target species recorded. Gull numbers reduced with Herring gull (<40), Lesser black-backed Gull (<5) and Black-headed Gull (<10) noted passing over the site. Sparrowhawk observed soaring over the west side of the site at 09.10hrs and 10.40hrs. Buzzard (<2) observed soaring over the north end of the site at 10.45hrs. Greenfinch (<4) and Linnet (<9) noted foraging around the area between the VP's.

12.00hrs-16.30hrs – Site traversed from 11.00-12.15hrs. Similar profile of passerines observed across site, Mistle Thrush (<2) observed nest building at the east of the site. Two Goldcrest noted in song at the east of the site. VP monitoring resumed from 13.00-16.30hrs. Brent geese (<30) noted passing southeast at 14.45hrs. In late afternoon Brent Geese (<50) passed east over site at 16.05hrs and Brent Geese (<15) passed east north of the site at 16.15hrs (off-site). Herring Gull (<30), Lesser black-backed Gull (<8) and Black-headed Gull (<5) noted passing east in afternoon. No other target species recorded.

Comments and observations on survey results

In total 51 Bird species were recorded overall at the St Vincent's Hospital site in Fairview during 14 surveys over the course of the 2021-2022. Species recorded that are red listed as wintering species of conservation concern (Birdwatch Ireland's birds of conservation concern in Ireland 2020-2026) included Curlew, Redshank, Oystercatcher, Snipe and Redwing, only Snipe and Redwing were recorded foraging on-site, albeit in very small numbers. The remaining species and other amber listed species (such as Brent Geese and Gull species) were all only recorded passing through the site. The most suitable feeding areas (fields at west of site) being sub-optimal for feeding for these species being of long grass sward mixed with other species and rank vegetation. Herring Gull were occasionally noted foraging in very small numbers on the limited maintained grass areas on the rest of the site.

Results suggest that the site is not significant ex-situ foraging or roosting site for species of qualifying interest from nearby Special protection areas (SPA's). It was apparent that the preferred flightline routes for species such as Brent Geese and Curlew were to the south (birds likely following the Tolka River being a natural landmark) and to the north of the Hospital structure complex itself, although occasional flocks were recorded passing close and over the Hospital. Movements recorded were largely early and late in the day reflecting movements of birds from Dublin Bay to feeding site farther west of the site. Other species observed from the site included Grey Heron, Little Egret, Cormorant and Mallard, these species noted almost exclusively recorded following the Tolka River south of the site. Sparrowhawk and Buzzard were quite frequently recorded on-site, breeding nearby or possibly on-site.

Winter Bird Surveys 2022-2023.

Introduction

Between November 2022 and March 2023, 9 winter bird surveys (two per month and one in March) were undertaken at lands at St Vincent's Hospital, in Fairview, North County Dublin, by Hugh Delaney, a freelance Ecologist (Birds primarily) having completed work on numerous sites with ecological consultancies over 10+ years. Hugh is local to the Dun Laoghaire-Rathdown area in Dublin and is especially familiar with the bird life and its ecology in the environs going back over 30 years.

Winter Bird Survey Methodology

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

Site Location

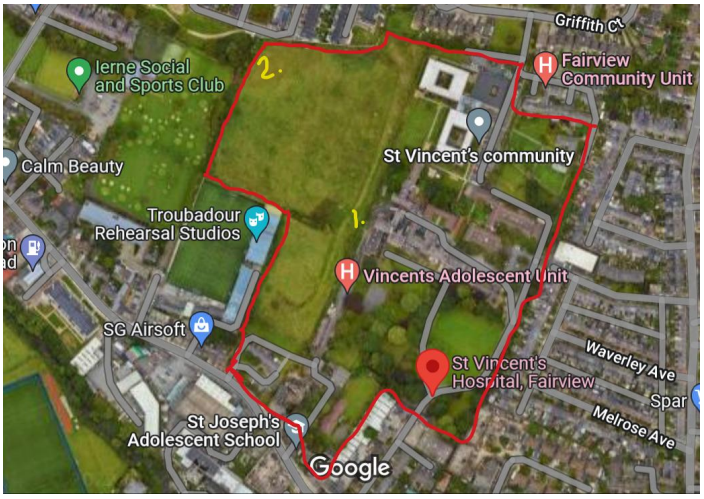


Fig. 1 St Vincent's Hospital Fairview, survey site outlined in red. Green field area at west of site being a primary focus of the surveys with the vantage points marked in yellow (Vantage points 1 & 2).

Site Description

Site located in urban north Dublin city, site comprising of larger buildings in east with some small areas of greens and small patches of mixed mature trees. Two areas area of more substantial rough grassland are situated at the west side of the site.

Specific site survey methodology

Vantage point observations were undertaken at locations at the west side of the site these giving optimal views of species passing over the site and also to note any species foraging in this area. Vantage points 1 and 2 were monitored alternately each hour, recording all species passing through and foraging on-site. Additionally, the entire site was traversed over generally in the middle of the day to collect further data on species utilizing the site. Early survey visits and later survey visits were made alternatively between surveys to ascertain bird movements early in the day and later in the day.

November 15th, 2022

Sunrise- 07.49hrs/Sunset 16.28hrs. Weather – Wind F2 Northwest, Cloud 6/8, Dry, 10c, Excellent visibility. On-site 08.00hrs – 14.30hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Herring Gull, Lesser black-backed Gull, Black-headed Gull, Mallard, Cormorant, Goldcrest, Chaffinch, Bullfinch, Goldfinch, Linnet, Redpoll, Blue Tit, Coal Tit, Long-tailed Tit, Blackbird, Song Thrush, Mistle Thrush, Starling, Grey Wagtail, Meadow Pipit, Sparrowhawk, Hooded Crow, Magpie, Rook, Jackdaw, Feral Pigeon.

08.00hrs-12.00hrs – Observing from VP.'s 1&2 from 08.00-12.00hrs, Herring Gull (<50), Black-headed Gull (<30) and Lesser black-backed Gull (<3) noted passing over the site, passing mainly east to west. Occasional birds landing on the Hospital buildings. Meadow Pipit (<4), Redpoll (<2), Chaffinch (<5), Bullfinch (<4) and Linnet (<8) foraging in fields at VP sites. Site traversed from 12.00-13.00hrs, Grey Wagtail (<1) Mistle Thrush (<3), Goldfinch (<15), and Blackbird (<5) noted foraging at the east side of the site. No other target species recorded.

12.00hrs-14.30hrs – Monitoring from VP's from 13.00-14.30hrs, Herring Gull (<42), Lesser black-backed Gull (<6) and Black-headed Gull (<35) noted passing mainly east and south over the site. Linnet (<12), Redpoll (<2) and Meadow Pipit (<3) noted foraging in area adjacent VP sites. Sparrowhawk noted hunting between the VP's at 13.15hrs. A Cormorant was observed following Tolka river west at 14.50hrs (offsite). One Mallard passed over the south side of the site at 12.10hrs. No other target species recorded.

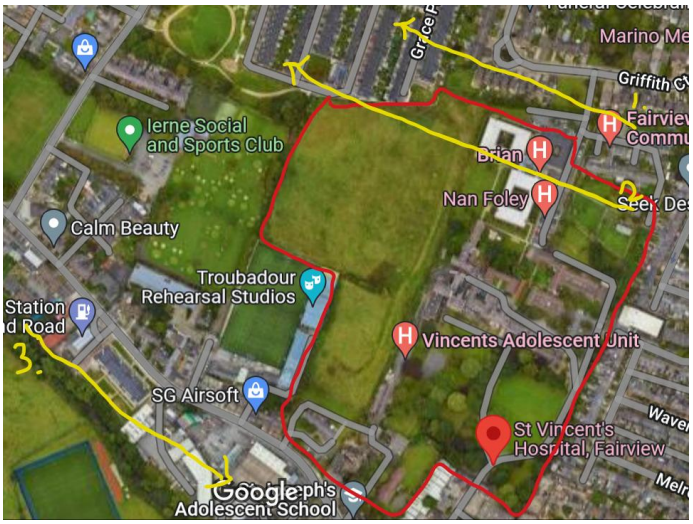
November 28th, 2022

Sunrise- 08.12hrs/Sunset 16.13hrs. Weather – Wind F3 Southwest, Cloud 4/8, Dry, 4c, Excellent visibility. On-site 10.00hrs – 16.30hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Collared Dove, Herring Gull, Lesser black-backed Gull, Black-headed Gull, Common Gull, **Brent Goose**, Goldcrest, Chaffinch, Goldfinch, Redpoll, Greenfinch, Bullfinch, Blue Tit, Coal Tit, Great Tit, Long-tailed Tit, Blackbird, Song Thrush, Mistle Thrush, Ring-necked Parakeet, Starling, Grey Wagtail, Sparrowhawk, Hooded Crow, Magpie, Rook, Jackdaw, Raven, Feral Pigeon.

10.00hrs-12.00hrs – Observing from VP.'s 1&2 from 10.00-12.00hrs. At 10.45hrs **Brent Geese** (<40) passed west over the north side of the site (Height 25m). Herring Gull (<45), Black-headed Gull (<15), Common Gull (<3) and Lesser black-backed Gull (<5) noted passing over the site mainly west and south. Ring-necked Parakeet (<2) were noted at 11.15hrs flying west from the hospital buildings. No other target species recorded.

12.00hrs-16.30hrs – Site traversed from 12.00-13.30hrs with typical selection of passerines recorded, Goldcrest (<3), Redpoll (5) and Grey Wagtail (<2) more notable. Sparrowhawk noted hunting at east side of site at 12.45hrs. VP observations resumed at 13.30hrs until 16.30hrs. **Brent Goose** noted passing west at 14.35hrs (<25 on-site, height 30m) and (<45) noted passing east at 16.05hrs, off-site and following the Tolka River (height 30m). Herring Gull (<50) and Black-headed Gull (<50) noted passing east mainly over the site. No other target species recorded.



November flightlines – (all 28/11/22)

No. 1 Brent Goose, 50 west, height 25m. Off-site.

N0.2 Brent Goose, 25 west, height 30m, on-site.

No.3 Brent Goose, 45 east, height 30m, following Tolka, off-site.

December 8th, 2022

Sunrise- 08.27hrs/Sunset 16.07hrs. Weather – Wind F1 Northwest, Cloud 3/8, Dry, 4c, Excellent visibility. On-site 10.00hrs – 16.15hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Herring Gull, Black-headed Gull, Cormorant, Common Gull, **Brent Goose**, **Curlew**, Goldcrest, Chaffinch, Goldfinch, Redpoll, Greenfinch, Bullfinch, Reed Bunting, Stonechat, Blue Tit, Coal Tit, Great Tit, Long-tailed Tit, Blackbird, Mistle Thrush, Ring-necked Parakeet, Grey Wagtail, Sparrowhawk, Buzzard, Hooded Crow, Magpie, Rook, Jackdaw, Feral Pigeon.

10.00hrs-12.00hrs – Observing from VP.'s 1&2 from 10.00-12.00hrs. At 11.56hrs **Curlew** (<31) passed northeast over the north side of the site (Height 25m). Herring Gull (<35), Black-headed Gull (<45), and Common Gull (<5) noted passing over the site mainly heading west. Ring-necked Parakeet (<2) were noted intermittently during the morning around the hospital buildings. No other target species recorded.

12.00hrs-16.15hrs – Site traversed from 12.00-13.15hrs with typical selection of passerines recorded, Stonechat and Reed Bunting being notable. Buzzard noted in trees at west side of site several times in afternoon. Sparrowhawk noted hunting at east side of site at 12.30hrs. VP observations resumed at 13.15hrs until 16.15hrs. **Brent Goose** noted passing east at 12.30hrs (<110 off-site, height 35m). **Curlew** noted four times over site in afternoon (see details below). Herring Gull (<150) and Black-headed Gull (<400) and Common Gull (<10) noted passing east over the site especially in last hour (heading to roost). No other target species recorded.



No.1.11.56hrs. Curlew 31, heading north, height 25m (appeared to land into site to north on map near Annadale Drive).

No.2 12.30hrs. Brent Goose 110, heading east off-site, height 35m.

No.3 12.35hrs. Curlew 1 heading east, height 35m. Cormorant at 11.28hrs, east height 30m.

No.4 12.43hrs. Curlew 4 heading east, height 30m.

No.5 12.28hrs. Curlew 28 heading east, height 25m.

No.2 15.48hrs. Curlew 7 heading east, height 30m.

December 20th, 2022

Sunrise- 08.37hrs/Sunset 16.07hrs. Weather – Wind F3 Southwest, Cloud 3/8, Dry, 6c, Excellent visibility. On-site 08.30hrs – 14.30hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Collared Dove, Little Egret, Herring Gull, Black-headed Gull, Common Gull, **Brent Goose**, **Curlew**, Goldcrest, Chaffinch, Goldfinch, Greenfinch, Bullfinch, Stonechat, Blue Tit, Coal Tit, Great Tit, Long-tailed Tit, Blackbird, Song Thrush, Mistle Thrush, Ring-necked Parakeet, Grey Wagtail, Pied Wagtail, Sparrowhawk, Hooded Crow, Magpie, Rook, Jackdaw, Feral Pigeon.

08.30hrs-12.00hrs – Observing from VP.'s 1&2 from 08.30-12.00hrs. At 08.40hrs **Brent Geese** (<180) passed south of the site (off-site) following the Tolka west (Height 30m). With two more movements in same direction (see below). Brent Geese also observed going west off-site to the north of site (<150 at 09.15hrs). Herring Gull (<30),

Black-headed Gull (<25), and Common Gull (<3) noted passing over the site mainly heading west and south. **Curlew** (<40) noted passing east over north side of site at 11.25hrs. No other target species recorded.

12.00hrs-14.30hrs – Site traversed from 12.00-13.00hrs with typical selection of passerines recorded, Stonechat still present on-site. Sparrowhawk noted hunting several times around V.P area. VP observations resumed at 13.00hrs until 14.30hrs. **Brent Geese** (<25) passed east over south side of site at 13.40hrs. Herring Gull (<60) and Black-headed Gull (<40) noted passing over the site. Ring-necked Parakeet (<2) still present on-site. Little Egret (<1) noted following Tolka west (off-site) at 13.30hrs. No other target species recorded.



No.1 08.40hrs Brent Geese 180, west (off-site), height 30m. 08.55hrs Brent Geese 80, west, height 30m. 09.10 Brent Geese 120, west height 25m.

No.2 09.15 Brent Geese 150, west (off-site), height 25m.

No.3 11.25hrs Curlew 40, east, height 30m.

No.4 13.40hrs Brent Geese 25, east, height 25m.

January 7th, 2023

Sunrise- 08.38hrs/Sunset 16.24hrs. Weather – Wind F2 South, Cloud 2/8, Dry, 7c, Excellent visibility. On-site 10.30hrs – 16.30hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Herring Gull, Black-headed Gull, Common Gull, **Brent Goose**, **Curlew**, **Snipe,** Goldcrest, Chaffinch, Goldfinch, Greenfinch, Bullfinch, Redpoll, Stonechat, Blue Tit, Coal Tit, Great Tit, Long-tailed Tit, Blackbird, Song Thrush, Mistle Thrush, Grey Wagtail, Pied Wagtail, Meadow Pipit, Sparrowhawk, Buzzard, Hooded Crow, Magpie, Rook, Jackdaw, Raven, Feral Pigeon.

10.30hrs-12.00hrs – Observing from VP.'s 1&2 from 10.30-12.00hrs. At 11.05hrs **Brent Geese** (<65) and **Curlew** (<15) passed south of the site (off-site) following the Tolka east (Height 30m). At 11.45hrs **Brent Geese** (<100) passed east along north edge of site. Herring Gull (<40), Black-headed Gull (<30), noted passing over the site mainly heading west. **Snipe** (<2) were flushed in the rough grass area between the two VP's at 10.45hrs. Meadow Pipit (<8) foraging in rough grass between VP's throughout the day. No other target species recorded.

12.00hrs-16.30hrs – Site traversed from 12.00-13.15hrs with typical selection of passerines recorded. Sparrowhawk and Buzzard observed noted several times around V.P area. VP observations resumed at 13.00hrs until 16.30hrs. **Brent Geese** (<60) passed east over site at 14.10hrs, two other Brent Geese movements later – see below- both off-site. **Curlew** (<45) observed going east over north part of site at 15.40hrs. Herring Gull (<150) and Black-headed Gull (<200) and Common Gull (<25) noted passing over the site going east to roost in Dublin Bay late in afternoon. No other target species recorded.



No. 1 11.05hrs Brent Geese 65 and Curlew 15 east height 25m (Off-site).

No.2 11.45hrs Brent Geese 100 east along border of site, height 30m.

No.3 14.10hrs Brent Geese 60 east, height 30m.

No. 4 15.40hrs Curlew 45 east, height 25m.

No.5 16.05hrs Brent Geese 250 east, height 30m and 16.15hrs Brent Geese 140 east height 35m.

January 21st, 2023

Sunrise- 08.26hrs/Sunset 16.47hrs. Weather – Wind F2 Southeast, Cloud 8/8, Dry, 7c, Excellent visibility. On-site 08.15hrs – 14.30hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Herring Gull, Black-headed Gull, Cormorant, **Brent Goose**, **Curlew, Black-tailed Godwit,** Goldcrest, Chaffinch, Goldfinch, Greenfinch, Linnet, Blue Tit, Coal Tit, Great

Tit, Long-tailed Tit, Blackbird, Song Thrush, Redwing, Fieldfare, Starling, Grey Wagtail, Ring-necked Parakeet, Meadow Pipit, Sparrowhawk, Buzzard, Hooded Crow, Magpie, Rook, Jackdaw, Raven, Feral Pigeon.

08.15hrs-12.00hrs – Observing from VP.'s 1&2 from 08.15-12.00hrs. At 08.46hrs **Brent Geese** (<60) passed west over the north end of the site. At 08.53hrs Brent Geese (<5) passed west following Tolka (Off-site). At 08.58hrs Brent Geese (<80) passed over site from north to south, other Brent and **Curlew** flightlines are detailed below. Herring Gull (<35), Black-headed Gull (<20), noted passing over the site mainly heading west and south. Meadow Pipit (<15) foraging in rough grass between VP's throughout the day and a Fieldfare was notable. No other target species recorded.

12.00hrs-14.30hrs – Site traversed from 12.00-13.00hrs with typical selection of passerines recorded, Redwing (<18) were notable foraging between the VP's. Ring-necked Parakeet (<2) still present on-site. Four sightings of Sparrowhawk including a pair displaying around the west of site. VP observations resumed at 13.00hrs until 14.30hrs. **Brent Geese** (<180) passed west over site at 12.28hrs. **Black-tailed Godwit** (<11) passed east over site at 12.58hrs (first birds observed this winter). Curlew (<4) passed north over site at 13.04hrs. Brent Geese (<3) passed west over site at 13.28hrs. Cormorant observed passing over the south end of the site at 13.50hrs. No other target species recorded.



No.1 08.46hrs Brent Geese 60 west, height 25m.

No.2 08.47hrs Brent Geese 110 west (Off-site), height 25m and 08.58hrs Brent Geese 80 west and 09.10hrs Brent Geese 10 west, height 30m.

No.3 08.53hrs Brent Geese 5 southwest, height 30m.

No.6 09.16hrs Brent Geese 16 west (off-site), height 20m.

No.7 11.22hrs Brent Geese 8 northwest, height 30m.

No.8 12.28hrs Brent Geese 180 east (off-site), height 20m.

No.9 12.58hrs Black-tailed Godwit 11 southeast, height 20m.

No.10 13.28hrs Brent Geese 3 west, height 15m.

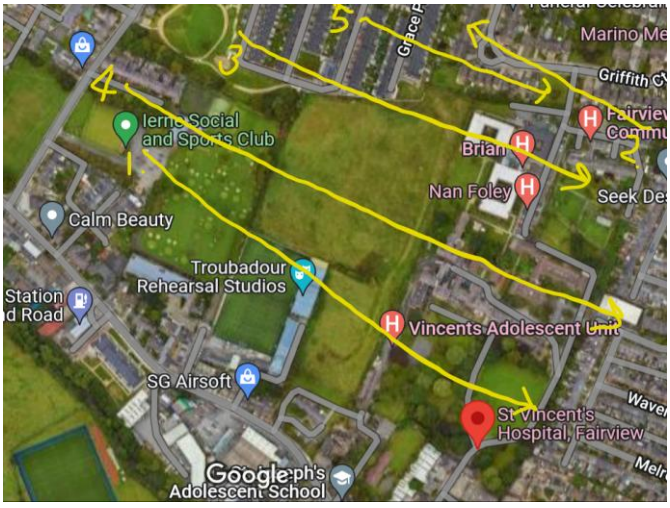
February 9th, 2023

Sunrise- 07.55hrs/Sunset 17.23hrs. Weather – Wind F3 Southwest, Cloud 6/8, Dry, 6c, Excellent visibility. On-site 10.30hrs – 17.30hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Collared Dove, Herring Gull, Black-headed Gull, Common Gull, **Brent Goose**, **Curlew,** Goldcrest, Chaffinch, Goldfinch, Greenfinch, Bullfinch, Linnet, Blue Tit, Coal Tit, Great Tit, Long-tailed Tit, Blackbird, Song Thrush, Redwing, Starling, Grey Wagtail, Ring-necked Parakeet, Meadow Pipit, Sparrowhawk, Hooded Crow, Magpie, Rook, Jackdaw, Feral Pigeon.

10.30hrs-12.00hrs – Observing from VP.'s 1&2 from 10.30-12.00hrs. At 11.35 **Brent Geese** (<75) passed east over the south end of the site. At 11.52hrs Brent Geese (<90) passed west north of site (off-site). Herring Gull (<50), Black-headed Gull (<20), noted passing over the site mainly heading west. Meadow Pipit (<10) and Redwing (<8) foraging in rough grass between VP's throughout the day. Sparrowhawk again observed displaying over the west side of the site. No other target species recorded.

12.00hrs-17.30hrs – Site traversed from 12.00-13.30hrs with typical selection of passerines recorded. Ring-necked Parakeet (<2) still present on-site. VP observations resumed at 13.30hrs until 17.30hrs. At 13.45hrs **Brent Geese** (35) passed east over north end of the site at 12.28hrs. At 14.30hrs **Curlew** (<25) passed east over middle of site. At 16.45 Brent Geese (<350) passed east north of the site (off-site). No other target species recorded.



No.1 11.35hrs Brent Geese 75 east, height 25m.

No.2 11.52hrs Brent Geese 90 west (off-site), height 30m.

No.3 13.45hrs Brent Geese 35 east, height 35m.

No.4 14.30hrs Curlew 25 east, height 25m.

No.5 16.45hrs Brent Geese 350 east (off-site), height 30m.

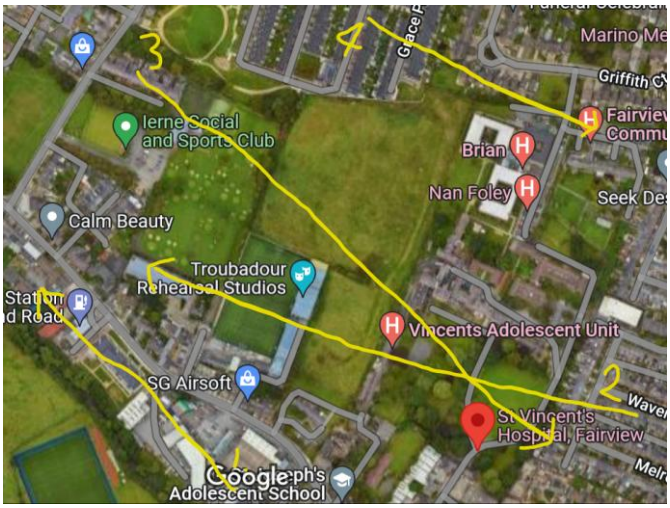
February 24th, 2023

Sunrise- 07.24hrs/Sunset 17.52hrs. Weather – Wind F2 West, Cloud 5/8, Dry, 7c, Excellent visibility. On-site 07.30hrs – 14.30hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Herring Gull, Black-headed Gull, Common Gull, **Brent Goose**, **Curlew,** Goldcrest, Chaffinch, Goldfinch, Greenfinch, Redpoll, Bullfinch, Blue Tit, Coal Tit, Great Tit, Long-tailed Tit, Blackbird, Song Thrush, Starling, Grey Wagtail, Pied Wagtail, Meadow Pipit, Sparrowhawk, Buzzard, Hooded Crow, Magpie, Rook, Jackdaw, Raven, Feral Pigeon.

07.30hrs-12.00hrs – Observing from VP.'s 1&2 from 07.30-12.00hrs. At 07.45 **Brent Geese** (<125) passed west following the Tolka south of the site, with another two movements shortly after. **Curlew** (<15) passed west over the south end of the site at 10.10hrs. Sparrowhawk and Buzzard intermittently recorded at the west side of the site. Herring Gull (<35), Black-headed Gull (<15), noted passing over the site mainly heading south. No other target species recorded.

12.00hrs-14.30hrs – Site traversed from 12.00-13.00hrs with typical selection of passerines recorded, two Raven noted over the east side of the site at 12.30hrs. VP observations resumed at 13.30hrs until 14.30hrs. At 12.15hrs **Brent Geese** (<20) and **Curlew** (<18) passed southeast over the site. At 13.55hrs Brent Geese (<140) passed east north of the site (off-site). Meadow Pipit (<5), Greenfinch (<6) and Redpoll (<8) noted foraging around the VP area. No other target species recorded.



No 1. 07.45hrs Brent Geese 125 west, height 30m (off-site), 07.50 Brent Geese 150 west, 08.05 Brent Geese 40 west.

No.2 10.10hrs Curlew 15 west, height 20m.

No.3 12.15hrs Brent Geese 20 and Curlew 18 southeast, height 30m.

No.4 13.55hrs Brent Geese 140 east (off-site), height 30m.

March 8th, 2023

Sunrise- 06.57hrs/Sunset 18.15hrs. Weather – Wind F2 East, Cloud 4/8, Dry, 3c, Excellent visibility. On-site 11.00hrs – 18.15hrs.

Species recorded – Robin, Dunnock, Wren, Woodpigeon, Collared Dove, Herring Gull, Lesser black-backed Gull, Black-headed Gull, **Brent Goose**, **Curlew,** Goldcrest, Chaffinch, Goldfinch, Greenfinch, Bullfinch, Blue Tit, Coal Tit, Great Tit, Long-tailed Tit, Blackbird, Song Thrush, Starling, Grey Wagtail, Pied Wagtail, Meadow Pipit, Sparrowhawk, Buzzard, Hooded Crow, Magpie, Rook, Jackdaw, Feral Pigeon.

11.00hrs-12.00hrs – Observing from VP.'s 1&2 from 11.00-12.00hrs. No target species movements up to midday. Buzzard and Sparrowhawk (displaying) again at the west side of the site. Meadow Pipit (<12) foraging in rough grass area. Herring Gull (<30), Black-headed Gull (<10) and Lesser black-backed Gull (<5) noted passing over the site mainly heading south and west. No other target species recorded.

12.00hrs-18.15hrs – Site traversed from 12.00-13.30hrs with typical selection of passerines recorded. At 14.25hrs **Brent Geese** (<120) noted passing east south of the site (off-site). At 14.40hrs Brent Geese (<50) were noted moving along east along the north boundary of the site. At 15.15hrs Brent Geese (<170) and Curlew (<30) were noted flying east north of the site (off-site). At 15.25hrs Brent Geese (<40) passed over middle of site going west. At 17.40hrs Brent Geese (<200) were noted moving east north of the site (off-site). At 18.00hrs Brent Geese (<80) were noted following Tolka south of the site going east (off-site). Herring Gull (<100) and Black-headed Gull (<80) noted moving east late in day. No other target species recorded.



No 1. 14.25hrs Brent Geese 120, east (off-site), height 25m.

No. 2 14.40 Brent Geese 50, east, height 25m.

No.3 15.15hrs Brent Geese 170 & Curlew 30, east, height 25m.

No.4 15.25hrs Brent Geese 15, west, 30m.

No.3 17.40hrs Brent Geese 200, east, 30m.

No.1 18.00 Brent Geese 80, east, 25m.

Comments and observations on survey results

In total 49 Bird species were recorded overall at the St Vincent's Hospital site in Fairview during 9 surveys over the course of the winter bird survey period 2022-2023. Species recorded that are red listed as wintering species of conservation concern (Birdwatch Ireland's birds of conservation concern in Ireland 2020-2026) include Curlew, Snipe and Redwing, only Snipe and Redwing were recorded foraging on-site, Snipe once (likely roosting only) and Redwing in very small numbers. The remaining species and other amber listed species (such as Brent Geese and Gull species) were all only recorded passing over the site. The most suitable feeding areas (fields at west of site) continue to be sub-optimal for feeding for these species being of long grass sward mixed with other species and rank vegetation. Herring Gull were occasionally noted foraging in very small numbers on the limited maintained grass areas on the rest (east side) of the site.

Results suggest that the site is not significant ex-situ foraging or roosting site for species of qualifying interest from nearby Special protection areas (SPA's). Brent Geese and Curlew were recorded passing over and especially adjacent the site, in common with observations from previous surveys it was apparent that the preferred flightline routes for species these species were to the south (birds following the Tolka River it acting as a navigational landmark or highway so to speak to sites farther west) and to the north of the Hospital structure complex itself, although occasional flocks were recorded passing closer and over the Hospital, however the biggest movements were consistently outside the confines of the hospital area. Movements recorded were largely early and late in the day reflecting movements of birds from Dublin Bay to and from feeding sites farther west of the site. Other species observed from the site included Little Egret, Grey Heron, Cormorant and Mallard, these species noted almost exclusively recorded following the Tolka River south of the site. Sparrowhawk and Buzzard were quite frequently recorded on-site, with Sparrowhawk especially evidently breeding nearby or on-site (displaying regularly observed).

Report on winter bird surveys conducted at St. Vincent's Hospital Fairview, Co. Dublin

January to March 2021

Niall Keogh subcontracted by Altemar Ltd.







Overview

Winter bird surveys were carried out at the St Vincent's Hospital Fairview (SVHF) site in north Co. Dublin between January and March 2021. In total, 53 bird species were found, including three species of raptor, three species of wildfowl and two species of wader. Of note was the presence of a small flock of feral Ring-necked Parakeets found using the site as a roosting and possible nesting location. Results from the survey suggested the site is not an ex-situ foraging or roosting site for species of qualifying interest from nearby Special Protection Areas (SPAs) such as the North Bull Island SPA and the South Dublin Bay and River Tolka Estuary SPA.



Figure 1. *Map showing the survey site at SVHF (marked with a yellow star) and sites of note in the general area around it that are mentioned in the report.*

Methods

A total of six survey visits were made to the site in 2021 during the months of January, February and March (the winter bird survey period). These six surveys were allocated to two visits per month, with at least a week in between surveys. Each visit lasted six hours, starting either 30 minutes before sunrise or ending 30 minutes after sunset. The timing of these visits around sunrise and sunset were chosen to try capture morning and evening movements of birds across and into the site and also allowed for the potential to record nocturnal species (Eurasian Woodcock, owls) that might be active at that time. One sunrise visit and one sunset visit was carried out each month.

All visits were conducted during favourable weather conditions, with no precipitation and winds of Beaufort Force 4 or less. The tidal state at nearby coastal SPAs was noted and surveys were timed to occur during both low and high tides in order to assess whether this had a bearing on the use of the site by waterbirds from nearby estuaries and wetlands.

Three survey methods were undertaken during each visit:

(1) General winter bird surveys: A series of routes or transects through the site were repeatedly walked which covered or allowed views across the entire area. Up to three hours per visit was spent using this method to try and capture an overall sense of presence, status and numbers for each species recorded on site. Numbers for common species were generally estimated but special care was taken to ensure double counting was avoided where possible. Although these surveys were carried out during the winter period, breeding behaviour was noted and recorded for resident species which were seen to be holding territory, nest building etc. General winter bird survey routes are depicted in Figure 2.



Figure 2. *Map of the survey site (marked with boundary line and shaded in blue) with general winter bird survey routes marked in yellow.*

(1) Flush counts for snipe: A series of zig-zig transects were walked in the rough grass and ditch areas of the 'brownfield' on the west side of the site in order to try record the presence of Common Snipe (potentially Jack Snipe and Eurasian Woodcock also). These were carried once per visit and were incorporated into the time spent conducting the general winter bird surveys (see above). Just one flush count per visit was carried out in order to record birds but not to overly disturb any that were present. Flush count survey routes are depicted in Figure 3.



Figure 3. *Map of the survey site (marked with boundary line and shaded in blue) with snipe flush count survey routes marked in yellow.*

(2) Vantage Point surveys: Two vantage point locations in the 'brownfield' area with good views across the entire site were used to scan for species of note (e.g. raptors and waterbirds) that might be using or commuting over the area. Each vantage point watch lasted 3 hours, with one carried out per site visit, alternating between VP1 (located at 53.366851, -6.244835 with a viewshed to the south, west and north) and VP2 (located at 53.368366, -6.245764 with a viewshed to the south and east). Target species seen during these vantage point surveys were recorded with notes taken on time of sighting, duration of sighting, number of birds, direction of travel, flight height and any behavioural observations of interest. Vantage point count survey locations are depicted in Figure 4.



Figure 4. *Map of the survey site (marked with boundary line and shaded in blue) with vantage point survey locations and arrows indicating directions of view marked in yellow.*

Results

A total of 53 species of bird were recorded during six survey visits to the site between 22nd January and 23rd March 2021. The full list of species recorded is given in Appendix 1. Species richness per site visit ranged

between 35 and 45 species and the cumulative total of individual birds per site visit ranged between 480 and 2676. Species richness was noted as highest during morning visits (when passerine activity was greatest) and the largest totals of birds per visit were noted during those carried out later in the day when overhead passage flights of birds (primarily gulls and Light-bellied Brent Geese) heading into Dublin Bay to roost occurred. A species lists with counts for each visit is presented below in Table 1.

The flush count surveys for snipe and woodcock recorded a total of three Common Snipe on two dates. A total of 18 hours of vantage points surveys was conducted across the six survey visits resulting in 118 flight lines of 14 target species recorded. The most frequently observed species during vantage point surveys included Eurasian Sparrowhawk (28 observations), Common Buzzard (24 observations) and Light-bellied Brent Goose (14 observations).

Breeding behaviour was noted for 20 species on the SVHF site, generally involving singing or territory holding by resident passerines but also display flight and apparent territory holding by a pair of Eurasian Sparrowhawk and nest building by some species of corvid.

Table 1. Totals for bird species recorded on each of six visits to SVHF between Jan and Mar 2021. Species recorded as flying over the site only (not on site/ground level) are marked in bold and italics.

Species	Visit 1 22nd Jan	Visit 2 29th Jan	Visit 3 3rd Feb	Visit 4 22nd Feb	Visit 5 1st Mar	Visit 6 23rd Mar
Light-bellied Brent Goose	***52***	***250***	***670***	***625***	***524***	***270***
Black Brant					***1***	
Mute Swan				***4***		
Mallard	***2***				***6***	***7***
Domestic Mallard					***1***	
Grey Heron	***2***	***2***	***1***	***2***	***1***	***3***
Little Egret						***3***
Great Cormorant		***3***	***1***	***2***	***2***	***1***
Eurasian Sparrowhawk	2	2	1	3	2	2
Common Buzzard	1	1	4	4	2	5
Eurasian Curlew				***9***	***10***	***3***
Common Snipe				1		2
Black-headed Gull	***100***	***750***	***1500***	***40***	***300***	***4***
Mediterranean Gull					***1***	
Common Gull		***4***	***6***	***1***	***1***	
Great Black-backed Gull	***3***			***1***	***2***	***1***
European Herring Gull	30	200	150	40	60	85
Lesser Black-backed Gull				***1***	***2***	***8***
Rock Dive (Feral Pigeon)	50	40	40	25	25	15
Stock Dove			***2***	***1***		
Common Wood Pigeon	25	30	30	40	30	30
Eurasian Collared Dove	4	8	8	7	9	2
Peregrine Falcon	***1***	***1***				
Rose-ringed Parakeet		5	5	4	4	2
Eurasian Magpie	20	35	30	35	50	45
Western Jackdaw	20	30	40	15	20	45
Rook	10	5	5	3	3	4
Hooded Crow	4	6	8	8	10	6
Northern Raven				***1***		
Coal Tit	2	3	1	3	2	
Eurasian Blue Tit	10	10	17	19	17	12
Great Tit	5	6	12	12	12	4
Long-tailed Tit	2	6	2		2	2
Common Chiffchaff						1
Eurasian Blackcap				1		
Goldcrest	2	3	4	3	2	2
Eurasian Wren	5	3	3	13	11	6
Common Starling	20	60	30	14	20	20
Common Blackbird	10	7	14	18	28	14
Redwing	2					
Song Thrush	10	6	6	4	3	2
Mistle Thrush	2	2	4	1	2	
European Robin	10	6	15	13	16	5
House Sparrow				3		
Dunnock	6	3	5	14	8	2
Grey Wagtail	***2***	***4***	***2***	***1***	***2***	***2***
Pied Wagtail	1		2		1	
Meadow Pipit				***7***	***4***	
Common Chaffinch	10	8	8	7	14	6
European Greenfinch	8	5	10	17	10	10
Common Linnet	24	43	30	18	43	18
Lesser Redpoll	***2***	***1***	***1***	***1***		
European Goldfinch	15	2	7	20	15	6
Eurasian Siskin	***5***		***2***	***2***	***5***	
Common Reed Bunting	1			1	1	
	480	1550	2676	1064	1284	654

Discussion

Results from the survey suggested the site is not an ex-situ foraging or roosting site for species of qualifying interest from nearby Special Protection Areas (SPAs) such as the North Bull Island SPA (https://www.npws.ie/protected-sites/spa/004006) and the South Dublin Bay and River Tolka Estuary SPA (https://www.npws.ie/protected-sites/spa/004024).

Of the 53 bird species recorded on or over the site, three relate to species of qualifying interest at nearby coastal SPAs: Light-bellied Brent Goose, Eurasian Curlew and Black-headed Gull. For each of these species, sightings of birds at SVHF referred to those commuting over the location, likely utilising sports pitches and other amenity grasslands in the area for foraging and travelling to or from roosting and additional foraging sites on the coast in the nearby SPA network. Foraging conditions at SVHF would be considered suboptimal for Light-bellied Brent Goose in the context of urban Dublin habitats where away from coastal estuaries and wetlands, geese primarily forage on maintained amenity grasslands with a short sward (e.g. sports pitches and greens). The largest area of open ground, referred to here as the 'brownfield' site, is comprised of rough grassland with the sward height and species composition such that grazing conditions are not favourable for Light-bellied Brent Goose. Eurasian Curlew could in theory forage in such rough grassland habitats, but none were observed using the site during these surveys and any sightings during vantage points surveys (n=3) referred to birds commuting over the area. The habitat at the 'brownfield' site is depicted in Figure 5.



Figure 5. *An overview of the habitat conditions at the 'brownfield' site, looking northeast.*

An area of amenity grassland at the SVHF site near the Convent Avenue entrance appears similar to some urban foraging sites for geese and Eurasian Curlew but the small size of the area of grass and the close proximity of tall trees and buildings around its perimeter would generally discourage such large waterbirds from utilising the area. This location is suitable for foraging Black-headed Gull, however just a single bird was recorded here during one of six visits to the site, indicating low level use of the site by this species. The amenity grassland discussed here is shown in Figure 6.



Figure 6. *Amenity grassland near the Convent Avenue entrance.*

The 'brownfield' site provides habitat for bird species more typically associated with rural areas such as Common Linnet, Common Reed Bunting, Common Buzzard and Common Snipe. The presence of each of these at this location is of local interest, especially in the context of wider urban biodiversity.

The presence of a small flock of Rose-ringed Parakeet using the site is of interest. Sightings in the Drumcondra and Fairview area of this non-native species have been noted since 2018 with an increase in sightings during 2020 when breeding in the wild was noted for the first time in Ireland. It is likely that these birds relate to escapes from nearby collections but have found the climate and foraging conditions (provided by bird feeders in local gardens and buds/fruit from parkland trees) to their liking.

Two pairs of adults and a juvenile female (born in the wild nearby in 2020) used the SVHF site as a roosting location and attempted breeding was noted by a pair seen excavating and occupying a nest hole. Rose-ringed Parakeet is listed as an invasive species of high impact by the National Biodiversity Data Centre on account of their potential impact native cavity nesting bird species and their potential to damage crops (https://maps.biodiversityireland.ie/Species/11749). Efforts are underway by the National Parks & Wildlife Service to try and control this small population in Dublin before it becomes fully established (A.Walsh 2021, pers. comm.).

Of note would be European Herring Gull and Eurasian Sparrowhawk, both of which were present regularly on the site during winter bird surveys and displayed behaviour that suggested breeding may occur there or locally. Up to ten European Herring Gulls were often present on the roof of the old/main hospital building which provides potential suitable urban nesting habitat. A pair of Eurasian Sparrowhawk noted in the area on each visit included a hunting adult male and a displaying adult female which was even seen to drive off other female birds. The trees at the south end of the DCU All Hallows campus were identified as the potential territory site here but the large trees around the playground area at SVHF could potentially host a breeding pair.

Appendix 1. Full list of bird species recorded during six visits (including overhead) to SVHF between Jan and Mar 2021. Taxonomy and nomenclature follows that of the Irish Rare Birds Committee (2019). http://irbc.ie/topbar/IrishList/IRBC_IrishList(31122018).pdf

	Vernacular Name	**Scientific Name**
1	Light-bellied Brent Goose	*Branta bernicla hrota*
	Black Brant	*Branta bernicla nigricans*
2	Mute Swan	*Cygnus olor*
3	Mallard	*Anas platyrhynchos*
4	Grey Heron	*Ardea cinerea*
5	Little Egret	*Egretta garzetta*
6	Great Cormorant	*Phalacrocorax carbo*
7	Eurasian Sparrowhawk	*Accipiter nisus*
8	Common Buzzard	*Buteo buteo*
9	Eurasian Curlew	*Numenius arquata*
10	Common Snipe	*Gallinago gallinago*
11	Black-headed Gull	*Chroicocephalus ridibundus*
12	Mediterranean Gull	*Ichthyaetus melanocephalus*
13	Common Gull	*Larus canus*
14	Great Black-backed Gull	*Larus marinus*
15	European Herring Gull	*Larus argentatus argenteus*
16	Lesser Black-backed Gull	*Larus fuscus graellsii*
17	Rock Dove (Feral Pigeon)	*Columba livia*
18	Stock Dove	*Columba oenas*
19	Common Wood Pigeon	*Columba palumbus*
20	Eurasian Collared Dove	*Streptopelia decaocto*
21	Peregrine Falcon	*Falco rusticolus*
22	Ring-necked Parakeet	*Psittacula krameri*
23	Eurasian Magpie	*Pica pica*
24	Western Jackdaw	*Coloeus monedula*
25	Rook	*Corvus frugilegus*
26	Hooded Crow	*Corvus cornix*
27	Northern Raven	*Corvus corax*
28	Coal Tit	*Periparus ater*
29	Eurasian Blue Tit	*Cyanistes caeruleus*
30	Great Tit	*Parus major*
31	Long-tailed Tit	*Aegithalos caudatus*
32	Common Chiffchaff	*Phylloscopus collybita*
33	Eurasian Blackcap	*Sylvia atricapilla*
34	Goldcrest	*Regulus regulus*
35	Eurasian Wren	*Troglodytes troglodytes*
36	Common Starling	*Sturnus vulgaris*
37	Common Blackbird	*Turdus merula*
38	Redwing	*Turdus iliacus*
39	Song Thrush	*Turdus philomelos*
40	Mistle Thrush	*Turdus viscivorus*
41	European Robin	*Erithacus rubecula*
42	House Sparrow	*Passer domesticus*
43	Dunnock	*Prunella modularis*
44	Grey Wagtail	*Motacilla cinerea*
45	Pied Wagtail	*Motacilla alba yarrellii*
46	Meadow Pipit	*Anthus pratensis*
47	Common Chaffinch	*Fringilla coelebs*
48	European Greenfinch	*Chloris chloris*
49	Common Linnet	*Linaria cannabina*
50	Lesser Redpoll	*Acanthis cabaret*
51	European Goldfinch	*Carduelis carduelis*
52	Eurasian Siskin	*Spinus spinus*

	Vernacular Name	Scientific Name
53	Common Reed Bunting	*Emberiza schoeniclus*

Appendix 2: Site Survey

Habitat assessments were carried out on the 27th April 2021, 16th September 2021 and 28th September 2022. Habitats within the Proposed Development site were classified according to Fossitt (2000) based on the most recent site visit of the 28th September 2022 (Figures 1 and 2) and the species noted within each habitat are described.

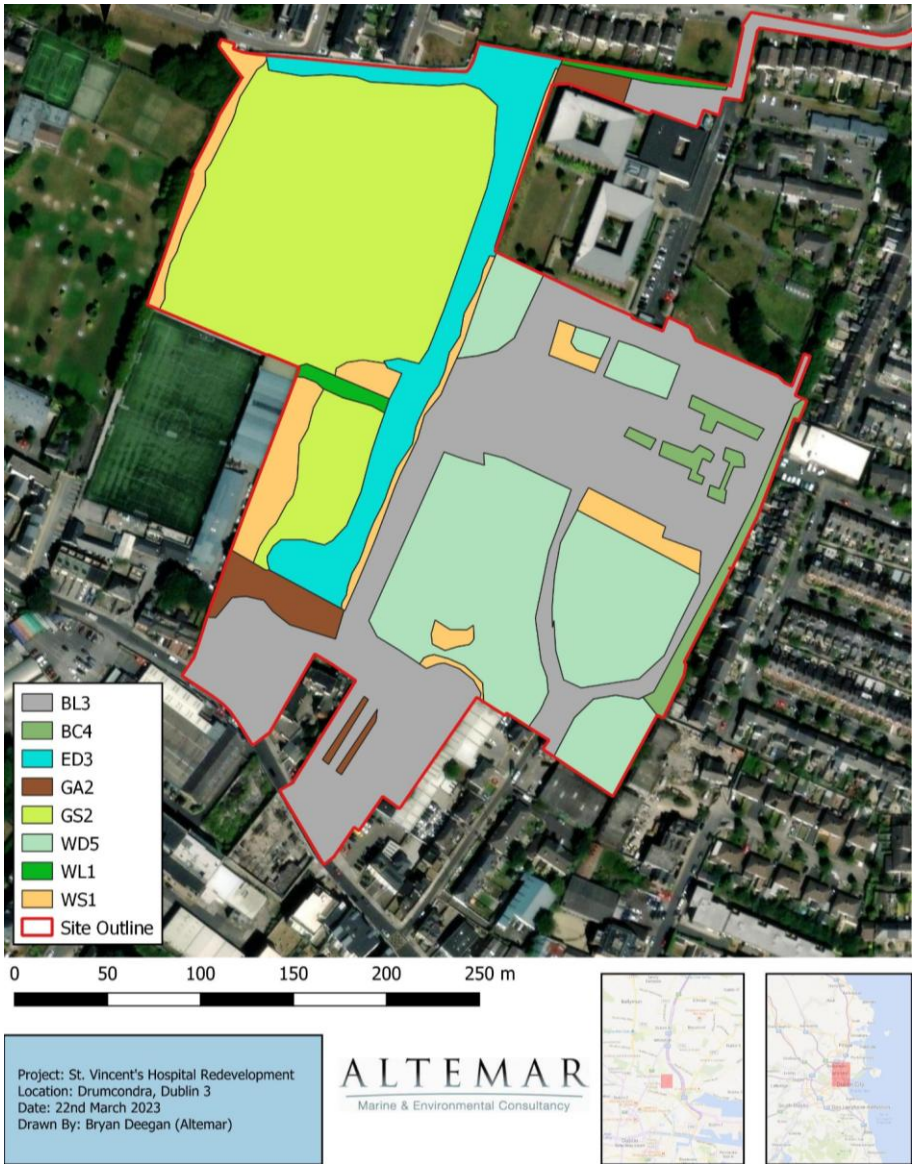


***Figure 1**: Fossitt Habitats on southern portion of site (See habitat descriptions for the explanation to the Fossitt codes). (Large burrow-red circle, location of giant hogweed in 2021- blue circle)*



Figure 2. *Fossitt Habitats on northern portion of site*

BL3-Buildings and artificial surfaces



Plate 1 *Buildings and artificial surfaces*

Approximately 35% of the Proposed Development site consists of Built Land (Fossitt 2000). This consists primarily of buildings, roads, hard standing. The site is well maintained with evidence of herbicide use. Opportunistic flora species had begun to grow in cracks and joints. Species included bramble (Rubus fruticosus agg.), dandelion (Taraxacum spp.), plantains (Plantago spp.), red valerian (Centranthus ruber), ivy (Hedera helix), cleavers (Galium aparine), thistles (Cirsium arvense & C. vulgare), docks (Rumex spprape (Brassica napus), hoary willowherb (Epilobium parviflorum), and hedge bindweed (Calystegia sepium).

ED3-Recolonising Bare Ground



Plate 2 *Recolonising Bare Ground.*

The eastern section of the large field on site has been previously cleared. Based on an examination of satellite imagery it appears that this area was bare ground from 2018-2022 and appeared to be associated with the recently developed Grace Park development to the north. This area is being recolonised by opportunistic species such as nettle (*Urtica dioica*), rape (Brassica *napus*), dandelion (*Taraxacum spp*.), oxeye daisy (Leucanthemum vulgare), bramble (*Rubus fruticosus agg*.), creeping buttercup (*Ranunculus repens*), clover (*Trifolium spp*.), daisy (*Bellis perennis*), plantains (*Plantago spp*.), thistles (*Cirsium arvense & C. vulgare*), Groundsel (*Senecio vulgaris*), docks (*Rumex spp*.), common birds-foot-trefoil (*Lotus corniculatus*), ragwort (*Senecio sp*.), pineappleweed (*Matricaria discoidea*), sun spurge (*Euphorbia helioscopia*), shepherd's purse (*Capsella bursa-pastoris*) and silverweed (*Potentilla anserina*).

WS1-Scrub



Plate 3 *Scrub.*

Several areas of scrub were noted on site. These are as a result of a natural succession and encroachment from grassland, to primarily bramble *Rubus fruticosus* agg.) dominated scrub, paticularly along the field boundaries. Other species included butterfly-bush (*Buddleja spp.`),* thistles (*Cirsium arvense & C. vulgare*), nettle (*Urtica dioica*), docks (*Rumex spp*.), rosebay willowherb (*Chamaenerion angustifolium*), great willowherb (*Epilobium hirsutum*). elder (*Sambucus nigra*), ivy (*Hedera helix*), koneysuckle (*Lonicera periclymenum*), hedge bindweed (*Calystegia sepium*), cleavers (Galium aparine) and gog-rose (Rosa canina). In 2021 a specimen of giant hogweed (*Heracleum mantegazzianum*) was noted on site and immediately treated. It was not observed in the 2022 survey.

WL1- Hedgerows

A short old hedgerow is located within the GS2-Dry meadows and grassy verges habitat. The hedgerow is comprised of species including elder (*Sambucus nigra*), hawthorn (*Crataegus monogyna*), dog-rose (*Rosa canina*), wild carrot (*Daucus carota*), lords-and-ladies (*Arum maculatum*), bramble (*Rubus fruticosus agg*.), ivy (*Hedera helix*), honeysuckle (*Lonicera periclymenum*) and cleavers (*Galium aparine*).

GS2-Dry meadows and grassy verges



Plate 4 *Dry meadows and grassy verges.*

The western field is not maintained and as a result has become Dry meadows and grassy verges habitat. Species in this habitat included thistles (*Cirsium arvense & C. vulgare*), clover (*Trifolium spp*.), docks (*Rumex spp.),* ragwort (*Senecio sp.),* Scarlet pimpernel (Anagallis arvensis), great willowherb (*Epilobium hirsutum*), nettle (Urtica dioica), bramble (*Rubus fruticosus agg*.), creeping buttercup (*Ranunculus repens*), silverweed (*Potentilla anserina*) and saplings of willow (*Salix sp*).

Flower beds and borders BC4



Plate 5 *Ornamental flower beds and borders.*

Ornamental flower beds and borders are located primarily adjacent to buildings and along road-sides and parking spaces on the development. These contain a high proportion of non-native species or varieties of plants. Species include sycamore (*Acer pseudoplatanus*), birch (*Betula sp*.), mosses (*Sphagnum sp*.), Fuchsia, St John's-wort (*Hypericum sp*.), nettle (*Urtica dioica*), dandelion (*Taraxacum spp*.), bramble (*Rubus fruticosus agg*.), creeping buttercup (*Ranunculus repens*), clover (*Trifolium spp*.), daisy (*Bellis perennis*), plantains (*Plantago spp*.), thistles (*Cirsium arvense & C. vulgare*), docks (*Rumex spp*.), butterfly-bush (*Buddleja spp*.), ivy (*Hedera helix*), hoary willowherb (*Epilobium parviflorum*), common poppy (*Papaver rhoeas*), holly (*Ilex aquifolium*), rowan (*Sorbus aucuparia*), Hydrangea (*Hydrangea macrophylla*), ash (*Fraxinus excelsior*) and willow (salix sp.)

Scattered trees and parkland WD5



Plate 6 *Scattered Trees and Parkland.*

Scattered across the site are small areas of Scattered trees and parkland. These are highly managed areas with short grass. Species in these areas included holly (Ilex aquifolium), western red cedar (Thuja plicata), ash (*Fraxinus excelsior*), horse chestnut (*Aesculus hippocastanum*), common lime (*Tilia x europaea*), London plane (*Platanus x hispanica*), sycamore (Acer pseudoplatanus), cherry (*Prunus sp*), copper beech (Fagus sylvatica), Lombardy poplar (Populus nigra 'Italica'), in addition to thistles (*Cirsium arvense & C. vulgare*), clover (*Trifolium spp*.), docks (*Rumex spp*.), nettle (*Urtica dioica*), bramble (*Rubus fruticosus agg.*) and creeping buttercup (*Ranunculus repens*)

Bats

Foraging activity of three species (soprano pipistrelle (*Pipistrellus pygmaeus*), Leisler bat (*Nyctalus leisleri*) and common pipistrelle (*Pipistrellus pipistrellus*) were noted on site. No bats were noted emerging from buildings or trees on site. No evidence of bats roosting was noted on site. A bat assessment report is seen in Appendix 7.1.

Mammals

Badgers have been anecdotically noted on site by hospital staff. Potential snuffle holes were located proximate to a large burrow in Figure 7.11. A camera trap was put in place for 3 weeks (28th September-October 17th 2022) to determine if badgers are using the burrow. No mammals were noted using the burrow over the three-week period. This is supported by the fact that numerous leaves were present in the burrow and it appears abandoned. Foxes (*Vulpes vulpes*) (not protected) were noted on site.

Amphibians/Reptiles

The common frog (*Rana temporaria*) was not observed on site. There are no features within the site boundary that could be important to frogs. The common lizard (*Zootoca vivipara*) or smooth newt (*Lissotriton vulgaris*) were not recorded on site.