July 2021

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Natura Impact Statement

INXN DUB 15/16

On behalf of
Digital Netherlands VIII B.V.

Profile Park, Nangor Road, Clondalkin, Dublin 22.

MALONE O'REGAN ENVIRONMENTAL

QUALITY
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MALONE O'REGAN ENVIRONMENTAL

Ground Floor – Unit 3
Bracken Business Park
Bracken Road, Sandyford
Dublin 18, D18 V32Y
Tel: +353- 1- 567 76 55
Email: enviro@mores.ie

Title: Natura Impact Statement, INXN DUB 15/16, Digital Netherlands VIII B.V., Profile Park, Nangor Road, Clondalkin, Dublin 22.

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Prepared By: Catherine Blake **Signed:** Catherine Blake

Checked By: Sarah de Courcy **Signed:** _____

Approved By: Dyfrig Hubble **Signed:** _____

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Natura Impact Statement

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Digital Netherlands VIII B.V.

Profile Park, Nangor Road, Clondalkin, Dublin 22.

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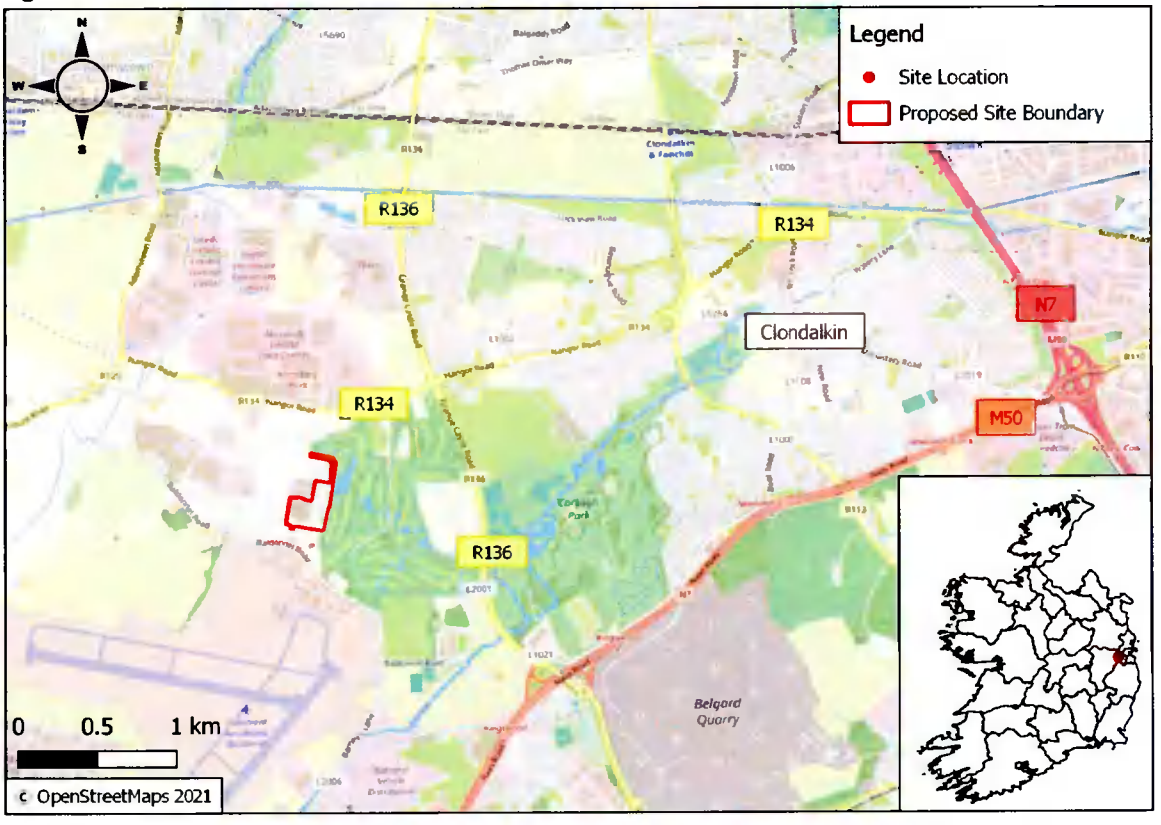
1 INTRODUCTION

1.1 Background

Malone O' Regan Environmental Services (MOR) was commissioned by RKD Architects Ltd. on behalf of Digital Netherlands VIII B.V. ('the Applicant') to undertake an Appropriate Assessment, to assess the potential adverse effects, if any, for the construction of a construction of two (2No.) data centres, an energy centre and all ancillary works at DUB 15 / 16 (Proposed Development), at Profile Park, Nangor Road, Clondalkin, Dublin 22, Co. Dublin (OS Reference O 03785 30338) on nearby sites with European conservation designations (i.e., Natura 2000 sites).

The location of the proposed development ('the Site') is shown in Figure 1-1.

Figure 1-1: Site Location



1.2 Statement of Authority

The report was approved by Mr. Dyfrig Hubble, Principal Ecologist. Dyfrig is a full member of the Chartered Institute of Ecology and Environmental Management. Dyfrig has over 15 years' experience working in the ecological consultancy sector, including habitat appraisals, specialist species-specific surveys, ecological assessments and appraisals including Appropriate Assessments.

1.3 Regulatory Context

This Natura Impact Statement (NIS) was prepared in accordance with Article 33 of the Planning and Development Regulations 2001 and in compliance with the following legislation:

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna better known as "The Habitats Directive" provides the framework for legal

protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000. These are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79/409/EEC as amended 2009/149/EC) (better known as "The Birds Directive").

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

> "*Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans and projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implication for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public*"

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

1.4 Stages of the Appropriate Assessment

There are four distinct stages to undertaking an AA as outlined in current EU and DOEHLG guidance:

Stage 1: Screening

This process identifies the potential impacts of a plan or project on a Natura site, either alone or in combination with other plans and projects and considers whether these impacts are likely to be significant. If potentially significant impacts are identified the plan or project cannot be screened out and must proceed to Stage 2.

Stage 2: Appropriate Assessment

Where potentially significant impacts are identified, an assessment of the potential mitigation of those impacts is required; this stage considers the appropriateness of those mitigation measures in the context of maintaining the integrity of the Natura 2000 sites. If potential significant impacts cannot be eliminated with appropriate mitigation measures, the assessment must proceed to Stage 3.

Stage 3: Assessment of Alternatives Solutions

This process examines alternative ways to achieve the objectives of the plan or project that avoid adverse impacts on the integrity of the Natura 2000 site if mitigation measures are deemed insufficient.

Stage 4: Imperative Reasons of Overriding Public Interest (IROPI)

Assessment where no alternative solution exists for a plan or project and where adverse impacts remain. This includes an assessment of compensatory measures, where in the case of projects or plans, can be considered necessary for IROPI.

This report has been prepared to inform the planning authority with regard to Stage 1 (Screening) and Stage 2 (Appropriate Assessment) of the proposed development through the research and interpretation of available scientific, geographic and engineering knowledge. The report seeks to determine whether the installation of the proposed development will, on its own or in combination with other plans/projects have a significant effect on Natura 2000 sites within a defined radius of the subject Site.

2 METHODOLOGY

2.1 Desk Based Study

A desk-based review of information sources was completed, which included the following:

- The National Parks and Wildlife Service (NPWS) website was consulted to obtain the most up to date detail on conservation objectives for the Natura 2000 sites relevant to this assessment (NPWS, 2021);
- The National Biodiversity Data Centre (NBDC) website was consulted with regard to species distributions within 2km of the Site (NBDC, 2021); and,
- The EPA Envision website was consulted to obtain details about watercourses in the vicinity of the Site (EPA, 2021).

2.2 Field Based Studies

2.2.1 Habitat Survey

Habitat surveys were undertaken on 4th March 2021 by a Senior MOR Ecologist with follow up surveys undertaken on the 24th of May and the 8th of June. The initial survey aimed to assess the extent and quality of habitats present on the Site and to identify any potential ecological receptors.

The assessment was extended to also identify the potential for these habitats to support other features of nature conservation importance, such as species afforded legal protection under either Irish or European legislation.

2.2.2 Protected / Notable Species

In addition, as part of the overall Biodiversity assessment for the Site, an assessment was carried out of the potential for the Site to support any other species considered to be of value for biodiversity, including those that were identified as occurring locally through the desktop study.

This information was used as part of the NIS to inform the assessment of potential adverse effects on both Annex I/II Species and Annex I Habitats identified as part of the study.

2.2.3 Aquatic Surveys

As part of the proposed development works, the Baldonnell Stream will be rerouted. Therefore, an additional Stream Assessment was undertaken by Sweeney Consultancy. to evaluate the ecological impact of the proposed in-river works. The following methodology was followed:

- Historical mapping was consulted to check the earlier course of the stream.
- Field surveys were undertaken on 4th May 2021. The stream habitat quality was assessed, based on its physical nature and ecology.
- Grid reference of photographs were recorded using a hand-held GPS device and photographs were taken with a digital camera.
- A pond-net sample was taken at ITM 703847 730198, and invertebrates were identified on the bankside to the lowest taxonomic level possible with the naked eye.
- The biological water quality was assessed following the most recent EPA Standard Operational Procedure for the Q-scheme methodology, which is based primarily on analysis of the aquatic invertebrate fauna.
- The habitat quality of a drain along a field boundary to the east, to which it is proposed that the stream be re-routed, was assessed visually.

2.3 Survey Limitations

No survey limitations were encountered.

2.4 Consultation

Consultation was undertaken as part of the design phase and initial assessment of the Site and a pre-planning meeting was held 1st April 2021 with South Dublin County Council.

The consultation and information provided was used to inform and refine the scope of the assessment undertaken and to develop appropriate mitigation measures for the proposed development, where necessary.

The key requirement in relation to biodiversity was to maintain a 10m riparian strip between the buildings and the Baldonnell Stream, that heavy engineering interventions on the stream should be kept at a bare minimum and natural attenuation, ponds and swales be used where possible.

Consultation was undertaken with Inland Fisheries Ireland (IFI) on the proposed rerouting of the Baldonnell Stream and a Site visit was held on the 18th of June 2021.

IFI had no objection in principle with the proposed re-alignment of the stream. IFI are of the opinion that the proposed route would provide a more natural riparian area for the stream. If planning is granted, IFI stipulated that this work must be carried out in accordance with an agreed design and method statement.

3 DESCRIPTION OF THE PROJECT

3.1 Site Context

The Site is located within the townlands of Kilbride, Dublin 22, in the Profile Park business park. The Site of the proposed development is ca.61,810 square metres (m^2). Under the South Dublin County Development Plan 2016-2022, the majority of the Site is zoned under objective EE which aims to, '*provide for enterprise and employment related uses*,' however, a small portion of the Site to the south is currently zoned under objective RU which aims to, '*protect and improve rural amenity and to provide for the development of agriculture.*'

The Site is accessed from the existing Site entrance on the Profile Park Road via the R134 regional road. The Profile Park Road currently runs through the central region of the Site. Directly to the east of the Site lies the Grange Castle Golf Club, the Google Data Centre is located to the west and the Baldonnell Road (L2001), Kilbride cemetery and the Baldonnell Casement Aerodrome lies to the south.

Immediately to the northwest of the Site are existing buildings and artificial surfaces which transition to areas of improved agricultural grassland, disturbed ground and spoil heaps within the Site boundaries. The disturbed ground within the southwest portion of the Site is predominantly bare or overgrown with ruderals / weeds and is composed of construction and demolition material. There is also an area of scrubland and the remains of an old, decommissioned sewage building to the east of the Site. A dry ditch runs along the southern boundary of the Site while a wet ditch is located along the eastern boundary of the Site, adjacent to a mature hedgerow / treeline. The Baldonnell Stream bisects the Site.

3.2 Watercourses within the Vicinity of the Site

The Site is situated within the Liffey and Dublin Bay Catchment [Catchment_ID: 09] and the Liffey_SC_090 subcatchment [Subcatchment_ID: 09_15] (EPA, 2021).

There is one hydrological feature of note within the vicinity of the Site. The Baldonnell Stream bisects the Site. The proposed development requires this stream to be rerouted east of its current course along the existing eastern drainage ditch onsite.

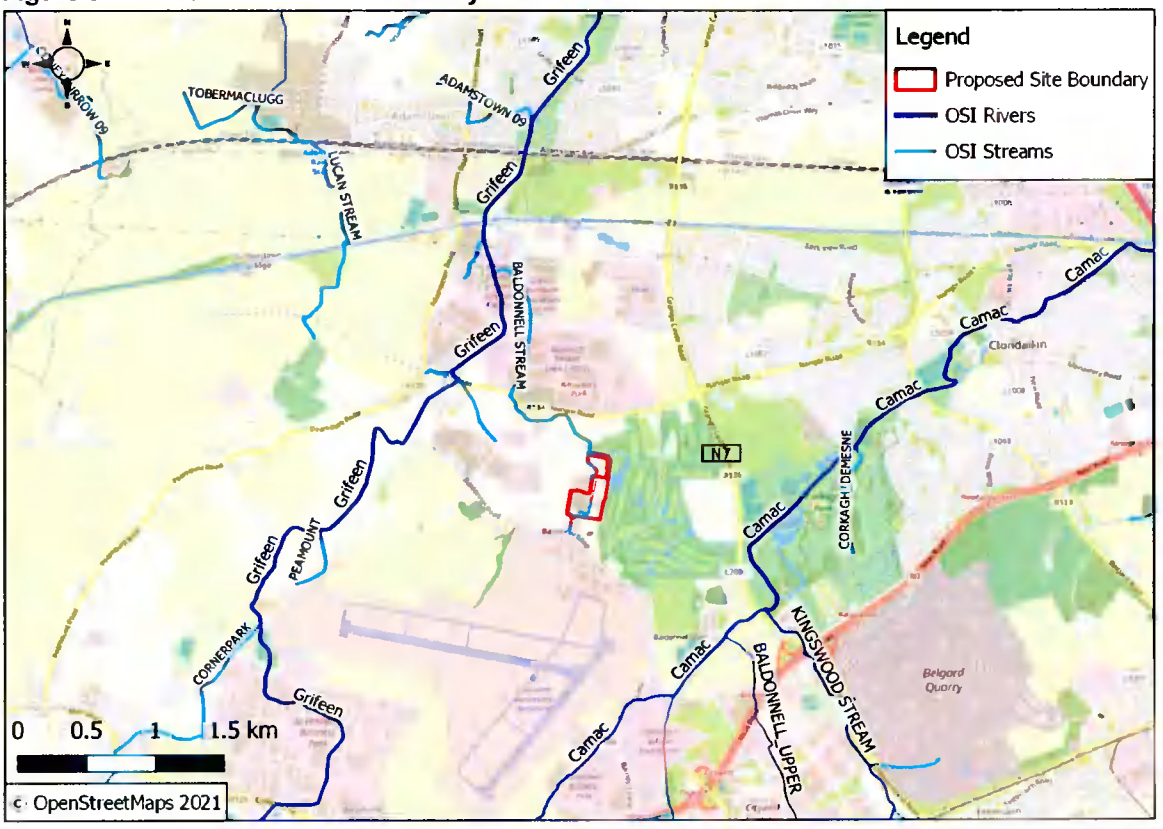
The Baldonnell Stream is a tributary to the Griffeen River and flows in a north / north-westerly direction for ca. 2.1km prior to discharging into the river. The Griffeen River flows in a northerly direction for ca. 4.2km from this convergence point, crossing under the Grand Canal through a siphon system, before discharge into the River Liffey at the Lucan Weir.

The River Liffey flows for ca. 21.1km from the weir before discharging into Dublin Bay. Dublin Bay is located 27.4km downstream of the Site and forms part of the South Dublin Bay SAC, the South Dublin Bay and River Tolka Estuary SPA, the North Dublin Bay SAC and the North Bull Island SPA.

According to the EPA 2013-2018 water monitoring events, the most up-to-date data at the time of writing this report, the Baldonnell Stream, the Griffeen River and the section of the River Liffey where the Griffeen River joins have '*good*' water quality status but their risk of not achieving a high water quality status is currently under *'review'* (EPA, 2021). However, further downstream (ca.7.0km from the Site) the River Liffey is considered to be '*at risk*' with an unassigned water quality (EPA, 2021).

The waterbodies within the vicinity of the Site are presented in Figure 3-1 below.

Figure 3-1: Watercourses in the Vicinity of the Site



3.3 Drainage Ditch

A dry ditch runs along the southern boundary of the Site while a wet ditch is located along the eastern boundary of the Site, adjacent to a mature hedgerow / treeline.

During the time of survey, the eastern ditch had no discernible flow; however, it got progressively wet towards the north of the Site. The dry ditch to the south of the Site is connected to the culverted stream.

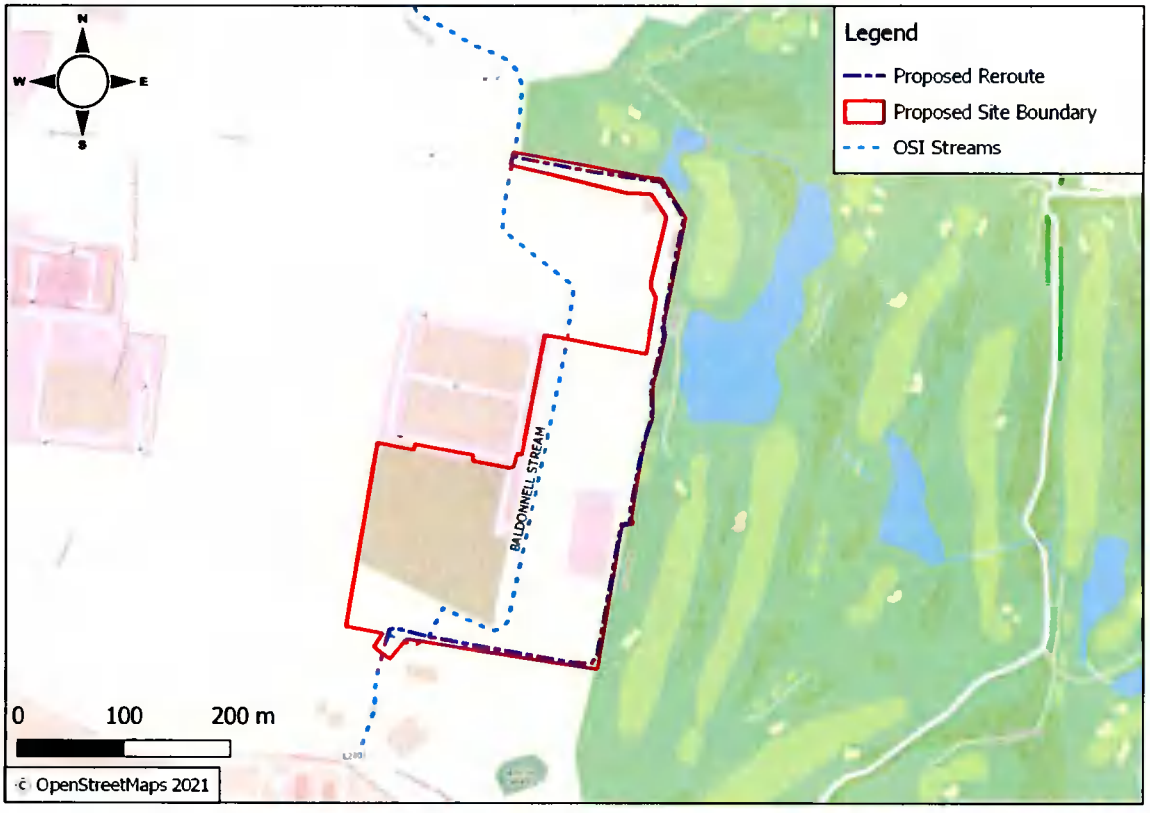
3.4 Proposed Development

The proposed development will consist of a 10-year permission for the following:

- Removal of an existing unused wastewater treatment facility onsite;
- Two (2No.) data centre buildings, DUB15 and DUB16, comprising of 8No. data halls and the various equipment areas required to support the IT servers contained within them. These buildings will comprise a total floor area of ca.33,577m^2 over two-storeys;
    - The first two storey data centre building (DUB15), located to the southwest of the Site, will comprise 16,865m^2 data storage use, ancillary office use and associated electrical and mechanical plant rooms, loading bays, maintenance and storage space;
    - A second two storey data centre building (DUB16), located to the southeast of the Site, will comprise 16,712m^2 data storage areas, ancillary office use and associated electrical and mechanical plant rooms, loading bays, maintenance and storage space; and,
    - Both data centre buildings will reach a height of 20m.

- Emergency generators and associated emission flues and plant are proposed in compounds adjacent to each data centre building;
- Gas powered energy generation is proposed to the northeast corner of the Site to provide electricity for the proposed development;
- The application proposes to re-route a watercourse, which was previously constructed through the centre of the Site pursuant to an earlier planning permission. It is proposed to reroute this watercourse along the eastern and southern boundary of the Site, refer to Figure 3-2 for indicative location;
- Landscaping is proposed to the south of the Site to screen the buildings;
- Fencing and security gates are proposed around the Site; and,
- New access roads within the Site are proposed alongside 71No. car parking spaces, 26No. cycle spaces, bin stores, Site lighting and all associated works including underground foul and storm water drainage attenuation and utility cables.

Figure 3-2 Proposed Stream Diversion



3.4.1 Data Centre Buildings

Each data centre building will be a two-storey building, (ground and first floors). Each floor will be identical, comprising of 4No. data halls on each floor, it is within these data halls where the IT servers will be located. Electrical switch-rooms will be located internally adjacent to the data halls.

Equipment for data hall cooling will be located on the roof of the building, with standby emergency generators located in external compounds at ground level.

The following will be accommodated in each of the main building areas:

- Data Centre Technical Areas;
    - Data halls;
    - Low voltage switchgear, UPS and battery rooms;
    - Water services plant room;
    - Fire suppression tank and valve rooms;
    - Storage and waste areas;
    - POP and IDF rooms;
- External Ground Level;
    - Containerised MV generators (with belly fuel tanks);
    - Containerised MV switchgear;
- Office and Logistics Area;
    - Security and entrance facilities;
    - Loading bay and debox area;
    - Toilets and showers;
    - Office areas;
- Roof;
    - Air handling units providing fresh air to the offices and other Power Base Build (PBB) spaces;
    - Air handling units providing make-up air the data halls;
    - Air handling units providing make-up air to electrical plantrooms (UPS rooms and battery rooms);
    - Medium voltage switch-rooms;
    - MV/LV transformers; and,
    - Refrigerant condenser systems (direct expansion and variable refrigerant volume) supporting space heating and cooling units, and their air handling units.

Each building will have its own standalone back-up generator system from the containerised generators located adjacent to each building. In total there will be a maximum of 32No. generators across the Site if the full upgrade potential is deployed. These shall provide power to the Site in the event that the incoming supply is unavailable.

3.4.2 Gas Energy Generation Centre

An energy generation compound is proposed to the northeast of the Site, refer to Figure 3-3 for context. This compound will comprise five (5No.) gas powered generators in their own acoustic containers, a heat recovery plant room (ca.35m^2), a distribution gas compound building (ca.23m^2) and an electrical substation (ca.623m^2) building.

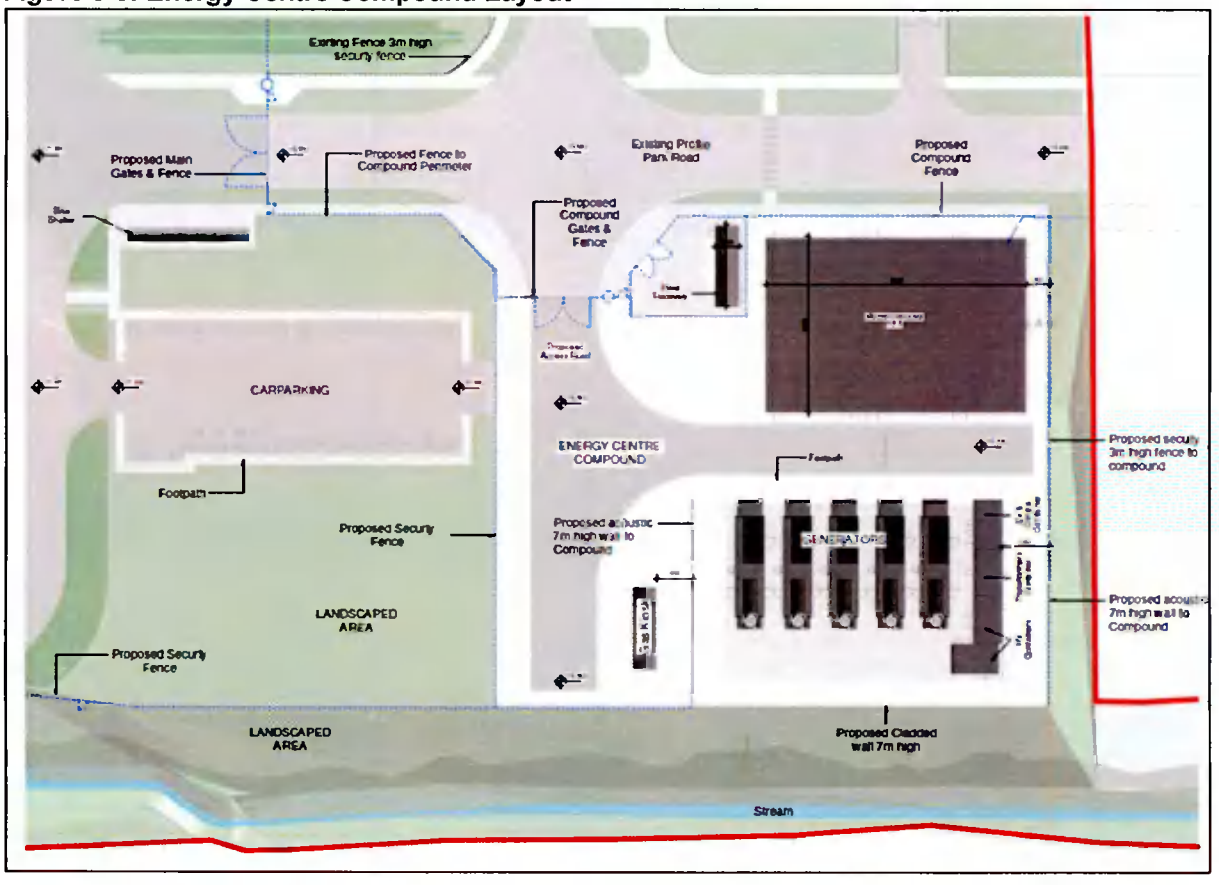
The generators will provide the first phase of development with power. Future phases will import power from the grid. This will allow the data centre to use renewable power when available. During times of low renewable generation or grid constraints, the Site will import power from the new natural gas power station in Profile Park. As such power will initially be provided by the proposed onsite energy centre until such time that the facility is transferred to

an alternative off-site power supply. At this time, the energy centre onsite will be decommissioned.

The gas generators selected will generate electricity to supply the data centre. The selected engines will be highly efficient with low emissions. The installed capacity of the generators will be 12.5MWe (10MWe @N) (ARUP, 2021). The generators will be designed to be continuously operational to meet the demand of the data centre, with a control system installed to monitor the data centre electrical demand which will control the operation of the generators and reduce the number of running sets depending on the data centre requirement.

The energy centre will be connected to the Gas Networks Ireland (GNI) grid. This will be a distribution gas connection and will provide the capacity required to ensure the security of supply.

Figure 3-3: Energy Centre Compound Layout



3.4.3 Fuel Storage

During the operational phase of the proposed development, there will be 32No. backup diesel generators onsite. These will require 859,248 litres of fuel which will be stored in 'belly tanks' within each generator container. All fuel storage will be integrally bunded with leak detection systems that conform to Irish regulations.

3.4.4 Earthworks

The development of DUB13 and DUB14, the two (2No.) existing data centres immediately northwest of the Site, involved bulk excavation of material and the remaining stockpiles and made ground are currently located within the southwest area of the Site.

Enabling works will include the removal of these existing stockpiles onsite for recovery and disposal at a licensed facility. It will also include for the excavation and removal of the

decommissioned sewage treatment works and associated buried structures and foundations. These excavations will be filled with suitable engineering fill to allow for the construction of DUB16.

Additional Site clearance and preparation works will include service diversions and works associated with the diversion of the Baldonnell Stream.

During enabling works, unsuitable material or made ground encountered onsite will be excavated under all structures and associated infrastructure for removal from Site to a suitably licensed facility and replaced with suitable engineering fill.

The suitability of the excavated materials for re-use as acceptable earthworks fill be assessed in accordance with the requirements of the TII Specifications for Roadworks.

3.4.5 Drainage

Drainage from the proposed DUB15, DUB16 and Energy Centre development shall be drained by a completely separate system, with separate foul and surface water drains. The outfall of the surface water network will take place into the remaining channel of the existing watercourse, which after completion of proposed development will work only as a drainage ditch catering exclusively for surface water run-off coming from the proposed DUB15, DUB16, Energy Centre and existing DUB13 and DUB14 data centres. Foul water drainage outfall discharge will take place into existing Profile Park private foul drain network along The Fairways estate road which subsequently discharges into existing Irish Water Foul Sewer. See attached Drainage Layout.

Surface water discharges from the proposed development will be restricted in line with South Dublin County Council (SDCC) Water Services requirements to 2 litres/second/hectare. Any flows in excess of the allowable discharge rate will be retained onsite in underground attenuation facilities for storms up to and including the 1 in 100-year event + 20% climate change allowance. The proposed surface water drainage strategy is divided in three separate online attenuation systems which will serve separately DUB15, DUB16 and the Energy Centre.

The drainage systems have been designed in accordance with Part H Building Regulations, BSEN 752 Drain and Sewer Systems outside Buildings, the Greater Dublin Regional Code of Practice for Drainage Works, the Greater Dublin Strategic Drainage Study (GDSDS) and to the requirements of South Dublin County Council.

3.4.5.1 Surface Water

Surface water run-off for DUB15 attenuation system comprises two different sub catchments and consequently two separate attenuation tanks each one provided with hydro-brakes. As part of the proposed new surface water drainage layout, approximately 20m of the existing attenuation system for DUB14 will need to be removed and reinstated as new proposed attenuation tank connected into the existing attenuation pipes. DUB16 and Energy Centre attenuation systems have their own catchment areas and consequently separate attenuation tanks with hydro-brakes limiting the discharge to greenfield run-off rates. The three separate attenuation systems discharge into the same network which ultimately falls by gravity towards the existing open channel, refer to Appendix A for Drainage Layout.

Surface water discharges from the Site will be restricted in line with the Greater Dublin Regional Code of Practice for Drainage Works and South Dublin County Council Water Services requirements. The allowable outflow from the development will be restricted to 2 litres/second/hectare.

Flows in excess of the allowable discharge rate will be stored onsite in the form of underground storm attenuation concrete tanks. Additionally, SuDS measures will be incorporated into the development to improve the quality of waters discharging into the receiving surface water

systems, namely porous paving and swales will allow for partial infiltration and all run-off from roads will be directed through petrol interceptors prior to reaching the attenuation system.

Peak surface water discharges from the Site (particularly during storm events) will be substantially reduced due to the restricted outflow from the development, thereby reducing the impact on the receiving drainage network. Also, the proposed watercourse diversion will significantly improve the existing surface water strategy throughout the Site, with benefits related to the quantity and quality of the water.

3.4.5.2 Foul Drainage

Foul drainage from the new data centres and the energy centre welfare facility shall be drained by a separate system to that of the surface water drainage system. Foul drainage from the proposed development shall drain by gravity and discharge to the existing 225mm foul drainage system along the Fairways Road, of Profile Park ownership, which subsequently discharges into Irish Water Foul sewer. No new connections will be required to the public sewerage system.

The foul drainage system will be designed to take discharges from office areas of both DUB15 and DUB16 data centre and Energy Centre welfare facility simultaneously to the discharge of both data hall areas including Reverse Osmosis system and Air Handling Units and testing / maintenance washdown of the Water Mist tanks. There will not be any chemicals added to the water serving the Data Hall.

3.4.6 External Lighting

External lighting will be provided outside the main structures and within the car-parking areas. A lighting pan has been submitted as part of the overall application, reference IE-DUBZZ-STE1-E0-ARP-DR-E-63000.

3.4.7 Landscaping

The Proposed Development design includes for boundary landscaping works. The proposed layout masterplan, reference IEDUBZZ-STE1-EO-MAL-LA-L-91001 and attached as Appendix C, presents both boundary and internal site breakout landscaping works.

3.5 Construction Procedures

During the construction phase, the methods of working will comply with all relevant legislation and best practice guidelines in reducing the environmental adverse effects of the works. Although construction phase adverse effects are generally of a short-term duration and are localised in nature, the adverse effects will be reduced as far as practicable through compliance with current construction industry guidelines.

A Construction Environmental Management Plan (CEMP) has been prepared and submitted as part of this apparition for the proposed works. The following Construction Industry Research and Information Association (CIRIA) guidance has been referred to and will be adhered to during the construction phase of the project to prevent water pollution:

- C532 – Control of Water Pollution from Construction, Guidance for Consultants and Contractors (CIRIA, 2011);
- CIRIA C741- Environmental Good Practice on Site (4th edition) (CIRIA, 2015);
- Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes (NRA, 2005)
- Guidance for the Treatment of Bats Prior to the Construction of National Road Schemes (NRA, 2006); and,

- Guidance for the Treatment of Badgers Prior to the Construction of National Road Schemes (NRA, 2006).
- Guidelines on the Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads (NRA, 2010); and,
- All works will be undertaken in accordance with the 'Requirements for the Protection of Fisheries Habitat during Construction and Development' (Inland Fisheries Ireland , 2016).

It is envisaged that the construction works will take approximately 60 months to complete. It is anticipated that the construction activities for the DUB15 building, first phase of the energy centre and all landscaping and external areas will take 18-months and that construction works for the DUB16 building are anticipated to last 10-months. The buildings are planned to be fitted out and commissioned in 6-month phases, with 4 fit out and commissioning phases per building.

Works will be limited to:

- Monday - Friday 07:00 hours – 18:00 hours
- Saturday 08:00 hours – 14:00 hours
- Sundays and Public Holidays Closed

An Ecological Clerk of Works (ECoW) will be appointed to the project and inspect the Sites in advance of works commencing and will undertake monthly Site inspections during the works as well as being present during away works adjacent to or near any waterbodies or the trees lines to ensure that they will be completed in line with the mitigation measures detailed within the CEMP.

4 IDENTIFICATION OF NATURA 2000 SITES

In accordance with the European Commission Methodological Guidance (European Commission, 2002) a list of European sites that can be potentially affected by the proposed development has been compiled. Guidance for Planning Authorities prepared by the Department of Environment Heritage and Local Government (DoEHLG, 2009) states that defining the likely zone of impact for the screening and the approach used will depend on the nature, size, location and the likely effects of the project. The key variables determining whether or not a particular Natura 2000 site is likely to be negatively affected by a project are: the physical distance from the project to the site; the presence of impact pathways; the sensitivities of the ecological receptors; and the potential for in-combination effects.

Adopting the precautionary principle, all SAC and SPA sites within a 15km radius of the proposed development Site have been considered (Refer to Figure 4-1).

Seven (7No.) Natura 2000 designated sites were identified within 15km of the Site (Figure 4-1, Table 4-1).

Figure 4-1 Natura 2000 Sites within 15km

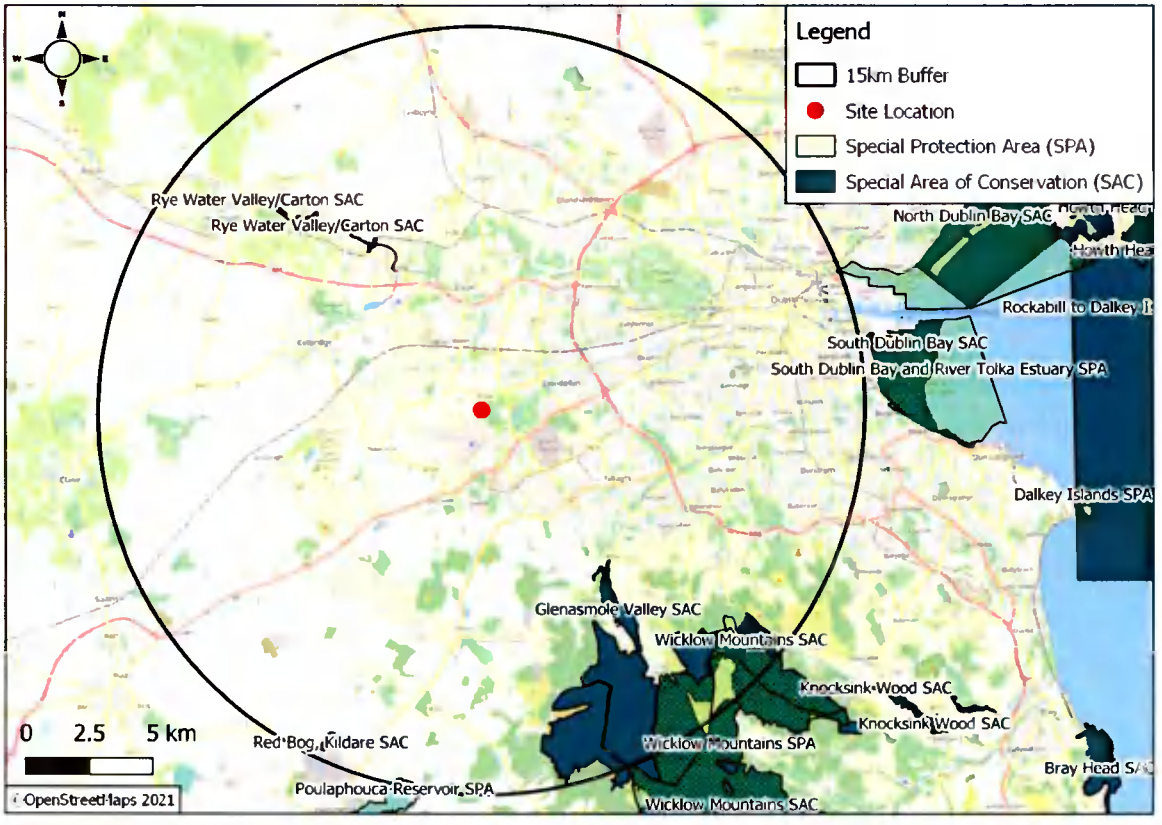


Table 4-1 Natura 2000 Designated Sites within 15km of the Site

Site Name	Code	Distance (km)	Direction from the Site
Special Areas of Conservation (SAC)			
Rye Water Valley / Carton	001398	6.2km	NW
Glenasmole Valley	001209	7.5km	SE
Wicklow Mountains	002122	9.2km	SE

Site Name	Code	Distance (km)	Direction from the Site
Red Bog, Kildare	000397	13.8km	SW
Special Protection Area (SPA)			
Wicklow Mountains	004040	12.7km	SE
Poulaphouca Reservoir	004063	14.7km	SW
South Dublin Bay and River Tolka Estuary	004024	14.9km	NE

The Site is not located within or directly adjacent to any Natura 2000 sites, however, the boundaries of the four (4No.) SACs and three (3No.) SPAs are located within 15km from the Site.

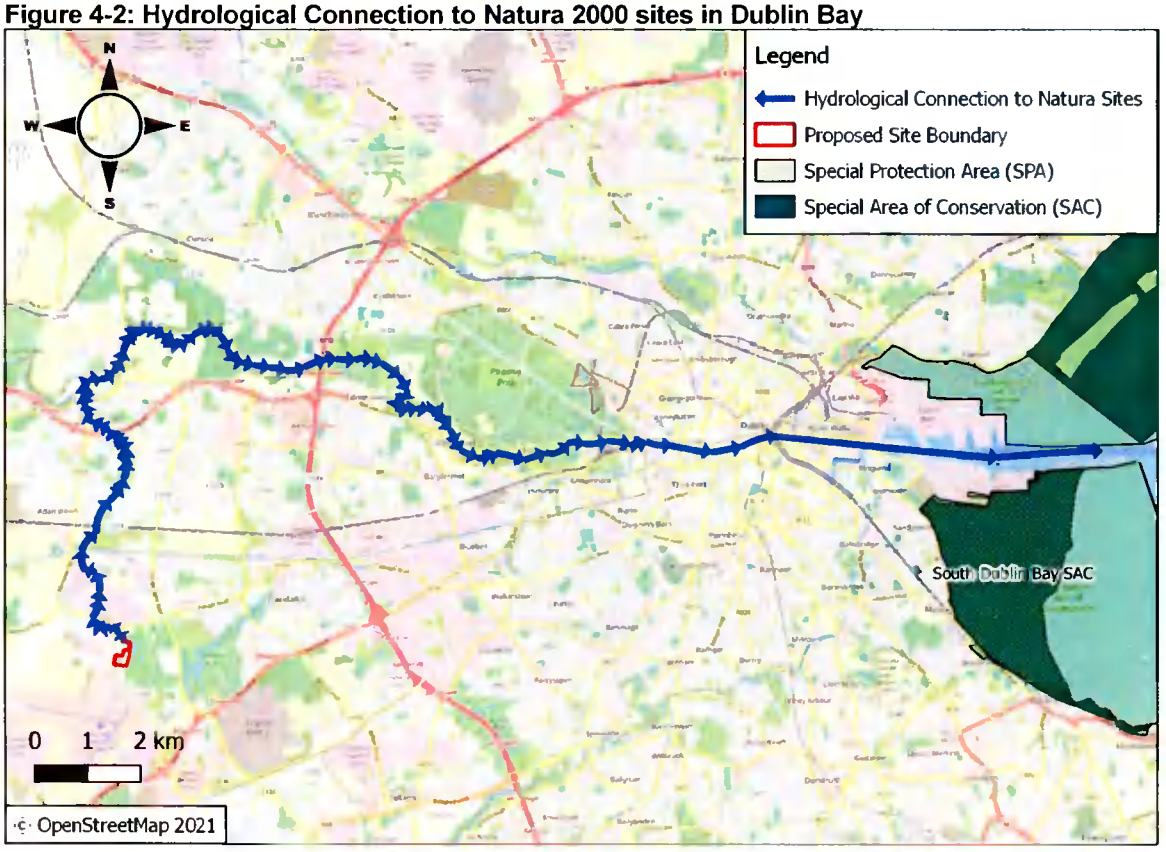
Given the distance, intervening lands and lack of impact pathways between the Site and the Glenasmole Valley SAC, Wicklow Mountains SAC, Rye Water Valley / Carton SAC, Red Bog, Kildare SAC, Poulaphouca Reservoir SPA and the Wicklow Mountains SPA, these Natura 2000 sites have been screened out from further consideration.

The Site is hydrologically connected to the South Dublin Bay and River Tolka Estuary SPA and South Dublin Bay SAC via the Baldonnell Stream which discharges into the Griffeen River, the River Liffey and eventually drains into Dublin Bay. It should also be noted that North Dublin Bay SAC and North Bull Island SPA form part of Dublin Bay and are located 19km NE of the Site.

Although the South Dublin Bay SAC is also located downstream of the Site and is located only 15.3km NE of the Site boundary, it is not considered that this Natura 2000 site could be affected by the proposed development considering the Great South Wall separates any water discharging into Dublin Port from the South Dublin Bay Annex I Habitats. Therefore, any pollutants in the bay would have to circumvent the breakwater and travel through a considerable expanse of open water to reach this Natura 2000 site. A similar breakwater in the form of North Bull Wall protects the North Dublin Bay SAC and North Bull Island SPA from potential pollutants. Therefore, these Natura 2000 sites have been screened out from further consideration.

However, areas of wetland habitat that make up the South Dublin Bay and River Tolka Estuary SPA are found on the Liffey side of the Great South Wall and the North Bull Wall and therefore could be affected by a major pollution event (albeit unlikely considering the Site is ca. 27.4km upstream). Given this hydrological connection to the South Dublin Bay and River Tolka Estuary SPA, this Natura 2000 site will be given further consideration to assess potential impacts resulting from the proposed development, refer to Figure 4-2 for context.

Figure 4-2: Hydrological Connection to Natura 2000 sites in Dublin Bay



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

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

This SPA is an important site for wintering waterfowl being an integral part of the internationally important Dublin Bay complex. This site supports internationally important populations of Light-bellied Brent Goose and nationally important numbers of Oystercatcher, Ringed Plover, Grey Plover, Knot, Sanderling, Dunlin, Bar-tailed Godwit, Redshank and Black-headed Gull and also supports populations of Great Crested Grebe, Curlew and Turnstone.

This site is a significant site for wintering gulls, with a nationally important population of Black-headed Gull, and also Common Gull and Herring Gull. Also, this site is selected for designation for its autumn tern populations: Roseate Tern, Common Tern and Arctic Tern.

Table 4-2: Qualifying Annex I Species of Birds for South Dublin Bay and River Tolka Estuary SPA

Species Names	Scientific Name	Code
Light-bellied Brent Goose	*Branta bernicla hrota*	A046
Oystercatcher	*Haematopus ostralegus*	A130
Ringed Plover	*Charadrius hiaticula*	A137
Grey Plover	*Pluvialis squatarola*	A141

Species Names	Scientific Name	Code
Knot	*Calidris canutus*	A143
Dunlin	*Calidris alpina*	A149
Bar-tailed Godwit	*Limosa lapponica*	A157
Redshank	*Tringa totanus*	A162
Black-headed Gull	*Chroicocephalus ridibundus*	A179
Roseate Tern	*Sterna dougallii*	A192
Common Tern	*Sterna hirundo*	A193
Arctic Tern	*Sterna paradisaea*	A194
Wetland and Waterbirds		A999

4.2 Conservation Objectives of Natura 2000 Sites

European and national legislation places a collective obligation on Ireland and its citizens to maintain a favourable conservation status at areas designated as candidate Special Areas of Conservation. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

According to the EU Habitats Directive, favourable conservation status of a habitat is achieved when:

- Its natural range, and area it covers within that range, is stable or increasing;
- The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future; and,
- The conservation status of its typical species is favourable as defined below.

The favourable conservation status of a species is achieved when:

- Population data on the species concerned indicate that it is maintaining itself;
- The natural range of the species is neither being reduced or likely to be reduced for the foreseeable future; and,
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Conservation objectives for all identified Natura 2000 SAC Sites are as follows:

> *'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and the Annex II species for which the SAC has been selected.'*

The full reports for the conservation objectives for the South Dublin Bay and River Tolka Estuary SPA[1] can be found on the NPWS website.

[1] NPWS Conservation Objectives: South Dublin Bay and River Tolka Estuary SPA

5 STUDY RESULTS

5.1 Desk Based Study

Table 5-1 provides a summary of designated species records of the South Dublin Bay and River Tolka Estuary SPA that occur within a 2km grid square of the Site boundary (NBDC, 2021).

Table 5-1: Designated Species under the South Dublin Bay and River Tolka Estuary that occur within 2km of the Site

Common Name	*Scientific Name*	Date of last record	Designation
Designated Bird Species			
Black-headed Gull	*Larus ridibundus*	31/12/2011	Code: A179 Wildlife Acts 1976 / 2000 Birds of Conservation Concern Red List
Wetland and Waterbirds (A999)			
Common Coot	*Fulica atra*	28/07/2016	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Great Black-backed Gull	*Larus marinus*	31/12/2011	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Great Cormorant	*Phalacrocorax carbo*	31/12/2011	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Herring Gull	*Larus argentatus*	31/12/2011	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Red List
Lesser Black-backed Gull	*Larus fuscus*	31/12/2011	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Little Grebe	*Tachybaptus ruficollis*	31/12/2011	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Mallard	*Anas platyrhynchos*	31/12/2011	Wildlife Acts 1976 / 2000 EU Birds Directive Annex II Section I and Annex III and Section I Bird Species
Mute Swan	*Cygnus olor*	31/12/2011	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Tufted Duck	*Aythya fuligula*	31/12/2011	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex II Section I and Annex III and Section II Bird Species Birds of Conservation Concern Amber List

5.2 Habitat Survey

The habitats described below were classified under Fossitt's: *A Guide to Habitats in Ireland* (Fossitt, 2000) and are all located within the Site.

Site Context and Surrounding Habitats

The Site is situated within the Profile Park business park. Directly to the east of the Site lies the Grange Castle Golf Club and immediately to the northwest lies two (2No.) commercial buildings which make up the current Digital Realty development. Further west lies the Google PPK Data Centre.

The Site is comprised of sparsely vegetated ground to the southwest, areas of improved agricultural grassland and scrub to the east. The Site is characterised by mature hedgerows / treelines along the eastern boundary, wet and dry drainage ditches and the Baldonnell Stream

and Profile Park Road which run through the northwest / central region of the Site. The remains of an old wastewater treatment plant (WWTP) are also present within the eastern portion of the Site.

A description of the habitats and features of ecological significance are outlined below, and their distribution is illustrated in Figure 5-1.

Amenity Grassland (GA2)

A small strip of amenity grassland / lawn was identified between the built structures adjacent to the northwest corner of the Site and the access road. The area surveyed consisted of a perennial rye grass (*Lolium perenne*) monoculture and is of limited ecological value.

Recolonising Bare Ground (ED3) / Spoil and Bare Ground (ED2)

To the south of the existing commercial buildings are lands composed of disturbed ground and spoil heaps, some of which have recolonising ruderals or weeds, others are bare and have limited vegetation growth.

The recolonising vegetation includes perennial ryegrass (*Lolium perenne*), Yorkshire fog (*Holcus lanatus*), cocksfoot (*Dactylis glomerata*), creeping buttercup (*Ranunculus repens*), lady's thumb (*Persicaria maculosa*), nettle (*Urtica dioica*), dandelion (*Taraxacum vulgaria),* common hogweed (*Heracleum sphondylium*), prickly sowthistle (*Sonchus asper*), ragwort (*Senecio jacobaea*), ribwort plantain (*Plantago lanceolata*), coltsfoot (*Tussilago farfara*), bramble (*Rubus fructicosus*), ground ivy (*Glechoma hederacea*), and fringed willowherb (*Epilobium ciliatum*).

Improved Agricultural Grassland (GA1)

In the eastern and southern section of the proposed Site, an area of improved agricultural grassland was identified, which stretches to a mature hedgerow / treeline along the eastern boundary of the Site. This habitat is predominantly composed of perennial rye grass, white clover (*Trifolium repens*), creeping buttercup, meadow foxtail (*Alopecurus pratensis*), field mustard (*Sinapis arvensis*), common vetch (*Vicia sativa*), and dock species (*Rumex spp*). The southern section is zoned as agricultural lands, however, there were no grazing livestock present or evidence of agricultural usage onsite at the time of survey.

Scrub (WS1)

Two areas of scrub habitat were identified within the proposed Site Boundary. A small section to the south of the Site and a larger distinctive square section along the eastern border of the Site. It should be noted that remains of an old sewage building were situated within the larger section of scrub. Access was restricted due to overgrowth and Site Safety.

Species included large areas of bramble and nettle, along with willowherb, creeping buttercup, coltsfoot, red campion (*Silene diocia*), wild tulip (*Tulipa sylvestris*), ivy, hogweed, meadow foxtail, field mustard, common vetch, dog rose (*Rosa canina*), bitter dock (*Rumex obtusifolius*), thistle (*Asteraceae spp.*).

Hedgerow / Treeline (WL1 / WL2)

The eastern Site boundary is made up of a mature hedgerow / treeline. This habitat is comprised of ash (*Fraxinus excelsior*), hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), elder (*Sambucus nigra*), and hazel (*Corylus avellana*). Other species noted were crab apple (*Malus sylvestris*), Norway maple (*Acer platanoides*), Scot's pine (*Pinus sylvestris*) and beech (*Fagus sylvatica*).

Brambles and nettles are frequent in the understorey layer throughout. Ivy (*Hedera hibernica*) is common both in the trees and in the ground layers. An array of herbaceous species was

recorded in the ground layer of the hedgerows, including ground ivy, common vetch, creeping buttercup and willow herb.

Drainage Ditches (FW4)

A drainage ditch runs along the eastern boundary of the Site, adjacent to the hedgerow / treeline. The grassland onsite slopes towards this ditch which was predominately dry at the time of survey. However, this eastern drainage ditch gets progressively wet towards the northern end of the Site. The species noted within this ditch were watercress (*Nasturtium officinale*), butch vetch (*Vicia sativa*), perennial grass, bramble and nettles.

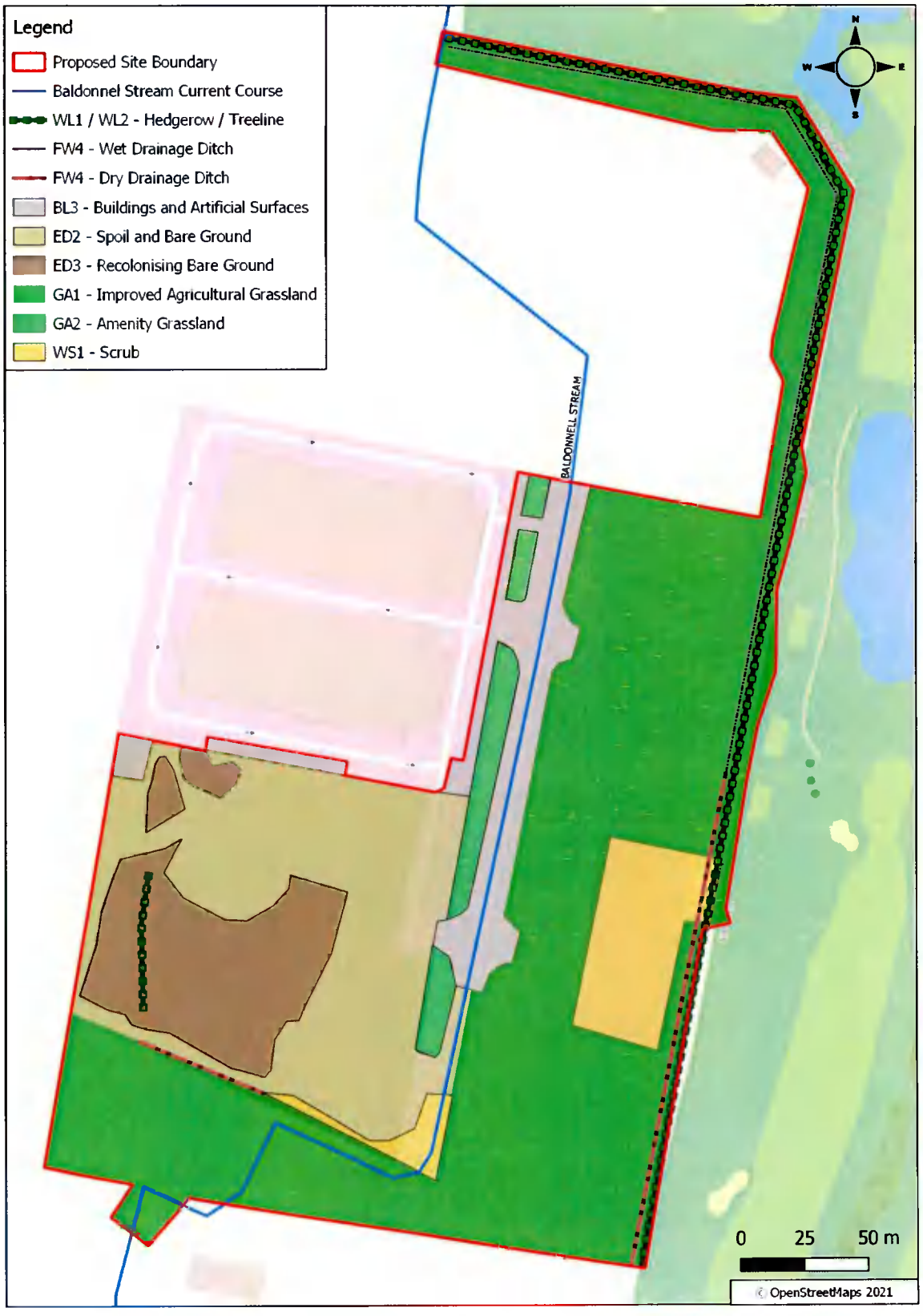
A second drainage ditch is present to the south of the Baldonnell Stream, this drainage ditch was dry at the time of the survey, however it is connected to the culverted stream.

Baldonnell Stream

The Baldonnell Stream flows through the northwest / central portion of the Site, to the east of the existing Digital Realty site. This stream is culverted in sections through round culverts and flows along the access track. It is currently enclosed by fencing.

An assessment carried out on the Baldonnell Stream by Sweeney Consultancy, attached as Appendix B, identified typical instream vegetation for small lowland streams with moderate flow including widespread *Apium nodiflorum* and *Berula erecta* and some *Veronica anagalis-aquatica* and *Veronica beccabunga*. This assessment also identified the river as having *'poor ecological quality'* with a Q-value of Q3 according to the Q-value scheme as defined by the EPA. Refer to Appendix B for further details.

Figure 5-1: Habitat Map



6 STAGE 1 SCREENING: IDENTIFICATION OF POTENTIAL ADVERSE EFFECTS

Potential adverse effects, if any, on South Dublin Bay and River Tolka Estuary SPA were considered further in this section. The key output of this stage of the assessment is the identification of the types of threats to the integrity of the Natura 2000 sites that may arise as a result of implementing the proposed development.

A number of factors were examined at this stage and dismissed due to the very low risk associated with them. Tables 6-1 present further details and rationale of the screening assessment undertaken for each of the qualifying interests of the Natura 2000 sites identified as having the potential to be adversely affected.

These factors were screened in or out, based on whether or not it was concluded that they are likely to be affected by the proposed development if no mitigation measures were applied, and if progression to Stage 2 is required. The rationale for these conclusions is based on results from the aforementioned desk study, literature search and field survey results.

Table 6-1 Screening Assessment: Annex II Species – South Dublin Bay and River Tolka Estuary SPA

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rational	Screening conclusion
Light-bellied Brent Goose	The NBDC holds no records of this species within a 2km grid square of the Site (NBDC, 2021). The onsite habitats are considered to be of limited value for this species.	Effects associated with pollution during the construction and operational phases	It is considered highly unlikely that the works will have any significant direct or indirect negative effects on this species during either the construction or operational phase of the proposed development. This is based on the fact that this species is not known to occur within the area and it is considered highly unlikely that the habitats within the Site itself are of significant importance for this species as they comprise of disturbed and recolonising ground. Although the Site is located ca.27.4km upstream of the SPA, this bird species may utilise the wider river network including the River Liffey and the Griffeen River. Therefore, should a major pollution event occur and effect the water quality of local watercourses or further downstream in the SPA, this could adversely affect the foraging habitat of Light-bellied Brent Geese. Therefore, a precautionary approach has been taken and mitigation measures as well as best practice guidance will be implemented during the construction works to protect local water quality and the water quality of the river network further downstream. Further assessment is therefore required for this species.	**Screened in.**
Oystercatcher	The NBDC holds no records of this species within a 2km grid square of the Site (NBDC, 2021). The onsite habitats are considered to be of limited value for this species.	As above	As above as per Light Bellied Brent Goose	**Screened in.**
Ringed Plover	The NBDC holds no records of this species within a 2km grid square of the Site (NBDC, 2021).	As above	As above per Light Bellied Brent Goose	**Screened in.**

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rational	Screening conclusion
	The onsite habitats are considered to be of limited value for this species.			
Grey Plover	The NBDC holds no records of this species within a 2km grid square of the Site (NBDC, 2021). The onsite habitats are considered to be of limited value for this species.	As above	As above per Light Bellied Brent Goose	**Screened in.**
Knot	The NBDC holds no records of this species within a 2km grid square of the Site (NBDC, 2021). The onsite habitats are considered to be of limited value for this species.	As above	As above per Light Bellied Brent Goose	**Screened in.**
Dunlin	The NBDC holds no records of this species within a 2km grid square of the Site (NBDC, 2021). The onsite habitats are considered to be of limited value for this species.	As above	As above per Light Bellied Brent Goose	**Screened in.**
Bar-tailed Godwit	The NBDC holds no records of this species within a 2km grid square of the Site (NBDC, 2021). The onsite habitats are considered to be of limited value for this species.	As above	As above per Light Bellied Brent Goose	**Screened in**
Redshank	The NBDC holds no records of this species within a 2km grid square of the Site (NBDC, 2021). The onsite habitats are considered to be of limited value for this species.	As above	As above per Light Bellied Brent Goose	**Screened in.**

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rational	Screening conclusion
Black-headed Gull	The NDBC holds records of this species within 2km of the Site, however, there are no records of this species within 1km of the Site and it is not considered that the onsite habitats are of value to this species (NBDC, 2021).	As above	As above per Light Bellied Brent Goose	**Screened in.**
Roseate Tern	The NBDC holds no records of this species within a 2km grid square of the Site (NBDC, 2021). The onsite habitats are considered to be of limited value for this species.	As above	As above per Light Bellied Brent Goose	**Screened in.**
Common Tern	The NBDC holds no records of this species within a 2km grid square of the Site (NBDC, 2021). The onsite habitats are considered to be of limited value for this species.	As above	As above per Light Bellied Brent Goose	**Screened in.**
Wetland and Waterbirds	A number of wetland and waterbirds have been recorded within 2km of the Site including the common coot, great black-backed gull, little grebe, mallard, mute swan, tufted duck, great black-backed gull and the lesser black-backed gull (NBDC, 2021). However, none of these bird species have been recorded within 1km of the Site (NBDC, 2021) and it is not considered that the habitats onsite are significant to wetland or waterbirds.	As above	As above per Light Bellied Brent Goose	**Screened in.**

7 STAGE 2: ASSESSMENT OF POTENTIAL ADVERSE EFFECTS

This section provides recommendations for measures which will mitigate against potential adverse effects of the proposed works on qualifying habitats and species throughout the duration of the project. The following effects, which have the potential to adversely affect the conservation objectives of the identified Natura 2000 sites, were considered:

- Potential impairment of water quality during construction phase; and,
- Potential impairment of water quality during the operational phase.

7.1 Potential Impairment of Water Quality during Construction

As the proposed development requires the rerouting of Baldonnell Stream, there is a risk that during this process that potential runoff of pollutants / sediments during construction could adversely affect the water quality within this stream and downstream in the Griffeen River and the River Liffey.

Potential pollutants resulting from the construction of the proposed development include suspended solids, cementitious materials, silt and hydrocarbon leaks or spills. Sediment / silt have the potential to clog fish gills, degrade spawning habitats and cover / smother aquatic plants. The potential release of these pollutants would result in decreased food availability and therefore, could indirectly affect designated bird species by impacting their food supply. In addition, should hydrocarbons enter the river network, there is potential that the chemical balance of the river network could change which would be toxic for fish and other wildlife.

However, it is considered highly unlikely that any construction work pollutants could impact on the water quality of the South Dublin Bay and River Tolka Estuary SPA based on the following:

- The localised nature of the proposed development works;
- There will be no direct discharges to surface water or groundwater during the construction or operational phase of the development; and,
- The distance separating the Sites (ca.27.4km downstream), along with eighteen (18No.) tributaries between the Site and the SPA.

It is reasonable to assume that if any pollutants did enter the Baldonnell Stream or the wider drainage ditch network, they would either dilute within the river network or settle to the bottom of the subsequent waterbodies over the 27.4km distance.

However, taking a precautionary approach to ensure that the works do not have an impact on local surface waterbodies, the wider river network and therefore on species designated under the South Dublin Bay and River Tolka Estuary SPA, measures will be put in place in accordance with best practice guidance to avoid impacts on these receptors.

Sediment control measures will be put in place to prevent suspended solids in runoff from entering the watercourses on and bordering the Site and ensure works are in line with the IFI guidelines. These measures will include the following:

- Silt traps / fences will be installed as required under the direction of the ECoW;
- Existing vegetation will be retained where possible;
- The working area will be clearly defined, and construction activities will be carefully planned to minimise ground disturbance; and,
- Runoff will be diverted away from stripped areas.

The following best practice guidelines will be followed, which are based on Inland Fisheries Ireland (IFI, 2016) and National Roads Authority (NRA, 2005) guidance documents:

- Construction stage works will be undertaken in accordance with an approved CEMP;
- Weather conditions will be considered when planning construction activities to minimise risk of runoff from Site;
- All materials shall be stored at the main contractor compound and transported to the works zone immediately prior to construction;
- Any chemical / oils to be stored onsite will be placed within a bund on an area of hardstanding to ensure there is no seepage of pollutants into groundwater or surface water;
- All bunds will have the capacity of the largest tank volume plus 10 percent, at a minimum, with additional capacity to hold 30mm of rainfall;
- Prior to any works commencing, all construction equipment will be checked to ensure that they are mechanically sound, to avoid leaks of oil, fuel, hydraulic fluids and grease;
- Preventative maintenance and relevant maintenance logs will be kept for all onsite plant and equipment;
- Excavations will be left open for minimal periods to avoid acting as a conduit for surface water flows;
- Any pouring of concrete will only be carried out in dry weather. Washout of concrete trucks will not be permitted on the Site;
- Washouts of equipment used for concrete operations will be done either offsite or within a designated washout area, which will comprise a container that will capture the washout material / water for reused or disposal offsite;
- Any spillage of cementitious materials will be cleaned-up immediately;
- Steel tanks will be protected from corrosion;
- All drainage from bund areas must be directed to secure containment prior to suitable disposal;
- Fuel will be delivered onsite by a dedicated tanker or in a delivery bowser dedicated to that purpose;
- The Appointed Contactor will put in place a specific, step-by-step refuelling procedure which will be communicated to all relevant employees onsite;
- All valves should be of steel construction and the open and close positions should be clearly marked;
- Fuels, lubricants and hydraulic fluids for equipment used in the construction Site will be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with spill containment according to current best practice;
- Vehicle or equipment maintenance work will be carried out in a designated area on the Site. In the event that refuelling is required outside this area a spill tray will be employed during the refuelling operation;
- No surface water runoff will be discharged onto public roads, foul sewers or adjacent property;
- In order to prevent potential water pollution risk when drainage lines are in place but not fully commissioned, no discharges to the surface water drainage system at the Site will be made until all drains are fully connected to the proposed and approved Petrol Interceptor; and,

- Measures will be implemented to minimise waste and ensure correct handling, storage and disposal of waste.

The proposed measures to remove the risk from potential contamination and emergency procedures to be implemented in the event of an accidental release or spill of potentially contaminating substances are outlined below.

These procedures will be communicated to all relevant Site staff. At a minimum, the following measures will be in place:

- Adequate spill kits including absorbent booms and other absorbent material will be maintained onsite;
- Any spillage of cementitious materials will be cleaned-up immediately;
- All contractor workers will be appropriately trained in the use of spill kits; and,
- Any sediments impacted by contamination will be excavated and stored in appropriate sealed containers for disposal offsite in accordance with all relevant waste management legislation.

7.1.1 Watercourse Diversion

As the Baldonnell Stream's connects into a wider river network, the watercourse diversion will be designed in order to maintain and enhance connectivity for foraging and commuting species along the river system.

The following design and mitigation measures will be implemented throughout the in-river works / watercourse diversion works to prevent any adverse impact to species within the wider river system:

- The construction of the new channel must be carried out as far as possible in advance of the actual diversion of flow, and ideally bankside vegetation of native streamside tree and bush species should be well established;
- The new channel should be constructed in such a way as to minimise suspended solids released when the river is re-routed. The use of loose fine-grained materials in the new channel construction should be strictly limited;
- Earth moving works and construction activities should be avoided in the area within 10m of the bank of the Baldonnell Stream, with exception to the area where the realigned channel joins with the existing river channel. However, prior to the commencement of works, this area should be fenced off prior to the commencement of works;
- Where practicable, existing vegetation along the drainage ditch into which the Baldonnell Stream will be rerouted should be retained and supplemented / managed as required to maintain sheltered.
- The Contractor appointed shall ensure that all personnel working onsite are trained in pollution incident control response; and,
- The Contractor or Ecologist shall establish contact with Inland Fisheries Ireland (IFI) before works commence and as per consultation, all works will be carried out with an approved design and method statement.

A suitably qualified Ecologist must be present on-site when the watercourse is initially diverted and to ensure that the measures detailed above have been adhered to.

Furthermore, as per the NRA Guidelines, quarterly monitoring for a period of one (1No) year following completion of the works should be undertaken to ensure that the mitigation measure have been effective.

7.1.2 Ecological Clerk of Works (ECoW)

An Ecological Clerk of Works (ECoW) will inspect the Site in advance of works commencing, and will undertake Site inspections as required during the works to ensure that the works will be completed in line with the mitigation measures stipulated within the CEMP, including:

- Inspection and monitoring of all watercourse sections along or in close proximity to the proposed works;
- Inspection of all surface water treatment measures; and,
- Monitoring of stockpiles within close proximity to the watercourse.

Where the ECoW has carried out an investigation of a release of sediment to a watercourse causing a plume, the following procedure shall be followed:

- The relevant NPWS and IFI staff shall be notified immediately;
- The discharge generating the sediment discharge shall be stopped immediately;
- The contractor will be required to take immediate action and to implement measures to ensure that such discharges do not re-occur;
- Works shall not recommence until appropriate corrective measures to avoid any repetition are put in place. Such measures shall be agreed with the ECoW following consultation with the NPWS and IFI and shall be in accordance with the requirements of these control measures; and,
- Where the ECoW considers that the risk of a sediment release is high, the contractor will be informed, and protective action will be undertaken. Where the contractor does not take immediate action the ECoW shall instruct the contractor to take action and the same shall be reported to the Contract Manager and the Client.

The ECoW will also be responsible for carrying out regular audits of the Contractors CEMP and will be the primary person involved in the developers monitoring role. In addition, the ECoW will be delegated sufficient powers so that he / she will be authorised to instruct the contractor to stop works and to direct the carrying out of emergency mitigation / clean-up operations. In addition, the ECoW will maintain a register indicating whether all mitigation measures have been carried out satisfactorily.

It can be concluded that with the implementation of the aforementioned mitigation measures and ECoW work, there will be no adverse effects on the water quality to the nearby watercourses through the potential release of sediments, chemicals, leaks or spills to the Baldonnell or surrounding drainage ditch network or through the proposed stream diversion works. Therefore, it can be stated that the construction phase will not cause any adverse effects to qualifying species of the South Dublin Bay and River Tolka Estuary SPA downstream.

7.2 Potential Impairment of Water Quality during Operation

The additional built structures onsite will result in an increase in storm water runoff. However, as the proposed drainage system will utilise petrol interceptors, swales, porous paving, attenuation tanks and hydrobrakes, as described in Section 3.4.5.1, it is not considered that the proposed development will have any adverse effect on water quality within the Baldonnell Stream, Griffeen River or further downstream in the South Dublin Bay and River Tolka Estuary SPA.

Furthermore, during the operational phase of the proposed development, foul drainage will connect into the existing Profile Park and Irish Water infrastructure as described in Section 3.4.5.2. No alterations to this approved system are proposed.

It should also be noted that the diversion of the Baldonnell Stream and the associated drainage system design will have slight positive impacts on the quality and quantity of water onsite.

As mentioned in Section 3.4.3, 859,248 litres of fuel will be stored onsite to be used if the gas power supply is compromised. This fuel will be stored in 'belly tanks' and will be integrally bunded with leak detection systems that conform to Irish regulations. All relevant personnel will be trained in the prevention and control of spillages. This training will include the correct use of spill kits. Spill kits will be located at various locations around the facility.

It can therefore be concluded that no adverse effects upon the integrity, designated habitats or species of the South Dublin Bay and River Tolka Estuary SPA or any other Natura 2000 sites will occur as a result of the construction or operational phase of the proposed development with the implementation of the mitigation measures outlined in this report.

7.3 Analysis of 'In-Combination' Effects

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

Due to the large size of the South Dublin Bay and River Tolka Estuary SPA and its position at the mouth of the local river network, there are numerous projects and activities which have the potential to affect the conservation interests of this SPA. However, the project alone is unlikely to have any direct or indirect significant effects on any Natura 2000 sites with the implementation of specific / precautionary mitigation measures. Additionally, any future development of adjoining lands will be subject to the mandatory planning process which takes account of all relevant nature conservation legislation inclusive of the appropriate assessment process.

The majority of planning applications within the vicinity of the Site are for retention or have already undergone construction. Therefore, it is not considered that any in-combination effects will occur.

Digital Realty Trust received planning consent for the renovation/alteration of four (4No.) exiting data centre/warehouse structures and associated works in Profile Park, which are the existing buildings on the northwest corner of the Site in 2012 (Original planning reference: SD11A/0023 from 2011, amendments in 2012: SD12A/0002 and 2017: SD17A/0377, and extension of duration in 2019). These planning applications were subject to Appropriate Assessment. Therefore, as part of the planning process, this development was assessed for potential adverse effects to Natura 2000 sites and the accompanying report concluded that the proposed renovations will not have a significant effect on any habitats or species designated as conservation interests for any Natura 2000 sites. As the construction works for this project are complete and the proposed development will be contained within a localised area, it is not envisaged that these projects will lead to any in-combination effects.

A planning application for a 125MW gas-fired power plant was submitted to South Dublin County Council on 25/06/2021 under the planning reference: SD21A/0167. This site is situated to the north of the proposed development, immediately adjacent to DUB13 and DUB14. As part of this planning application, an Appropriate Assessment was undertaken by Tobin Consulting Engineers. This AA Screening Report assessed the hydrological connection through the Baldonnell Stream to the River Griffeen and onwards to Dublin Bay; however, even with this factored in, the report concluded that the proposed power plant would not result in likely significant effects on qualifying interests / special conservation interests or the integrity of any Natura 2000 sites either alone or in-combination with other plans or projects. Should

this application receive planning permission, it is considered unlikely that there will be any in-combination effects with the proposed development, this is further emphasised by the fact that the Baldonnell Stream will be diverted away from the power plant site and therefore, the hydrological connection to the Natura 2000 sites will be further diminished.

Taking the above into account, and considering the nature of the proposed development with a development area that is zoned under objective EE: '*to provide for enterprise and employment related uses*,' adherence to the mitigation measures listed within this NIS, the best practice measures that will be implemented during both the construction and operational phase of the proposed development, it is concluded there will not be any significant in-combination contribution by the project to possible adverse effects on the South Dublin Bay and River Tolka Estuary SPA or any other Natura 2000 site and that it will not cause any adverse effect on the integrity of any European site in combination with other plans and projects.

8 CONCLUSIONS

A detailed assessment of the layout and nature of the proposed development, the construction methods to be employed and the overall activities that will occur at the Site during construction and operation has been carried out and the potential for adverse effects on Natura 2000 sites and qualifying features of interest within a 15km radius of the Site has been examined in detail.

The Site is not located within or directly adjacent to any Natura 2000 sites, however, the boundaries of the four (4No.) SACs and three (3No.) SPAs are located within 15km from the Site.

Six (6No.) Sites were screened out given the lack of impact pathways and the distance separating the Site from the Natura 2000 sites - Glenasmole Valley SAC, Wicklow Mountains SAC, Rye Water Valley / Carton SAC, Red Bog, Kildare SAC and the Wicklow Mountains SPA.

The Site is hydrologically connected to the South Dublin Bay and River Tolka Estuary SPA (within 15km of the Site) and the South Dublin Bay SAC (which is ca.15.3km from the Site) via the Baldonnell Stream which discharges into the Griffeen River, the River Liffey and eventually drains into Dublin Bay. North Dublin Bay SAC and North Bull Island SPA also form part of Dublin Bay and are located ca, 19km northeast of the Site.

However, South Dublin Bay SAC, North Dublin Bay SAC, and the North Bull Island SPA were screened out due to the presence of the Great South Wall and the North Bull Wall which separate any water discharging into Dublin Port from the respective Natura Sites.

Of the Natura 2000 sites identified within a 15km radius, the South Dublin Bay and River Tolka Estuary SPA was taken forward for further detailed consideration due to its hydrological connection to the Site and its position to the west of the breakwaters mentioned above. It is considered reasonable to conclude that the proposed development will not result in any adverse effects on the basis that all recommended specific mitigation measures will be implemented. Specifically, the proposed construction works and stream diversion works will be undertaken to avoid impairment to water quality.

In terms of significance with regard to adverse effects on Natura 2000 sites, the NPWS Guidance (2009) uses an EC definition as follows:

> *"Any element of a plan or project that has the potential to affect the conservation objectives of a Natura 2000 Site, including its structure and function, should be considered significant (EC, 2006)".*

It can be concluded that the proposed development and all associated Site works, alone or in-combination with other projects, will not adversely affect the integrity, and conservation status of any of the qualifying interests of the South Dublin Bay and River Tolka Estuary SPA or any other Natura 2000 sites.

Accordingly, progression to Stage 3 of the Appropriate Assessment process (i.e., Assessment of Alternatives Solutions) is not considered necessary.

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APPENDICES

APPENDIX A

APPENDIX B

Biological Assessment of Baldonnell Stream at Profile Park

May 2021

Prepared by:
Sweeney Consultancy,
Rahan,
Mallow
Co. Cork.
Tel. 022/26780

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1. INTRODUCTION

It has been proposed that the existing channel of a section of the Baldonnell Stream be moved to the east of its current course. Sweeney Consultancy was contracted to assess the ecological condition and biological water quality of the section of channel in question and to comment on the proposed re-routing.

2. METHODOLOGY

Historical mapping was consulted to check the earlier course of the stream. Field surveys were undertaken on 04 May, 2021. The stream habitat quality was assessed, based on its physical nature and ecology. Grid reference of photographs were recorded using a hand-held GPS device and photographs were taken with a digital camera. A pond-net sample was taken at ITM 703847 730198, as indicated in Figure 1 and invertebrates were identified on the bankside to the lowest taxonomic level possible with the naked eye. The biological water quality was assessed following the most recent EPA Standard Operational Procedure for the Q-scheme methodology, which is based primarily on analysis of the aquatic invertebrate fauna.

The habitat quality of a drain along a field boundary to the east, to which it is proposed that the stream be re-routed, was assessed visually.

Fig. 1. Baldonnell Stream

3. RESULTS

The section of the Baldonnell Stream that is proposed to be moved has already been move c. 60m to the east of its original course indicated on the 1847-1842 6" Map, (see Figure 1). The current excavated channel is v-shaped in cross-section and steep-sided (Photo 1, Appendix 1), with shallow flow over gravel, cobble and silt, c. 3m below adjacent ground level. At crossing points, the stream passes through round culverts (Photo 2). Instream vegetation is

typical of small lowland streams of moderate flow, with *Apium nodiflorum* and *Berula erecta* widespread and some *Veronica anagalis-aquatica* and *Veronica beccabunga* also present.

The list of macroinvertebrate taxa identified to the level required for the Q-scheme and relative abundance of each taxon is presented in Appendix 3.

The Q-scheme values range from Q1 (grossly polluted) to Q5 (pristine). Suffixes of /0, indicating a suspected toxic effect, and *, indicating a siltation effect may be added.

At the Baldonnell Stream sampling site, EPA Indicator Group A (Very Pollution Sensitive) is absent, Group B (Relatively Pollution Sensitive) is represented by low numbers of the caddis families Limnephilidae, Lepidostomatidae and Sericostomatidae and the mayfly nymph *Alainites muticus.* Group C (Relatively Pollution Tolerant) dominates the fauna and Group D (Very Pollution Tolerant) is represented by *Asellus aquaticus,* which is common in abundance. Group E (Most Pollution Tolerant) is absent. This faunal community composition indicates a Q-value of **Q3**, which corresponds to Poor Ecological Water Quality, as defined by EPA.

No rare or protected species of flora or fauna was found.

The drainage channel farther to the east (Figure 1), to which the former wastewater treatment plant discharged, was not holding any water at the time of the fieldwork and was overgrown with herbaceous vegetation, mainly nettles, *Urtica dioica,* (Photo 3).

3. CONCLUSIONS AND RECOMMENDATIONS

The section of the Baldonnell Stream in question is currently in an artificially created channel, which was poorly created from an ecological perspective. The habitat quality could be improved by diverting the flow to the drainage channel to the east, where the adjacent hedgerow/treeline would provide mixed shade and allochthonous inputs.

The instream and riparian quality could be further improved by placement of occasional boulders within the channel to create variations in flow type and by stepping the slope between the stream and adjacent land. It any new culverts are to be included, there should be square in cross-section, rather than round.

Overall, re-routing the Baldonnell Stream to the proposed new course will not negatively impact on the aquatic and riparian habitat and could have some significant positive impacts.

APPENDIX 1

PHOTOGRAPHS

Photo 1

Photo 2

Photo 3

APPENDIX 2
INVERTEBRATES RESULTS

Relative abundance expressed as D: Dominant; N: Numerous; C: Common; F: Few; SS: Single Specimen

INDICATOR GROUP	POLLUTION SENSITIVITY/TOLERANCE	TAXON	ABUNDANCE
A	Very Pollution Sensitive	None Recorded	
B	Moderately Pollution Sensitive	Limnephilidae	F
		Lepidostomatidae	SS
		Sericostomatidae	F
		Alainites muticus	SS
C	Moderately Pollution Tolerant	*Polycelis sp.*	F
		Gammarus duebeni	D
		Baetis rhodani	N
		Philopotamidae	F
		Rhyacophila sp.	SS
		Polycentropodidae	F
		Elmis sp.	F
		Chironomidae (ex. *Chironomus*)	C
D	Very Pollution Tolerant	*Asellus sp.*	C
E	Most Pollution Tolerant	None recorded	

APPENDIX C