Age Friendly Social Housing, Pearse Brothers Park, Rathfarnham, Dublin 16

Screening for Appropriate Assessment

May 2021

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Contract

This report describes work commissioned by Anna Rosinska, on behalf of South Dublin County Council, by a letter dated 31/03/21. South Dublin Count Council's representative for the contract was Anna Rosinska, Executive Architect, South Dublin County Council. Mark Desmond of JBA Consulting carried out this work.

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Purpose

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Abbreviations

AA	Appropriate Assessment
CIEEM	Chartered Institute of Ecology and Environmental Management
DoEHLG	Department of Environment, Heritage and Local Government
EC	European Communities
EPA	Environmental Protection Agency
EU	European Union
GDSDS	Greater Dublin Strategic Drainage Strategy
GIS	Geographical Information Systems
GSI	Geographical Survey Ireland
INNS	Invasive Non-native Species
IROPI	Imperative Reasons of Over-riding Public Interest
NBDC	National Biodiversity Data Centre
NPWS	National Parks and Wildlife Service
PM	Particulate matter
QI	Qualifying Interest
RBMP	River Basin Management Plan
SAC	Special Area of Conservation
SPA	Special Protection Area
SUDS	Sustainable Urban Drainage System
WFD	Water Framework Directive
WWTP	Waste Water Treatment Plant
ZoI	Zone of Influence

1 Introduction

1.1 Background

JBA Consulting Ireland Ltd. has been commissioned by South Dublin County Council to undertake a Screening for Appropriate Assessment in relation to a proposed development at Pearse Brothers Park, Rathfarnham, Dublin 16. South Dublin County Council intend to construct 10 Age Friendly Social Housing in the format of 4 apartments and 6 terraced houses facing a courtyard with an ancillary community communication building. The existing site is used as an amenity green space.

1.2 Legislative Context

Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora, known as the 'Habitats Directive' - provides legal protection for habitats and species of European importance. Article 2 of the Directive requires the maintenance or restoration of habitats and species of European Community interest, at a favourable conservation status. Articles 3 - 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 sites. Natura 2000 sites 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).

Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans or projects affecting Natura 2000 sites. Article 6(3) establishes the requirement for Appropriate Assessment:

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

Article 6(4) deals with the steps that should be taken when it is determined, as a result of Appropriate Assessment, that a plan/project will adversely affect a European site. Issues dealing with alternative solutions, imperative reasons of overriding public interest and compensatory measures need to be addressed in this case.

Article 6(4) states:

"*If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member States shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.*

Where the site concerned hosts a priority natural habitat type and / or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest."

The requirements of Articles 6(3) and 6(4) of the Habitats Directive have been transposed into Irish legislation by means of the Habitats Regulations, 1997 (S.I. No. 94 of 1997) and the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 / 2011).

1.3 Appropriate Assessment Process

Guidance on the Appropriate Assessment (AA) process was produced by the European Commission in 2002, which was subsequently developed into guidance specifically for Ireland by the Department of Environment, Heritage and Local Government (DEHLG) (2009). These guidance documents identify a staged approach to conducting an AA, as shown Figure 1-1.

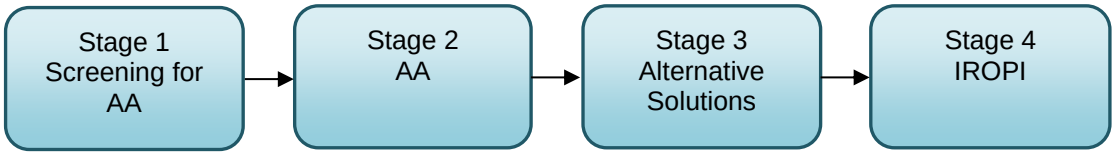


Figure 1-1: The Appropriate Assessment Process (from: Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities, DEHLG, 2009).

1.3.1 Stage 1 - Screening for AA

The initial, screening stage of the Appropriate Assessment is to determine:

whether the proposed plan or project is directly connected with or necessary for the management of the European designated site for nature conservation

if it is likely to have a significant adverse effect on the European designated site, either individually or in combination with other plans or projects

For those sites where, potential adverse impacts are identified, either alone or in combination with other plans or projects, further assessment is necessary to determine if the proposals will have an adverse impact on the integrity of a European designated site, in view of the site's conservation objectives (i.e. the process proceeds to Stage 2).

1.3.2 Stage 2 - AA

This stage requires a more in-depth evaluation of the plan or project, and the potential direct and indirect impacts of them on the integrity and interest features of the European designated site(s), alone and in-combination with other plans and projects, taking into account the site's structure, function and conservation objectives. Where required, mitigation or avoidance measures will be suggested.

The competent authority can only agree to the plan or project after having ascertained that it will not adversely affect the integrity of the site(s) concerned. If this cannot be determined, and where mitigation cannot be achieved, then alternative solutions will need to be considered (i.e. the process proceeds to Stage 3).

1.3.3 Stage 3 - Alternative Solutions

Where adverse impacts on the integrity of Natura 2000 sites are identified, and mitigation cannot be satisfactorily implemented, alternative ways of achieving the objectives of the plan or project that avoid adverse impacts need to be considered. If none can be found, the process proceeds to Stage 4.

1.3.4 Stage 4 - IROPI

Where adverse impacts of a plan or project on the integrity of Natura 2000 sites are identified and no alternative solutions exist, the plan will only be allowed to progress if imperative reasons of overriding public interest can be demonstrated. In this case compensatory measures will be required.

The process only proceeds through each of the four stages for certain plans or projects. For example, for a plan or project, not connected with management of a site, but where no likely significant impacts are identified, the process stops at stage 1. Throughout the process, the precautionary principle must be applied, so that any uncertainties do not result in adverse impacts on a site.

This report is in support of a Stage 1 Screening for Appropriate Assessment.

1.4 Methodology

The Screening for Appropriate Assessment has been carried out with reference to the following documents:

- DoEHLG (2009 rev 2010) Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government (DoEHLG 2009).
- European Communities (EC) (2000) Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg. European Commission (European Commission 2000).

- EC (2002) Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg. European Commission (European Commission et al. 2002).
- EC (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. European Commission (European Commission 2007).
- Fossitt, J., (2000). A Guide to Habitats in Ireland. The Heritage Council, Kilkenny (Fossitt 2000).

1.4.1 Desktop study

A desktop study was conducted of available published and unpublished information, along with a review of data available on the NPWS and National Biodiversity Data Centre (NBDC) web-based databases, in order to identify key habitats and species (including legally protected and species of conservation concern) that may be present within ecologically relevant distances from the project as explained below. The data sources below were consulted for the desktop study:

- NPWS website (www.npws.ie), (https://www.npws.ie/), where site synopses, Natura 2000 data forms and conservation objectives were obtained along with Annex 1 habitat distribution data and status reports. (DoEHLG 2009b)
- National Biodiversity Data Centre (NBDC) Maps (http://maps.biodiversityireland.ie/#/Map)
- Environmental Protection Agency (EPA) maps website (https://gis.epa.ie/EPAMaps/)
- River Basin Management Plans (RBMP) (www.wfdireland.ie);
- NBDC Biodiversity Maps (http://maps.biodiversityireland.ie/#/Map);
- Catchments (www.catchments.ie)
- Planning Applications (myplan.ie)
- Geological data (gsi.ie/data-and-maps)

1.4.2 Field Surveys

To inform this AA Screening an ecological survey was carried out at the site by JBA ecologist Joe Freijser on 20 April 2021.

The ecological walkover survey was carried out in general accordance with the methods outlined in the following documents:

- Heritage Council (2011). Best Practice Guidance for Habitat Survey and Mapping (Smith et al. 2011).
- Fossitt, J. (2000). A Guide to Habitats in Ireland. The Heritage Council, Kilkenny (Fossitt 2000).

1.4.3 Limitations and Constraints

The screening assessment necessarily relies on some assumptions and it was inevitably subject to some limitations. These would not affect the conclusion, but the following points are recorded in order to ensure the basis of the assessment is clear:

- This assessment is based on the methodology for proposed works as described in this report. Where changes to methodology occur, an ecologist will need to be consulted to determine if the project needs reassessment.
- Adverse weather can cause delays to the schedule and alter the timing of works. This has been accounted for using a worst-case scenario where necessary.

2 Project Description

2.1 The 'Project'

The proposed development is not directly connected with or necessary to the management of any Natura 2000 site and may have potential adverse impacts upon Natura 2000 sites in its vicinity. Therefore, the Project is subject to the requirements of the Appropriate Assessment process.

2.2 Site location

The proposed development will be located at Pearse Brothers Park in Rathfarnham, Dublin 16, on a plot currently used as an urban green space/amenity grassland. The proposed site is bounded by tertiary roads of suburban housing on the north and east side, bounded directly by suburban housing to the south. Ballyboden 38kv electrical substation lies adjacent to the south western boundary of the site. Scoil Muire is located to the south west of the substation. The proposed site is accessed via suburban roads leading from Taylors Lane, which is approximately 150m to the north. St Edna's Park is 350m north east of the site and Grange Golf course lies approximately 300m to the east. Whitechurch Stream runs within the confines of the golf club and parkland to the east.

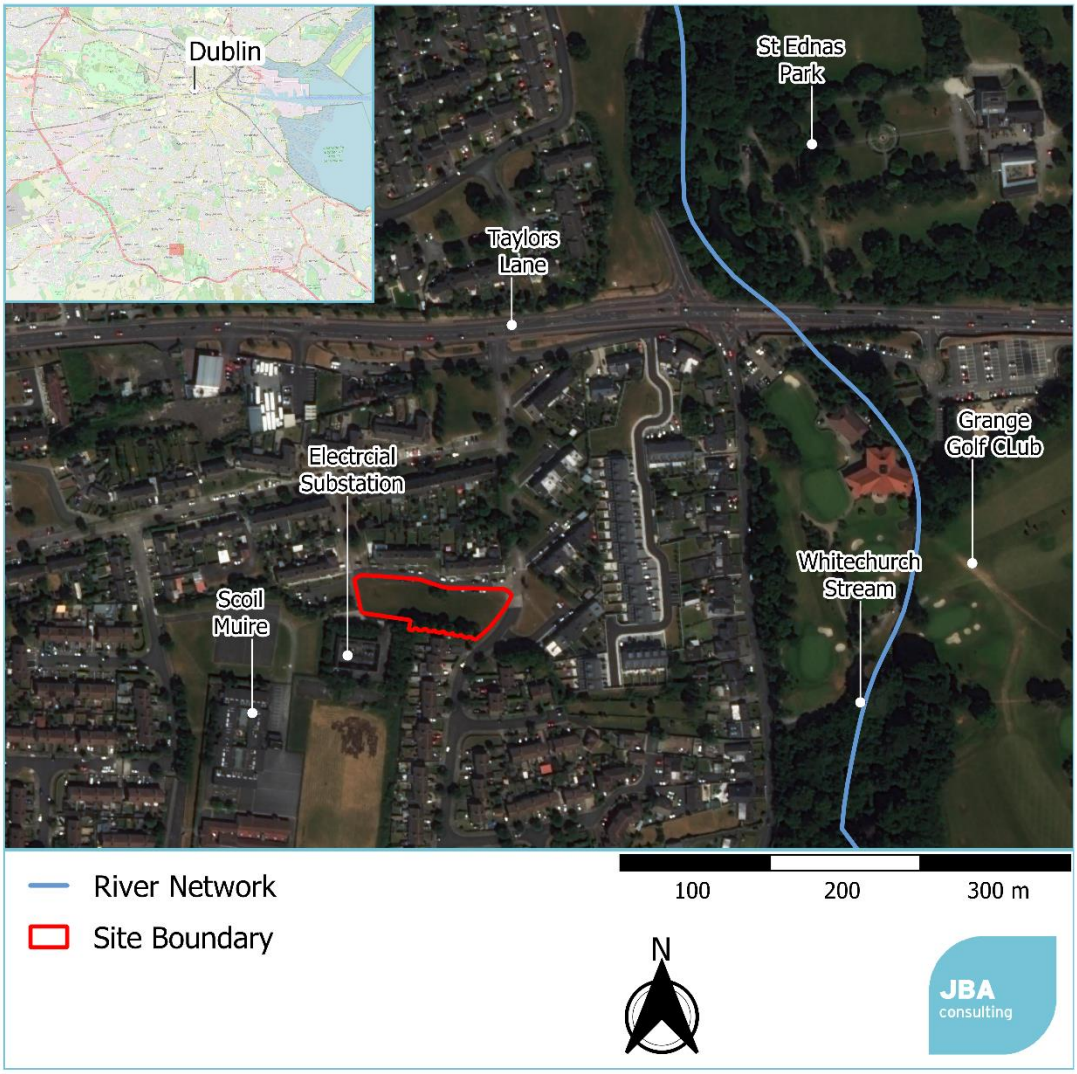


Figure 2-1: Site location (ESRI Satellite, 2021; OSM 2021; EPA 2021)

2.3 Proposed project

The proposed development lies on a 0.2810 Ha site currently used as an amenity green space. The proposed development involves the construction of 9 buildings with a combined floor plan totalling approximately 580 sq m. This will include 2 No. apartment blocks, with 2 No. two bedroom apartments each over two floors. The apartment blocks will both have an approximate floor area of 92 sq m. No. 6 one-bedroom, single floor houses with floor areas of approximately 60 sq m will be constructed in terraces facing each other. A community communication office with a floor area of 36sq m is also intended for construction. The remaining 0.2520 hectares will comprise new landscaping. The population equivalent (PE) for the development is 22.

The proposed buildings will face onto an internal communal garden made private by a security gate. The buildings and associated courtyard garden will lie in the eastern half of the proposed site, the western half will be landscaped and provide an amenity greenspace. A combination of permeable paving and concrete paths will be laid to provide access around the proposed development. Current parking will be moved, and the number of spaces will be increased to 12. Some trees will need to be removed during construction and are noted in the Sites Existing Constraints (see Appendix C).

A maximum excavation depth of 1.8m is expected for the installation of an appropriate attenuation system following a Sustainable Urban Drainage System (SUDS) report. It is envisaged that construction will take 54 weeks. The proposed development is shown in the Proposed Site Plan (Appendix A) and the Floor Plans (Appendix B).

Water Drainage

Construction phase

Surface water will be locally attenuated on site with predefined areas of attenuation placed at the beginning of the project. Construction of the development's attenuation system will be in line with best practice guidance and will follow a SUDS study.

These measures will be in line with the Greater Dublin Regional Code of Practice for Drainage Works (Dublin City Council, 2021). The first objective of the Code of Practice is Compliance with best environmental practices and relevant environmental legislation such as the Water Framework Directive.

Operation Phase

A appropriate underground attenuation system is intended to be placed under the communal garden where it will trap surface water and guide it via a new connection to the existing surface water system on the Glenmore Park Road. A new foul water sewer system will be added and will connect to the existing foul water system which also runs along Glenmore Park Road.

During operation phase the foul water drainage will be connected to the existing Dublin city combined sewers. The water will be treated at Ringsend Waste Water Treatment Plant (WWTP), which has the capacity of 1.64 million PE, before being discharged at Poolbeg, 1km from the plant.

The Drainage Layout Plan is incorporated into the Sites Existing Constraints, as shown in Appendix C.

2.3.1 Project Zone of Influence (ZoI)

The project will primarily affect the site only, but a wider area of influence is used for impacts relating to noise disturbance (1km), air pollution (5km), surface water (15km), with an additional 2km from connecting transitional waters to coastal areas; and any supporting habitat for SAC/SPA species (15km).

3 Existing Environment

3.1 Baseline conditions

A desk survey of the baseline ecology at the site was performed and s further supported by an Invasive Non-native Species (INNS) survey. Most of the site falls under amenity grassland, with one grouping of trees used for visual effect (WD5) while the southern border consists of a mixed broadleaf treeline with dense understory. These habitats are not qualifying interests (QIs) of any Natura 2000 within the zone of influence (ZoI), and unlikely to support protected species of these Natura 2000 sites.

3.2 Habitats

The habitats recorded on site are listed in Table 3-1. A habitat map of the site is seen in Figure 3-1.

Table 3-1: List of habitats recorded on site

Habitat	Fossitt Code
Amenity Grassland	GA2
Scattered Trees and Parkland	WD5
Treelines	WL2
Buildings and Artificial Surfaces	BL3
Flower beds and borders	BC4

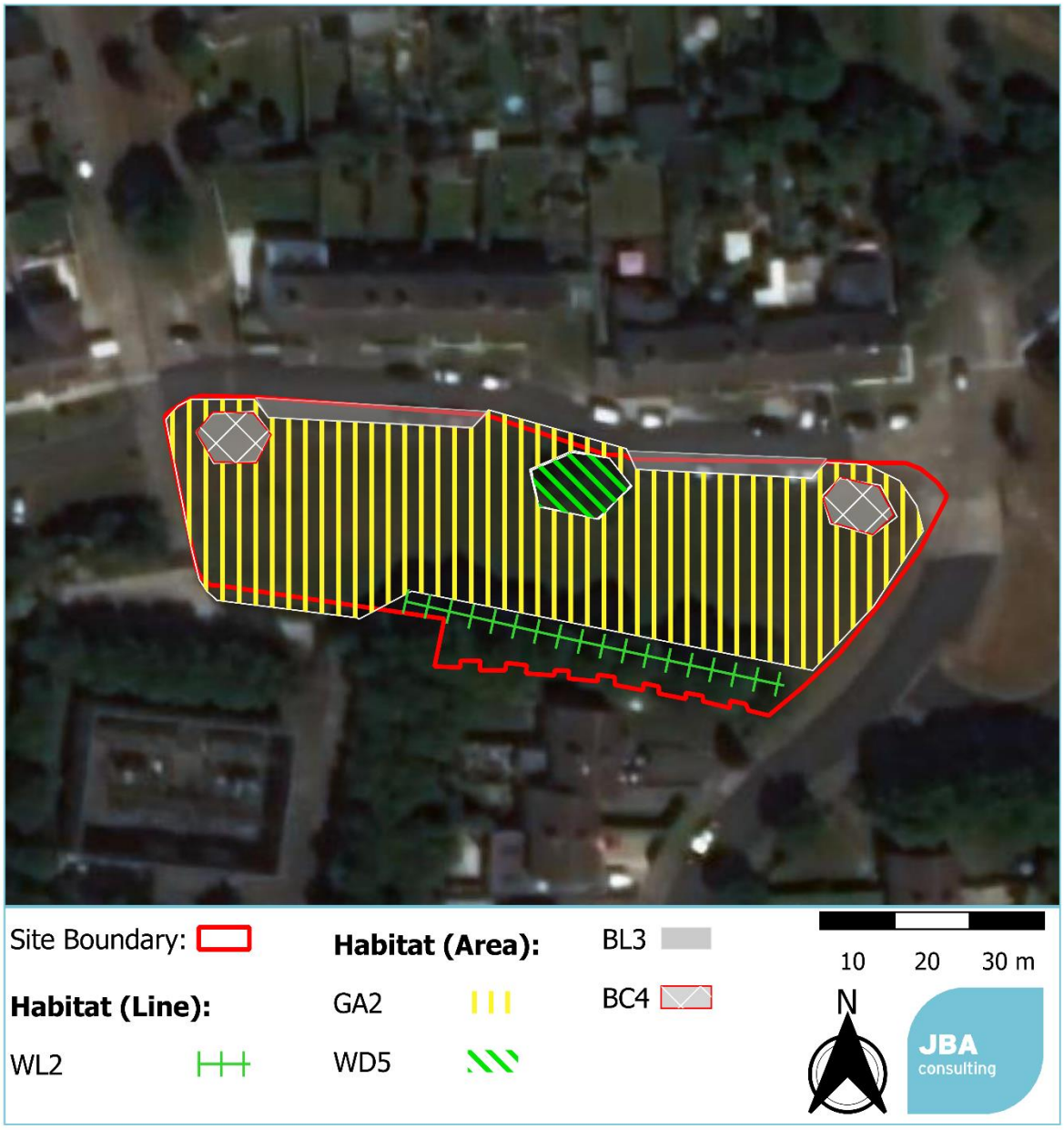


Figure 3-1: Habitat Map (ESRI - Satellite, 2021)

Amenity Grassland (GA2):

The site is mainly consists of managed grass used for amenity green space, predominantly Ryegrass *Lolium* spp (out of season for species identification), as well as Daisy *Bellis perennis* and Dandelion *Taraxacum* spp.

Scattered trees and parkland (WD5):

A small area of scattered immature trees is present in the centre of the proposed site. These trees have no understory, and no bat roosting potential

Figure 3-2: Amenity Grassland (GA2) makes up most of the proposed site. The small area of spaced trees (WD5) can be seen to the right. A treeline (WL2) can be seen to the left running along the southern border.

Treelines (WL2)

A treeline runs along the southern border of the site. The treeline includes mature Ivy *Hedera helix* covered Hazel *Corylus avellana,* Beech *Fagus sylvatica* and Lime *Tilia* × *europaea*, which were of low to moderate bat roost potential. Juvenile and newly planted Willow *Salix caprea*, Ash *Fraxinus excelsior*, Silver Birch *Betula pendula* and Elder *Sambucus nigra* were recorded. The understory consists of Cleaver *Galium aparine*, Nettle *Urtica dioica*, Dock *Rumex spp*, Hogweed *Heracleum sphondylium*, Bramble *Rubus fructicosus* and different Vetches *Vicia.*

Bat species are not QIs of any identified Natura 2000 sites listed below, therefore the removal of any tree with bat roosting potential is not considered as an impact on these Natura 2000 sites or their QIs.

Flower beds and border (BC4):

Non-native shrubbery has been planted in two plots at either end of the site as amenity decoration.

Buildings and artificial surfaces (BL3):

Carparking was present within the proposed site's boundary.

Figure 3-3: Treeline present along the proposed sites southern border

Figure 3-4: Flowerbeds planted with non-native shrubbery at the proposed site.

3.3 Protected Flora and Fauna:

A desk study of the NBDC records (2021) indicates that within 2km tile of the site that two qualifying interests (QIs) of the Dublin Bay SPAs were recorded within the last 10 years. These QIs were Common Redshank *Tringa totanus* and Black-headed Gull *Choicephalus ridibundus*. Although Black-headed Gulls often turn up in parks, amenity grassland is not assessed as an important habitat for either it or Common Redshank. Therefore, these QIs are not considered in this Screening for Appropriate Assessment.

3.4 Invasive Non-native Species (INNS)

No Invasive Non-native Species on the Third Schedule list of Non-native species (subject to restrictions under Regulations 49 and 50) were recorded on the site visit. Therefore, any impacts from INNS on Natura 2000 sites are not anticipated.

3.5 Waterbodies within the Vicinity of the Proposed Site

The proposed site is within the '09 Liffey and Dublin Bay' catchment and 09_16_Dodder_SC_100 sub-catchment. The Site boundary is 300m (approx.) west of Whitechurch stream (OWENDOHER_010), a tributary of the Owendoher River (OWENDOHER_010) (Figure 3.2 which drains into the River Dodder (DODDER_050) and finally into the Lower Liffey Estuary/Dublin Bay transitional waters, approximately 15km via watercourse from the proposed site. The OWENDOHER_010 Sub-Basin has a good WFD status (EPA, 2013 - 2018) and is considered 'At Risk' of not achieving its WFD 2027 target.

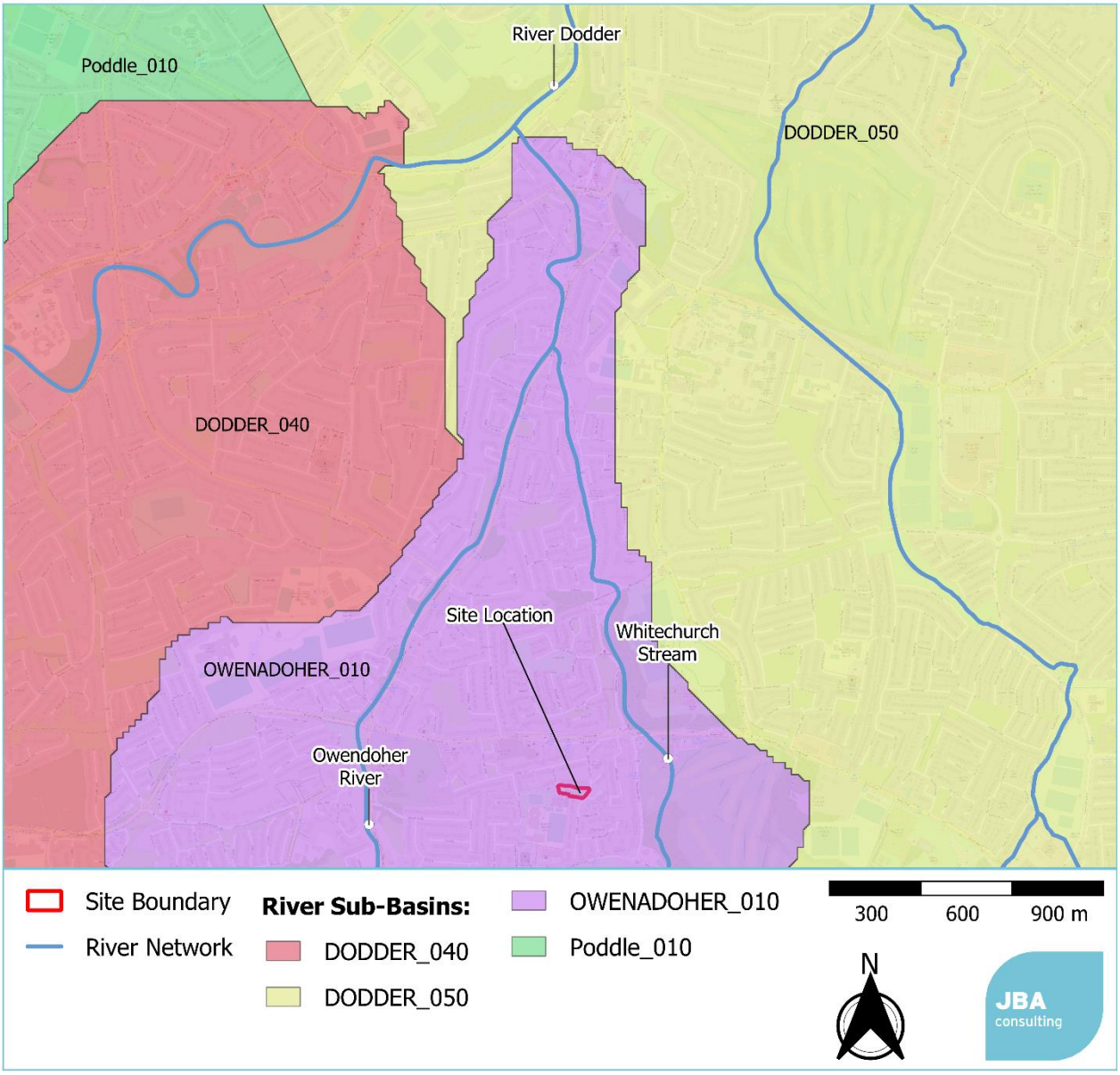


Figure 3-5: Waterbodies within the vicinity of the proposed site. (OSM, 2021, EPA, 2021)

4 Natura 2000 Sites

The DEHLG (2009) guidance identifies that Screening for Appropriate Assessment of a plan or project should consider the following Natura 2000 sites:

- Any Natura 2000 sites within or adjacent to the plan or project area.
- Any Natura 2000 sites within the likely zone of impact of the plan or project. This is dependent on the nature and scale of the plan, with 15km generally recommended for plans, but potentially much less for projects.
- Any Natura 2000 sites that are more than 15km from the plan or project area, but may potentially be impacted upon, for example, through a hydrological connection.

The scale of proposed works is considered of 'Project' status. Given that there is a potential surface water pathway between close to the Pearse Brothers Park and Dublin Bay, Natura 2000 sites within a 15km range of the proposed development were examined. The Natura 2000 sites within the range are listed in Table 4-1 below and their location are shown in Figure 4-1 in overleaf.

4.1 Project Area of Influence

The project will primarily affect the site only, but a wider area of influence is used for impacts relating to noise disturbance (1km), air pollution (10km), surface water (15km), with an additional 2km from connecting transitional waters to coastal areas; and any supporting habitat for SAC/SPA species (15km).

Table 4-1: Natura 2000 sites located within the 15km Zone of Influence (ZoI) of the proposed development.

Natura 2000 site	Site Code	Approximate direct distance from site	Surface water connection?
Wicklow Mountains SAC	002122	4.5 km	No
Glenasmole Valley SAC	001209	5.9 km	No
South Dublin Bay SAC	000210	6.8 km	Yes
Knocksink Wood SAC	000725	9.0 km	No
Ballyman Glen SAC	000713	11.3 km	No
North Dublin Bay SAC	000206	11.4 km	Yes
Rockabill to Dalkey Island SAC	003000	13.1 km	No
Wicklow Mountains SPA	004040	4.7km	No
South Dublin Bay and River Tolka Estuary SPA	004024	6.8 km	Yes
North Bull Island SPA	004006	11.4 km	Yes
Dalkey Islands SPA	004172	12.8 km	No (due to distance and dilution factor)

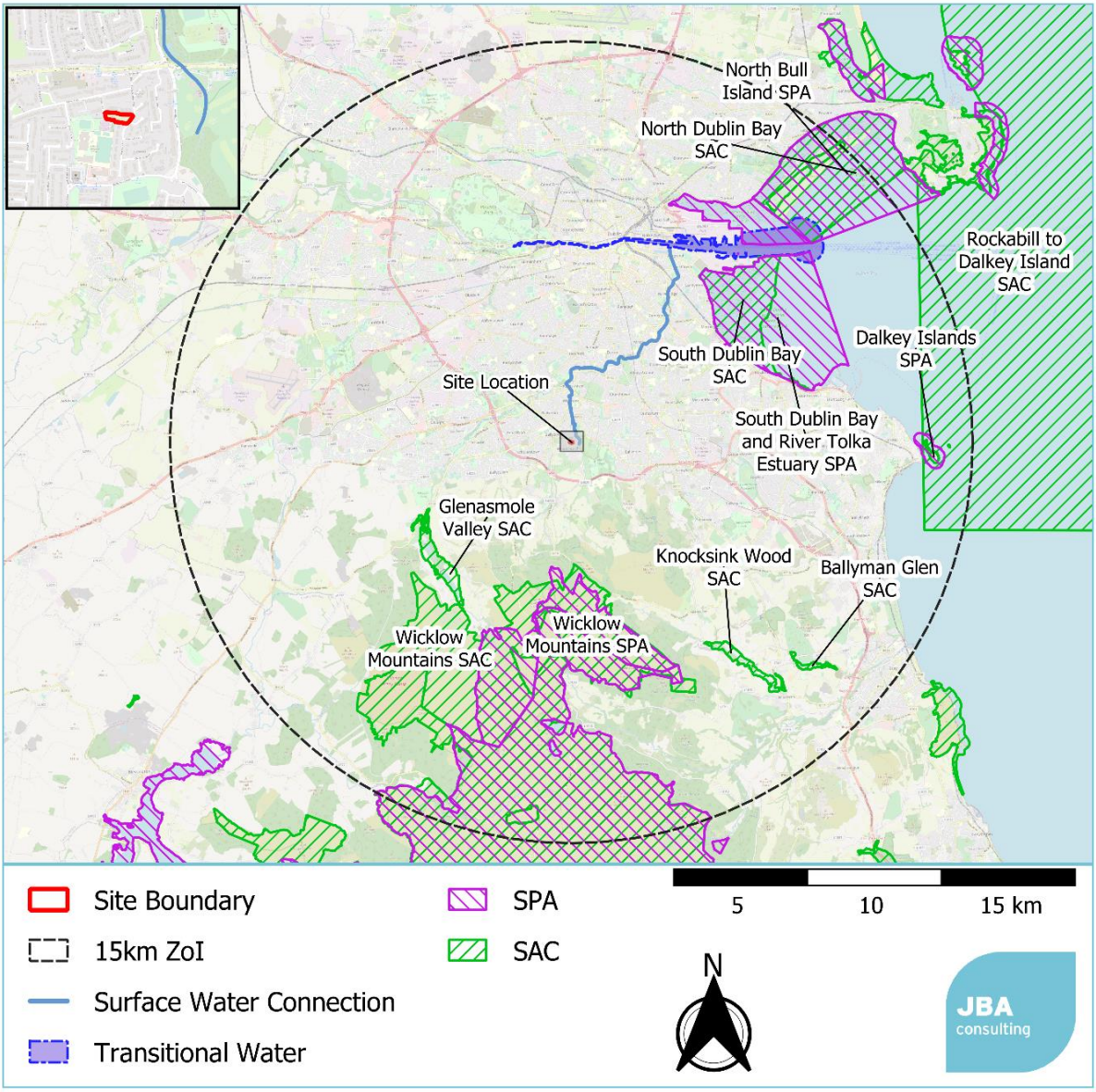


Figure 4-1: Natura 2000 sites and site location (OSM Standard, 2021, NPWS 2021).

The proposed project is to construct a small development of apartments and houses and will mainly have a local impact.

However, the development will connect into the Dublin drainage scheme and there is therefore a surface water pathway between the development and the following Natura 2000 sites in Dublin Bay:

- South Dublin Bay SAC
- North Dublin Bay SAC
- North Bull Island SPA
- South Dublin Bay and River Tolka Estuary SPA

The Natura 2000 sites that are within a 10km ZOI and potentially at risk from air pollution are:

- Glenasmole Valley SAC
- Wicklow Mountains SAC
- Wicklow Mountains SPA
- Knocksink Wood SAC

The Natura 2000 sites that are within 1km potentially at risk from noise pollution are:

- No sites

Details of the Qualifying Interests and project-relevant threats /pressures and their impacts and sources in relation to the Natura 2000 sites within the 15km ZOI that are listed above are given in Table 4-2.

Table 4-2: Site briefs; Qualifying Interests; and project-relevant threats /pressures and their impacts and sources in relation to the Natura 2000 sites within the 15km ZoI (plus hydrological connectivity extension).

Site Name	Brief	Qualifying Interests	Project Relevant Threats / Pressures: Impact (Source)
Wicklow Mountains SAC	An extensive upland site comprising much of the Wicklow Mountains and extending into Co. Dublin. The solid geology is mainly Leinster granites, flanked by Ordovician schists, mudstones and volcanics. The area has been glaciated and features fine examples of high corrie lakes, deep valleys and moraines. The site includes the headwaters of several major rivers, including the Liffey, the Dargle and the Slaney. The substrate over much of the site is peat, with poor mineral soil on the slopes and lower ground. Exposed rock and scree are included in the features found in the SAC. The dominant habitats on the site are blanket bog, heaths and upland grassland. The site comprises the largest complex of upland habitats in eastern Ireland, with important examples of blanket bog, wet heath and dry heath, extensive in area and mostly of good quality. Alpine heath occurs at high levels, along with calcareous and siliceous rocky habitats harbouring an arctic-alpine flora. A fine series of oligotrophic lakes occur, with some recorded to contain Arctic char (*Salvelinus alpinus*). Several oakwoods of moderate quality, typical of the dry acidic woods of eastern Ireland, are found. Eurasian Otter (*Lutra lutra*) occurs on several of the riverine systems (NPWS, 2018a).	-Otter (*Lutra lutra*) [1355] - Oligotrophic water containing very few minerals of sandy plains (*Littorelletalia uniflorae*) [3110] - Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletalia uniflorae* and/or *Isoeto-Nanojuncetea* [3130] - Natural dystrophic lakes and ponds [3160] - Northern Atlantic wet heaths with Erica tetralix [4010] - European dry heaths [4030] - Alpine and Boreal heaths [4060] - Calaminarian grasslands of the *Violetalia calaminariae* [6130] - Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) * [6230] - Blanket bogs (* if active bog) [7130] - Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*) [8110] - Calcareous rocky slopes with chasmophytic vegetation [8210] - Siliceous rocky slopes with chasmophytic vegetation [8220] - Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] (NPWS, 2017a)	Wildlife watching: Low impact (inside)# Trampling, overuse: Moderate impact (both)# Urbanised areas, human habitation: Moderate impact (both)# Collection (fungi, lichen, berries etc): Low impact (inside)# Outdoor sports and leisure activities, recreational activities: Moderate impact (both)# Paths, tracks, cycling tracks: Moderate impact (both)# (Full list of threats / pressures - NPWS, 2018a)
Glenasmole Valley SAC	Glenasmole Valley lies at the northern foothills of the Dublin and Wicklow Mountains. Dry calcareous pasture grassland, improved to varying degrees, is a main habitat of the valley sides and occurs in association	- Semi-natural dry grassland and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (*important orchid sites) [6210]	Discontinuous urbanisation: Moderate impact (outside)# (Full list of threats / pressures -

	with wet grassland and, in places of seepage, fen or marsh type vegetation. The site has important examples of petrifying springs. The physical and chemical properties of the springs have been studied. Good examples of orchid rich calcareous grassland, including Pseudorchis albida (legally protected) and Orchis morio (Red Data Book species) are found here. Molinia meadows are also represented (NPWS, 2017b).	- Molinia meadows on calcareous, peaty or clayey-silt laden soils (*Molinion caeruleae*) [6410] - Petrifying springs with tufa formation (Cratoneurion)* [7220] (NPWS, 2018b)	NPWS, 2017b)
South Dublin Bay SAC	This intertidal site extends from the South Wall at Dublin Port to the West Pier at Dun Laoghaire, a distance of c. 5 km. 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 designated 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 faunal assemblage exists within the SAC. The SAC has the largest stand of Dwarf Eelgrass (*Zostera nolti*) on the east coast (NPWS, 2017c).	- 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] (NPWS, 2013a)	Urbanised areas, human habitation: High impact (outside) Bait digging collection: Moderate impact (inside)# Paths, tracks, cycling tracks: Moderate impact (inside)# Walking, horse-riding and non-motorised vehicles: High impact (inside)# Nautical sports: Moderate impact (inside)# Non-motorised nautical sports: Moderate impact (inside)# Discharges: Moderate impact (both) (Full list of threats / pressures - NPWS, 2017c)
North Dublin Bay SAC	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. The seaward side of the island has a fine	- Mudflats and sandflats not covered by seawater at low tide [1140] - Annual vegetation of drift lines [1210]	Urbanised areas, human habitation: High impact (outside)

	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. Nature conservation is a main land use within the site. 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. Petalwort (*Petalophyllum ralfsii*) occurs at its only known station away from the western seaboard (NPWS, 2017d).	- *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] (NPWS, 2013c)	Nautical sports: Moderate impact (inside)# Walking, horse-riding and non-motorised vehicles: High impact (inside)# Leisure fishing: Low impact (inside)# Antagonism with domestic animals: High impact (inside)# (Full list of threats / pressures - NPWS, 2017d)
Knocksink Wood SAC	This SAC is situated in the steep sided valley of the Glencullen River, north west of Enniskerry, Co. Wicklow. Sessile Oak (*Quercus petraea*) dominated woodland covers much of the southwestern end of the SAC with an associated sparse shrub layer of Holly (*Ilex aquifolium*) and Hazel (*Corylus avellana), Other areas comprise of mixed woodland and associated groundcover.* Frequent and extensive springs and seepage areas give rise to stands of wet alluvial forest (Annex I habitats) There is substantial area of potentially ancient woodland. A Highly diverse invertebrate presence, including some wet woodland organisms which are threatened at an international level. There are several scarce or rare plants including Blue Fleabane (*Erigeron acer*), Ivy-leaved Bellflower (*Wahlenbergia hederacea*) and Yellow Archangel (*Lamiastrum galeobdolon*) (NPWS 2019a)	- Petrifying springs with tufa formation (*Cratoneurion*) [7220]* - Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0] - Alluvial forests with Alnus glutinosa and Fraxinus excelsior (*Alno-Padion, Alnion incanae, Salicion albae*) [91E0]* (NPWS, 2021a)	Discontinuous urbanisation Low impact (outside)# Paths, tracks, cycling tracks Moderate Impact (inside) Walking, horseriding and non-motorised vehicles Moderate Impact (inside)# Disposal of household / recreational facility waste Moderate Impact (inside)# Vandalism High Impact (inside)# (Full list of threats / pressures - NPWS, 2019a)
Wicklow	This is an extensive upland site, comprising a	- Merlin (*Falco columbarius*) [A098]	Walking, horse-riding and non-

Mountains SPA	substantial part of the Wicklow Mountains. The site supports good examples of both upland and woodland bird communities. It has breeding Merlin (*Falco columbarius*) and Peregrine Falcon (*Falco peregrinus*), as well as Ring Ouzel (*Turdus torquatus*) and Red Grouse (*Lagopus lagopus*), both of the latter being Red listed in Ireland. It is the only site in Ireland where Common Merganser (*Mergus merganser*) breeds regularly (NPWS, 2020a).	- Peregrine Falcon (*Falco peregrinus*) [A103] (NPWS, 2018c)	motorised vehicles: High impact (inside)# Paths, tracks, cycling tracks: Moderate impact (inside)# (Full list of threats / pressures - NPWS, 2020a)
North Bull Island SPA	The North Bull Island sand spit is a relatively recent depositional feature, formed as a result of improvements to Dublin Port. The site is among the top ten sites for wintering waterfowl in the country. It supports internationally important populations of Brent Goose and Bar-tailed Godwit 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 Shelduck, Pintail, Grey Plover, and Red Knot. The SPA is a regular site for passage waders such as Ruff, Curlew Sandpiper and Spotted Redshank. The site supports Short-eared Owl in winter (NPWS, 2017e).	- 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] - Red 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] (NPWS, 2015a)	Leisure fishing: Moderate impact (inside)# Industrial or commercial areas: High impact (outside) Urbanised areas, human habitation: High impact (outside) Nautical sports: Moderate impact (inside)# Bait digging collection: Moderate impact (inside)# Walking, horse-riding and non-motorised vehicles: High impact (inside)# (Full list of threats / pressures - NPWS, 2017e)

South Dublin Bay and River Tolka Estuary SPA	This designated 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. The sediments are predominantly well-aerated sands. The sands support the largest stand of Dwarf Eelgrass on the east coast of Ireland. Sediments in the Tolka Estuary vary from soft thixotropic muds with a high organic content in the inner estuary to exposed, well aerated sands off the Bull Wall. 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 Brent Geese, which feeds on Dwarf Eelgrass in the autumn. It has nationally important numbers of a further 6 species including: Oystercatcher, Ringed Plover, Red Knot, Sanderling, Dunlin and Bar-tailed Godwit. It is an important site for wintering gulls, especially Black-headed Gull and Common Gull (*Larus canus*). South Dublin Bay is the premier site in Ireland for Mediterranean Gull (*Larus melanocephalus*), with up to 20 birds present at times. Is a regular autumn roosting ground for significant numbers of terns, including Roseate Terns, Common Tern and Artic Tern (NPWS, 2017f).	- Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] - Oystercatcher (*Haematopus ostralegus*) [A130] - Ringed Plover (*Charadrius hiaticula*) [A137] - Grey Plover (*Pluvialis squatarola*) [A141] - Red Knot (*Calidris canutus*) [A143] - Sanderling (*Calidris alba*) [A144] - Dunlin (*Calidris alpina*) [A149] - Bar-tailed Godwit (*Limosa lapponica*) [A157] - Redshank (*Tringa totanus*) [A162] - Black-headed Gull (*Chroicocephalus ridibundus*) [A179] - Roseate Tern (*Sterna dougallii*) [A192] - Common Tern (*Sterna hirundo*) [A193] - Arctic Tern (*Sterna paradisaea*) [A194] - Wetland and Waterbirds [A999] (NPWS, 2015a)	Leisure fishing: Moderate impact (inside)# Industrial or commercial areas: High impact (outside) Urbanised areas, human habitation: High impact (outside) Nautical sports: Moderate impact (inside)# Bait digging collection: Moderate impact (inside)# Walking, horse-riding and non-motorised vehicles: High impact (inside)# (Full list of threats / pressures - NPWS, 2017f)

* = priority Annex I habitat

= indirect threat via the increase in the local populace and recreational activities as a result of the development.

5 Other Relevant Plans and Projects

5.1 Cumulative Effects

As part of the Screening for an Appropriate Assessment, in addition to the proposed works, other relevant projects and plans in the region that may induce cumulative impacts must also be considered at this stage.

The following projects or plans were identified as potential sources of cumulative impacts:

- South Dublin County Council Development Plan 2016 - 2022
- Greater Dublin Drainage Plan
- River Basin Management Plan for Ireland 2018-2021
- Planning Applications

5.1.1 South Dublin County Council Development Plan 2016 - 2022

The South Dublin County Council (SDCC) Development Plan sets out an overall strategy for the proper planning and sustainable development of the County. The objectives include a target of increased population and continuing the consolidation of established urban areas, to support and facilitate economic activity and to promote the ease of movement by sustainable modes (walking, cycling and public transport). The Plan also aims to protect and enhance surface water quality, to support, improve and protect Natura 2000 sites, and to develop an integrated Green Infrastructure network to enhance biodiversity, provide accessible parks, open spaces and recreational facilities (SDCC, 2016a). The plan also states that work will be in conjunction with Irish Water to protect existing water and drainage infrastructure, to promote investments aiming to support environmental protection and facilitate the sustainable growth of the county (SDCC, 2016a).

A Screening for Appropriate Assessment was carried out on the plan. This concluded that there are no likely significant direct, indirect or secondary impacts of the project on any Natura 2000 sites (SDCC, 2016b), therefore the South Dublin County Council (SDCC) Development Plan is not anticipated to contribute to cumulative or in-combination effects.

5.1.2 Greater Dublin Drainage Plan

The Greater Dublin Drainage Strategy sets out the strategic planning for the development of waste water treatment in the Greater Dublin area in relation to the Ringsend Waste Water Treatment Plant (WWTP) Upgrade, Greater Dublin Drainage Project and associated wastewater network drainage projects (Irish Water, 2018). The Ringsend WWTP Upgrade includes plans to expand the WWTP to its ultimate capacity, together with associated network upgrades required. The Greater Dublin Drainage Project is planned to relieve both the Ringsend WWTP and network loading by construction of a new WWTP at Clonshaugh, an orbital sewer and provision of an outfall pipe discharging 1km north east of Ireland's Eye.

The Ringsend WWTP upgrade is in progress and carried out in stages, with an increased capacity of 400,000 PE by the first half of 2021 and the ultimate capacity of 2.4 million PE to be in operation by 2025 (Irish Water, 2018).

The Greater Dublin Drainage Project is strategically important to the Dublin Region in that it will provide capacity for residential and commercial growth (Irish Water, 2018).

The Greater Dublin Drainage Strategy is not anticipated to contribute to cumulative or in-combination effects.

5.1.3 River Basin Management Plan for Ireland 2018-2021

The River Basin Management Plan (RBMP) for Ireland 2018-2021 sets out the actions that Ireland will take to improve water quality and achieve 'good' ecological status in water bodies (rivers, lakes, estuaries and coastal waters) by 2021 (DoHPLG, 2018a). Changes from previous River Basin Management Plans is that all River Basin Districts are merged as one national River Basin District. The Plan provides a more coordinated framework for improving the quality of our waters — to protect public health, the environment, water amenities and to sustain water-intensive industries, including agri-food and tourism, particularly in rural Ireland.

The first cycle of River Basin Management Plans included the Eastern River Basin District - River Basin Management Plan (ERBDMP) 2009 – 2015 (WFD (2010). The plans summarised the waterbodies that may not meet the environmental objectives of the WFD by 2015 and identified which pressures are contributing to the environmental objectives not being achieved. The plans described the classification results and identified measures that can be introduced in order to safeguard waters and meet the environmental objectives of the WFD;

- Prevent deterioration of water body status.
- Restore good status to water bodies.
- Achieve protected areas objectives.
- Reduce chemical pollution of water bodies

The ERBD Management Plan (2009-2015) and the River Basin Management Plan for Ireland (2018-2021) aim to improve the management and water quality of the Eastern RBD, and hence the River Boyne and Estuary. Preparation of the 2nd Cycle RBMPs 2018-2021 is now underway.

Notably the nearby Whitechurch stream, (OWENDOHER_010) has been recently awarded a 'Good' WFD Status (2013-2018), an improvement on its previous 'Moderate' status; however it is currently considered to be 'At Risk' (EPA 2021). It is also important to note that sub-category, Invertebrate Status or Potential, has improved from 'Moderate' to 'Good'.

The River Basin Management Plan for Ireland 2018-2021 is not anticipated to contribute to cumulative or in-combination effects.

5.2 Other Projects

Since March 2018, the projects listed below (Table 5-1), which are not retention applications, home extensions and/or internal alterations, have been granted planning permission in the locality of the proposed site (within 1km).

Table 5-1: Projects granted planning permission since March 2018 in vicinity of proposed site.

Planning Reference	Address	Planning decision	Decision date	Summary of Development
SD18A/0154	Whitechurch Lodge, Whitechurch Road, Rathfarnham, Dublin 16.	Grant Permission	02/07/18	Amendments to previously permitted development located within the attendant grounds of Whitechurch Lodge, a Protected Structure - RPS No. 338, (Reg. Ref. SD17A/0183, granted permission on 18/09/17): alterations to the six two storey detached houses numbered 1-6 include: changes in materials to elevations; removal of 1 chimney to each house; alterations to window and door opes; change in roof profile from mansard style roof to pitched roof (Houses 2, 3, 4 and 5 only).
SD13A/0222/EP	Grounds adjoining St. Augustines Priory, Edmondstown Road, Dublin 16.	Grant Extension of Duration of Permission	10/06/19	Erection of a new Primary Care Centre of 3,841sq.m. of 1-4 storeys; construction of new vehicle/bicycle entranceway in Edmondstown Road to replace the existing entrance; a new pedestrian entranceway on Edmondstown Road and two new pedestrian entranceways on Moyville; extensive new site landscaping works to include new boundary treatment, pedestrian and cycle paths and planting and parking for 81 cars, 2 ambulances and 26 bicycles; site signage to be erected at Edmonstown Road entrance.
SHD3ABP-307222-20	Site at Taylors Lane and Edmondstown Road, Taylors Lane, Ballyboden, Dublin 16	Grant Permission	14/09/20	Demolition of existing former institutional buildings and associated outbuildings. Construction of 496 residential units within 3 apartment/duplex blocks (over basement car parks) ranging in height from 2-7 storeys. Block A - 6-7 storeys in height and consists 152 units in 2 L shaped buildings along with a creche and 2 retail units. Block B- 3 x 6-7 storey buildings with 141 units, plus 6 x 2 storey duplex units in 2 buildings providing a total of 147 units. Block C- 5-6 storeys in height and consists 197 units plus a community room all in one building. Provision of a new public park along Taylors Lane. Provision of 372 car parking spaces and 1144 cycle parking spaces. Revised vehicular access from Edmondstown Road and an emergency vehicular access off Taylors Lane along with provision of pedestrian accesses to the site. Road improvement works along Edmondstown Road including the existing junction off Scholarstown Road/Edmondstown Road. All associated development works, substations, bin stores and landscaping required.

5.3 Summary

The County Development Plan, Greater Dublin Drainage Plan, RBMP, and projects near the proposed project are considered in combination with the currently proposed project in the Screening Assessment section below.

6 Screening Assessment

6.1 Introduction

This screening exercise will focus on assessing the likely adverse effects of the project on the Natura 2000 site identified in Section 4 above.

This section identifies the potential impacts which may arise as result of the proposed project. It then goes on to identify how these impacts could potentially impact on the Natura 2000 sites. The significance of potential impacts is also assessed, with any potential in-combination effects also identified.

The Natura 2000 sites to be assessed, with distances from the proposed project, are:

- Wicklow Mountains SAC - 4.5 km
- Wicklow Mountains SPA - 4.7 km
- Glenasmole Valley SAC - 5.9 km
- South Dublin Bay SAC - 5.9 km
- South Dublin Bay and River Tolka Estuary SPA - 6.8 km
- North Dublin Bay SAC - 11.4 km
- North Bull Island SPA - 11.4 km
- Knocksink Wood SAC - 9.0 km

6.2 Assessment Criteria

6.2.1 Description of the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 sites

Potential adverse impacts that could cause a likely significant effect on the qualifying interests of the Natura 2000 sites, or the sites as a whole, during the construction and operational phases of the project, are considered using three main pathways surface water, groundwater and land and air pathways. Surface water pathways can result in impacts where material entering the surface water drainage are carried in this water to sites that are connected downstream and can therefore impact surface water bodies themselves, and surface water dependent species and habitat that rely on them. Groundwater pathways can transmit impacts where there is contamination of water entering the groundwater body which is then discharged (sometimes over periods of several decades) and impacts groundwater dependent habitats and species that rely on them. Land pathways are related to physical disturbance of habitat or species and generally only occur over short physical distance. Air pathways relate to the transport of material, generally dust and atmospheric pollution, via air movements that are subsequently deposited on habitats and species in or connected to the Natura 2000 sites.

The proposed project is not anticipated to impact on the qualifying interests of any of the identified SACs or SPAs due to the absence of pathways between any potential source of impact and receiving environment in the case of the Natura 2000 sites. The rationale for excluding impacts via the main pathways is given in more detail in the following section.

6.2.2 Surface Water Pathways

The only connection of the proposed site to the Natura 2000 sites in Dublin Bay is via the surface water network discharging South Dublin Surface Water Drainage System and foul water sewers which are directed to Ringsend WWTP.

The outfall is at Poolbeg, which is within the waterbody Liffey Estuary Lower [IE_EA_090_0300]. This is a transitional water body with an Ecological Status of Moderate and a WFD Risk of ‘At risk’ (Transitional water body data 2010-15, EPA, 2019). The outer estuary/Dublin Bay (coastal water body IE_EA_090_0000) has a status of Good with a WFD Risk of Not at risk.

During construction:

Works will entail excavation of topsoil and subsoil within the construction site boundary. Any runoff from the site will be contained within the site boundary and will not get into the Dublin drainage surface water network system until the attenuation system is installed.

Construction management measures will comply with the Greater Dublin Regional Code of Practice for Drainage Works (Dublin City Council, 2021). The first objective of the Code of Practice is Compliance with best environmental practices and relevant environmental legislation such as the Water Framework Directive.

In the event of a pollutant reaching the nearest watercourse via the drainage network it would be subsequently diluted over 14km of watercourse, with further mixing in the large water body of Dublin Bay before reaching the connected four Natura 2000 sites within the bay.

Therefore, given the small scale and temporary nature of the construction phase of the project, as well as its distance via watercourse to any Natura 2000 site, these are not anticipated to have a significant impact on any of the QIs of the four Natura 2000 sites within Dublin Bay.

During operation:

During the operational phase of the proposed development, appropriate surface water drainage systems installed at the site will connect any surface water run off to the nearby existing surface water drain. The attenuation system will ensure that no sediment or pollution will enter the surface water drainage system as appropriate filters will be put in place in accordance with the Greater Dublin Regional Code of Practice for Drainage Works .

All foul water discharge in the proposed site will connect to the existing foul water drainage system on Glenmore Park Road which are eventually directed to Ringsend WWTP.

In June 2018 Irish Water applied for (and subsequently received) planning permission for upgrade works to the Ringsend WWTP facility. These are currently on-going and will increase the capacity of the facility from 1.6 million PE to 2.4 million PE. This plant upgrade will result in an overall reduction in the final effluent discharge of several parameters from the facility including BOD, suspended soils, ammonia, DIN and MRP. An Environmental Impact Assessment Report (EIAR) (Irish Water 2018b) was submitted by Irish Water as part of this application. The EIAR contains sections relating to Marine Biodiversity and Terrestrial Biodiversity, and each contains a section on the ‘do-nothing scenario’. These review the effects of the WWTP on biodiversity in Dublin Bay in the absence of the upgrade works and so are relevant to this report.

The EIAR report acknowledges that under the do-nothing scenario “the areas in the Tolka Estuary and North Bull Island channel will continue to be affected by the cumulative nutrient loads from the river Liffey and Tolka and the effluent from the Ringsend WWTP”, which could result in a decline in biodiversity and the deterioration of the biological status of Dublin Bay (Irish Water, 2018b). Nevertheless, these negative impacts of nutrient over-enrichment are considered “unlikely” (Irish Water, 2018b). This is because historical data suggests that pollution in Dublin Bay has had little or no effect on the composition and richness of the benthic macroinvertebrate fauna. The EIAR notes that “although a localised decline could occur, it is not envisaged to be to a scale that could pose a threat to the shellfish, fish, bird or marine mammal populations that occur in the area.” Furthermore, the EIAR notes that significant impacts on waterbird populations foraging on invertebrates in Dublin Bay due to nutrient over-enrichment are “unlikely” to occur (Irish Water, 2018b). What is important in the context of this AA screening report is that the do-nothing scenario predicts that nutrient and suspended solid loads from the WWTP will “continue at the same levels and the impact of these loadings should maintain the same level of effects on marine biodiversity” and that “if the status quo is maintained there will be little or no change in the majority of the intertidal faunal assemblages found in Dublin Bay which would likely continue to be relatively diverse and rich across the bay.”

Therefore, it can be concluded that effects on marine biodiversity and the Natura 2000 sites within Dublin Bay from the current operation of Ringsend WWTP are unlikely. Importantly, this conclusion is not dependent upon any future works to be undertaken at Ringsend. Thus, even in the absence of any upgrading works of the WWTP, significant effects to Natura 2000 sites in Dublin Bay are not likely to arise during operation of the proposed development.

On examination of the above it is considered that there are no means during the construction and operation for the proposed project that would cause any likely significant effects on any Natura 2000 sites within Dublin Bay.

There is no surface water connectivity to the remaining protected areas, as these Natura 2000 sites either exist outside of the surface water sub-catchment, Dodder_SC_010 (Figure 6-1) or they are upstream of the site and therefore have no associated hydrological connection. Therefore, the proposed project is not anticipated to have any impact on the qualifying interests of the SACs and SPAs via surface water pathways. Table 6-1 provides a summary of the screening rationale for the surface water pathway.

Table 6-1: Surface water pathway screening summary for Natura 2000 sites

Natura 2000 Sites	Screening outcome for Surface Water Pathway	Rationale
- North Dublin Bay SAC - South Dublin Bay SAC - North Bull Island SPA - South Dublin Bay and River Tolka Estuary SPA	No significant effect (Screened out)	Distance / high level of dilution by larger freshwater system and transitional / coastal waters Low/moderate Aquifer vulnerability and soil/sediment providing contamination retention. Appropriate operational surface and foul water drainage systems
- Glenasmole Valley SAC - Wicklow Mountains SAC - Wicklow Mountains SPA	No significant effect (Screened out)	Upstream of site location, no hydrological connection.
- Knocksink Wood SAC	No significant effect (Screened out)	Within different sub-catchment, no hydrological connection

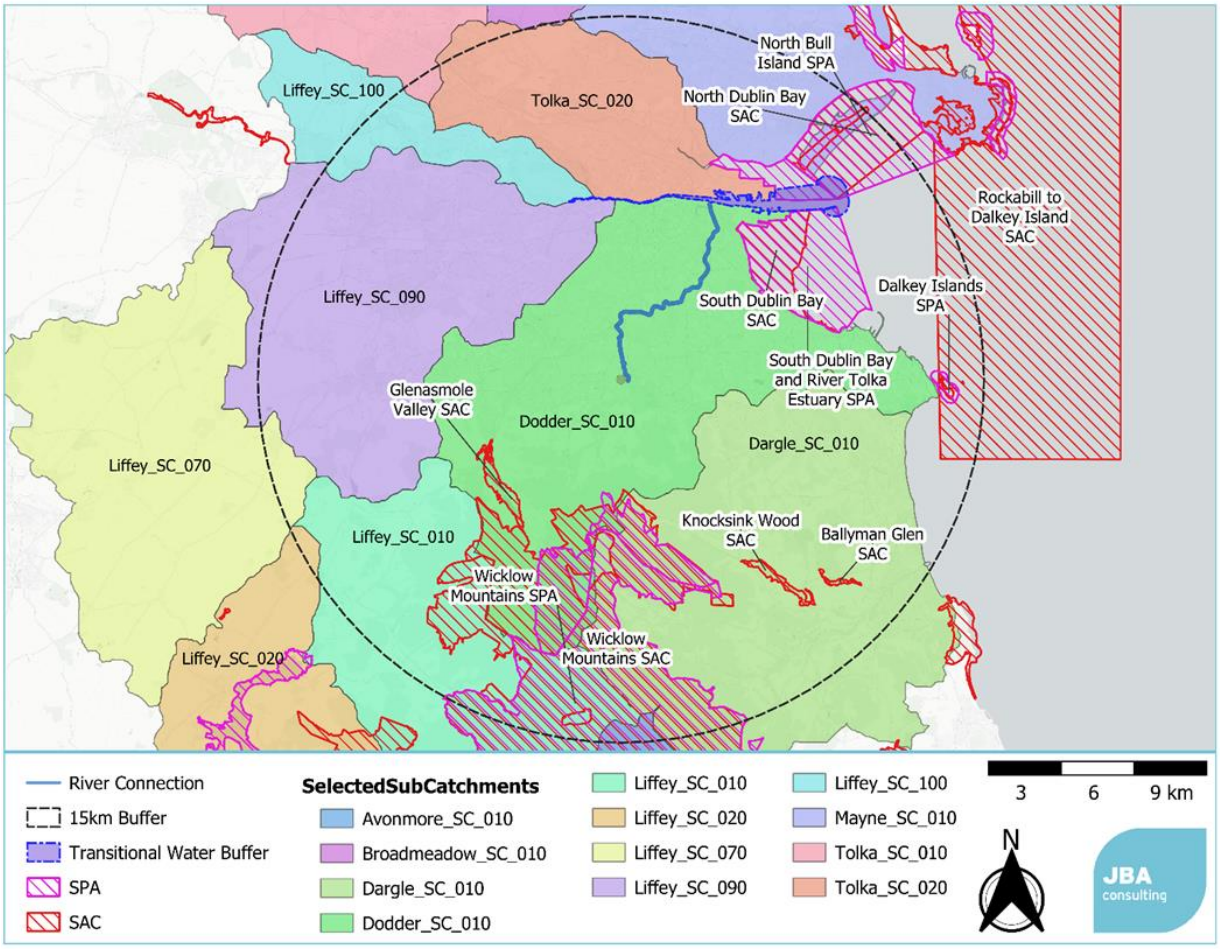


Figure 6-1: Natura 2000 sites, site location and surface water sub-catchments (OSM, 2021; EPA, 2021).

6.2.3 Groundwater

The site is located within the Killcullen - IE_EA_G_003 groundwater body, which underlies a large portion of the south Dublin. The site shares this groundwater body with three of the Natura 2000 sites, namely the Wicklow Mountains SAC, Wicklow Mountains SPA and the Glenasmole Valley SAC.

The bedrock underlying the proposed site location is igneous Caledonian granite with microcline phenocrysts. The subsoil consists of sediments derived from limestone, while the predominant topsoil is made, modified ground from urban sprawl. The Aquifer vulnerability at the site is considered Low to Moderate (Figure 6-2), while the productivity category of the aquifer is considered poor. The bedrock is generally unproductive except for local zones and has a poorly connected and limited network of fissures and joints. These traits reduce fissure permeability, which decreases further with depth. Generally, the lack of connection between the limited fissures results in relatively poor aquifer storage and flow paths that may only extend a few hundred metres (GSI, 2021). Therefore, impacts via a groundwater pathway are not anticipated given the distance to the Natura 2000 sites that are present in the same groundwater system.

As described in Section 6.2.2, sufficient infrastructure will be put in place to trap any released pollutants during the proposed developments operational phase which will be connected to existing surface water drainage systems. The low vulnerability of the aquifer present at the proposed site minimises the risk of a pollution event reaching the nearby water course of Whitchurch Stream. The risk is further reduced by the natural filtration and sediment retention of the underlying subsoil and aquifer. In the very unlikely case a pollutant was to reach the nearby stream via a groundwater pathway and the Natura 2000 sites of Dublin Bay, the subsequent dilution of the surface water through outflows into progressively larger

water bodies over the 15km distance to these sites combined with the natural filtration and retention of pollutants in the sediment greatly reduces the possibility of pollutants reaching these protected sites at a significant level. Therefore, impacts via a groundwater to surface water pathway are not anticipated given the distance to the Natura 2000 sites.

Table 6-2 provides a summary of the screening rational for the groundwater pathway.

Table 6-2: Ground water pathway screening summary for Natura 2000 sites

Natura 2000 Sites	Screening outcome for Ground Water Pathway	Rationale
- North Dublin Bay SAC - North Bull Island SPA - South Dublin Bay and River Tolka Estuary SPA	No significant effect	Outside of the groundwater body but connection; Aquifer and sediment providing contamination retention. Limited network connectivity Appropriate operational surface and foul water drainage systems Distance / high level of dilution by larger freshwater system and transitional / coastal waters
- Glenasmole Valley SAC - Wicklow Mountains SAC - Wicklow Mountains SPA	No significant effect (Screened out)	Large distance over poorly productive, low connectivity aquifers.
- Knocksink Wood SAC	No significant effect (Screened out)	Within a different groundwater body. Large distance over poorly productive, low connectivity aquifers.

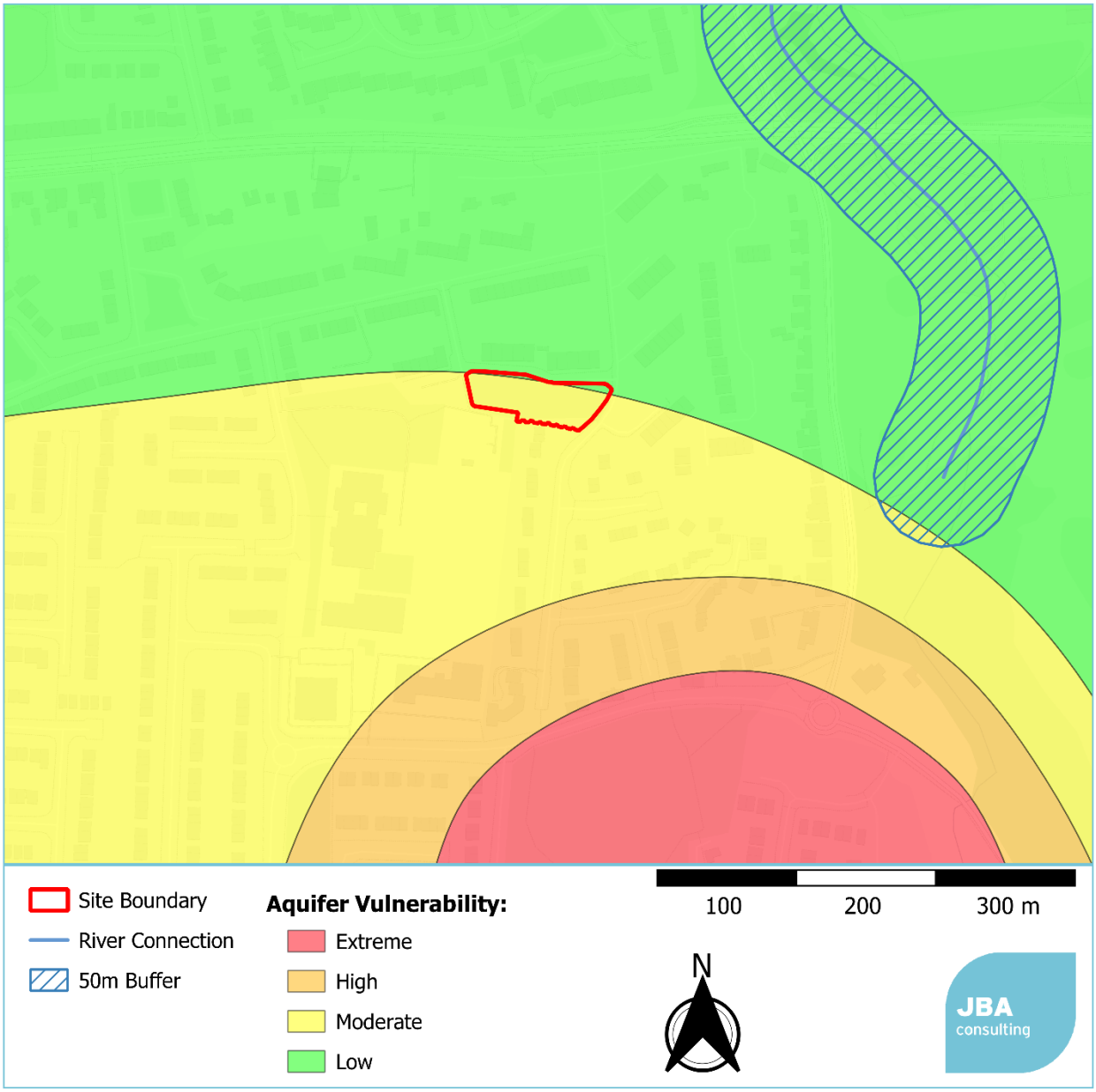


Figure 6-2: Aquifer vulnerability of proposed site (GSI, 2021; OSM 2021)

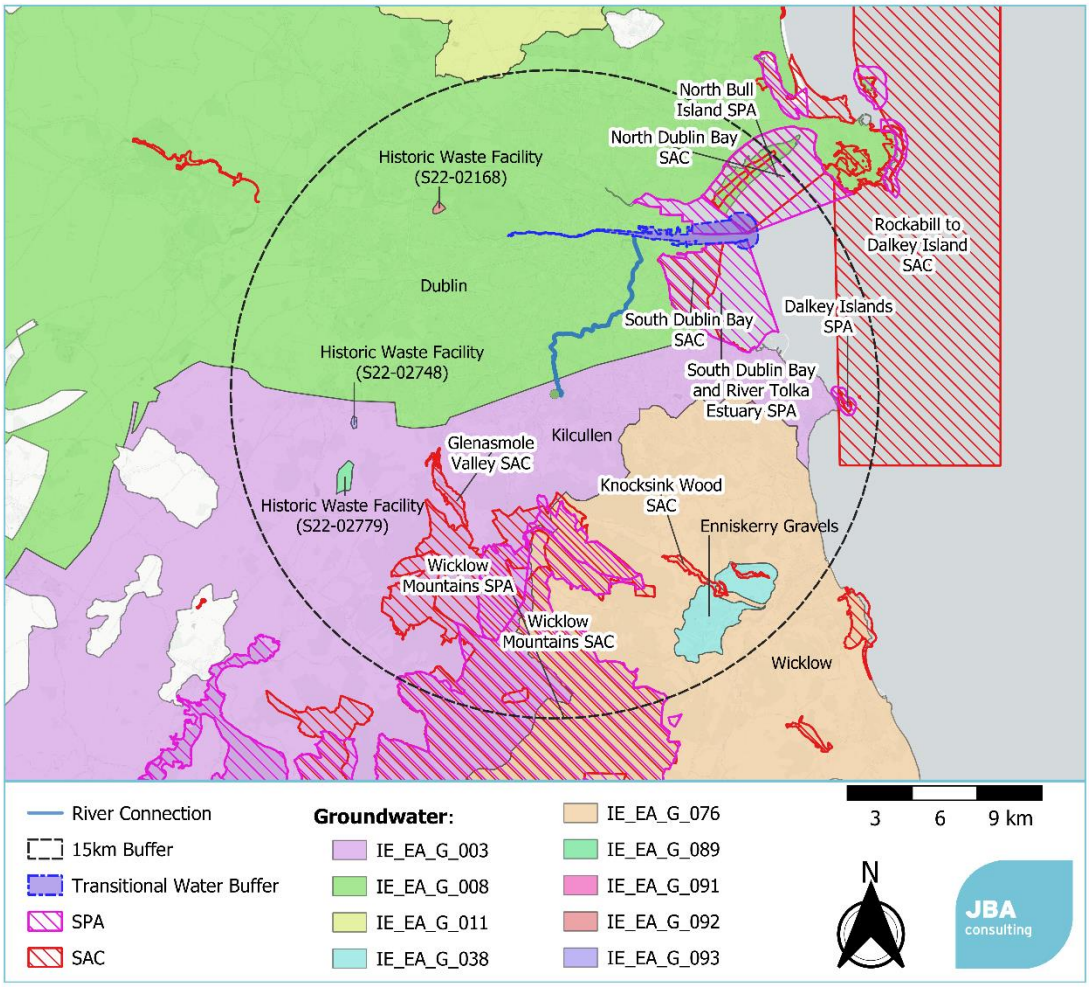


Figure 6-3: Site location and Natura 2000 sites and groundwater bodies (OSM, 2021; GSI, 2021)

6.2.4 Land and Air

The loss or degradation of supporting habitats outside the identified Natura 2000 sites via land- and air-based impacts could have potential adverse impacts on a number of the QIs associated with these Natura 2000 sites.

Land (physical on-site and noise disturbance)

Direct physical impacts and indirect impacts, such as visual and noise impacts, have the potential to physically disturb habitats as well as the floral and faunal species within them. This development will not result in any physical land-take or disturbance from the Natura 2000 sites within the ZoI, nor will it result in any visual or noise disturbance to the QIs due to the distances between the site and the Natura 2000 sites

Air Pollution

Regarding adverse air-based impacts, the releasing of dust and vehicle emissions can travel up to 10km and could potentially affect the Annex I habitats Floating River Vegetation [3260], Dry Heath [4030], Hydrophilous Tall Herb Communities [6430], Petrifying Springs [7220], Old Oak Woodlands [91A0] and Alluvial Forests [91E0], even if they are not located within close distance to the proposed project. Knocksink Wood is particularly sensitive air pollution, as it has three sensitive habitats, Petrifying Springs [7220], Old Oak Woodlands [91A0] and Alluvial Forests [91E0], and is within 10km of the proposed development. Old Oak Woodlands [91A0] are present in the Wicklow Mountains SAC and Petrifying Springs [7220] are present in the Glenasmole Valley SAC which are both less then 10km

from the proposed development. Typically dust emissions are divided into settleable dust, respirable dust and PM10's and PM2.5 (10 um and 2.5 um respectively). Settleable dust will, depending on its size and weather conditions, settle out close to the source. The respirable fraction can travel a little further but typically settles out close to production. The lighter smaller PM10 and PM 2.5 fraction can travel further distances. The distance and direction of travel is dependent upon wind speed and direction.

The 9km distance from the proposed development to Knocksink Wood SAC is dominated by amenity parkland and elevated forestry which will act as a natural buffer to PM10 dispersion, trapping these airborne particulates. Wicklow Mountains SAC and Glenasmole Valley SAC are also buffered from the proposed development by forestry. The proposed site has a south westerly prevailing wind year-round (Windfinder-Casement Aerodrome, 2020), therefore, any dust generated on-site will most likely be transported away from the Wicklow Mountains SAC, Glenasmole Valley SAC and Knocksink Wood SAC. The other Natura 2000 sites respective QIs are not sensitive to dust-based pollution, therefore, impacts via the air pathway in regard to dust are not anticipated from the proposed works.

As the prevailing wind carries any air pollution away from both Natura 2000 sites within the assigned 10km buffer, and given the residential development's relatively small size, and the respective landscape between the proposed development and the Natura 2000 sites, impacts via the air pathway in regard to emission-based impacts on the Natura 2000 sites and their respective QIs are not anticipated from the proposed works.

Table 6-3: Land and air pathway screening summary for Natura 2000 sites

Natura 2000 sites	Screening outcome for Land and Air Pathway	Rationale
- North Dublin Bay SAC - North Bull Island SPA	No significant effect (**Screened out)**	No physical, visual or noise disturbance due to the distances between the site and the Natura 2000 sites Located beyond the 10km dust settlement zone and Respective QIs are not sensitive to dust-based pollution
- Glenasmole Valley SAC - Knocksink Woods SAC	No significant effect **(Screened out)**	No physical, visual or noise disturbance due to the distances between the site and the Natura 2000 sites Shielded by natural dust barriers (hedgerows, treelines, and woodland) between the sites and the proposed development Not located within the path of the site's prevailing wind
- South Dublin Bay and River Tolka Estuary SPA - South Dublin Bay SAC - Wicklow Mountains SPA	No significant effect **(Screened out)**	No physical, visual or noise disturbance due to the distances between the site and the Natura 2000 sites Respective QIs are not sensitive to dust-based pollution

6.2.5 Cumulative Impact

All projects listed in Table 5-1 have been subject to Stage 1 Appropriate Assessment Screening and some of them have been subject to Stage 2 Appropriate Assessment. The conclusion from these assessments are that the projects will have a negligible impact on the QIs/Species of Conservation Interests (SCI) of any Natura 2000 site with the implementation of proposed mitigation measures. As the proposed development is unlikely to affect the QIs/SCIs or conservation objectives of any European site, there is no potential for other plans or projects to act in combination with it to result in likely significant effects on European sites

6.3 Summary

Due to the location of the proposed site, the nature of the construction works associated underlying geology and its proximity to the Natura 2000 sites within the ZoI, impacts via surface water, groundwater (to surface water) and land & air pathways to the SACs or SPAs are not anticipated.

6.3.1 Description of likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the Natura 2000 sites

Project Elements	Comment	
Size and scale	South Dublin County Council intend to construct 10 Age Friendly Social Housing in the format of 4 apartments and 6 terraced houses facing a courtyard with an ancillary community communication building. These buildings and associated gardens will take up 0.1341ha of this 0.2810 site. Some trees on site will be removed during construction. An appropriate attenuation system will collect surface water runoff from the site and connect it to the nearby existing drainage systems. New foul water systems will also be installed and connected to the existing sewer system. The proposed developments location is in Pearse Brothers Park, Rathfarnham, Dublin16 , 300m west of the Whitchurch Stream and the Grange Golf Club, and just south of the Taylors Lane, within an area of suburban housing. The existing site is used as an amenity green space.	
Land-take	There will be no direct land take from any of Natura 2000 sites.	
Distance from Natura 2000 site or key features of the site	Wicklow Mountains SAC	4.5 km
	Glenasmole Valley SAC	5.9 km
	South Dublin Bay SAC	6.8 km
	North Dublin Bay SAC	11.4 km
	Wicklow Mountains SPA	4.7km
	Knocksink Woods SAC	9.0 km
	South Dublin Bay and River Tolka Estuary SPA	6.8 km
	North Bull Island SPA	11.4 km
Resource requirements (water abstraction etc.)	There will be no water abstraction requirements.	

Emissions (disposal to land, water or air)	Surface water-based construction emissions are not anticipated to enter the local watercourse given the distance to the nearest watercourse and natural retaining qualities of the aquifer below. Air-based construction emissions from the proposed development are not anticipated to impact the QIs of the Natura 2000 sites within the ZoI due to prevailing wind and the 5km dust settlement zone. There will be an increase in foul water emissions at the site, due to the developments' PE of 22. but all associated sewage will be connected to nearby sewage treatment WWTP at Ringsend. Surface water run off associated with roofs other surfaces will be trapped in the planned attenuation system (following a SUDS study) which will be connected to existing drainage systems on Glenmore Park Road. Emissions from the buildings will be reduced to sustainable heating and building practices associated with new builds within the South Dublin County Council jurisdiction. Increases in traffic emissions will be minimal due to the residential nature of the development.
Excavation requirements	Construction phase excavation depths will be a maximum depth of 1.8m to make accommodate the installation of an appropriate attenuation system.
Transportation requirements	Temporary Impacts: Traffic will increase within the immediate vicinity of the suburban housing surrounding the site. Large scale construction may require tertiary and secondary road closures within the housing area. The site is well accessed via Taylors Lane to the north. Permanent Impacts: Negligible increase in traffic due to the proposed developments PE of 22. Higher parking demands will be catered for by the development.
Duration of construction, operation, decommissioning etc.	Construction will last approximately 54 weeks. Operation will be permanent, and no decommissioning is anticipated.
Other	None

6.3.2 Description of likely changes to the Natura 2000 sites

Potential Impact	Comments
Reduction of habitat area	There will be no temporary or permanent reduction in habitat area for any of the Natura 2000 sites.
Disturbance to key species	There will be no disturbance to any QIs within any of the Natura 2000 sites.
Habitat or species fragmentation	There will be no temporary or permanent habitat or species fragmentation within any of the Natura 2000 sites.
Reduction in species density	There will be no temporary or permanent reduction in species density within any of the Natura 2000 sites, or any QIs of these sites.
Changes in key indicators of conservation value (water quality etc.)	There will be no temporary or permanent changes in key indicators of conservation value (surface water, groundwater and air quality).
Climate change	N/A

6.3.3 Description of likely impacts on the Natura 2000 sites as a whole

Potential Impact	Comments
Interference with the key relationships that define the structure of the site	Interference with the key relationships that define the structure of the sites are not anticipated
Interference with key relationships that define the function of the site	Interference with the key relationships that define the function of the sites are not anticipated

Provide indicators of significance as a result of the identification of effects set out above in terms of:

Potential Impact	Indicators
Loss (Estimated percentage of lost area of habitat)	No Natura 2000 sites will experience a direct loss in habitat area.
Fragmentation	Fragmentation of habitat and/or species is not anticipated.
Disruption & disturbance	Disruption and/ or disturbance is not anticipated.
Change to key elements of the site (e.g. water quality etc.)	Potential temporary changes to key elements (i.e. water quality) of the site are not anticipated.

6.3.4 Describe from the above those elements of the project or plan, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is unknown

Based upon best scientific judgement, no significant impacts are expected from the elements mentioned above; and that no significant gaps in knowledge of the scale or magnitude of potential impacts from the proposed site exist.

6.4 Concluding Statement

Following this initial screening of the proposed development at Pearse Brothers Park, it can be concluded that significant impacts are not anticipated via surface water, groundwater, or land/air pathways on the following Natura 2000 sites:

- Wicklow Mountains SAC [002122]
- Glenasmole Valley SAC [001209]
- South Dublin Bay SAC [000210]
- North Dublin Bay SAC [000206]
- Knocksink Wood SAC [000725]
- Wicklow Mountains SPA [004040]
- South Dublin Bay and River Tolka Estuary SPA [004024]
- North Bull Island SPA [004006]

If any changes occur in the design of these works, a new Screening for Appropriate Assessment is required.

Appendices

A Proposed Site Plan:

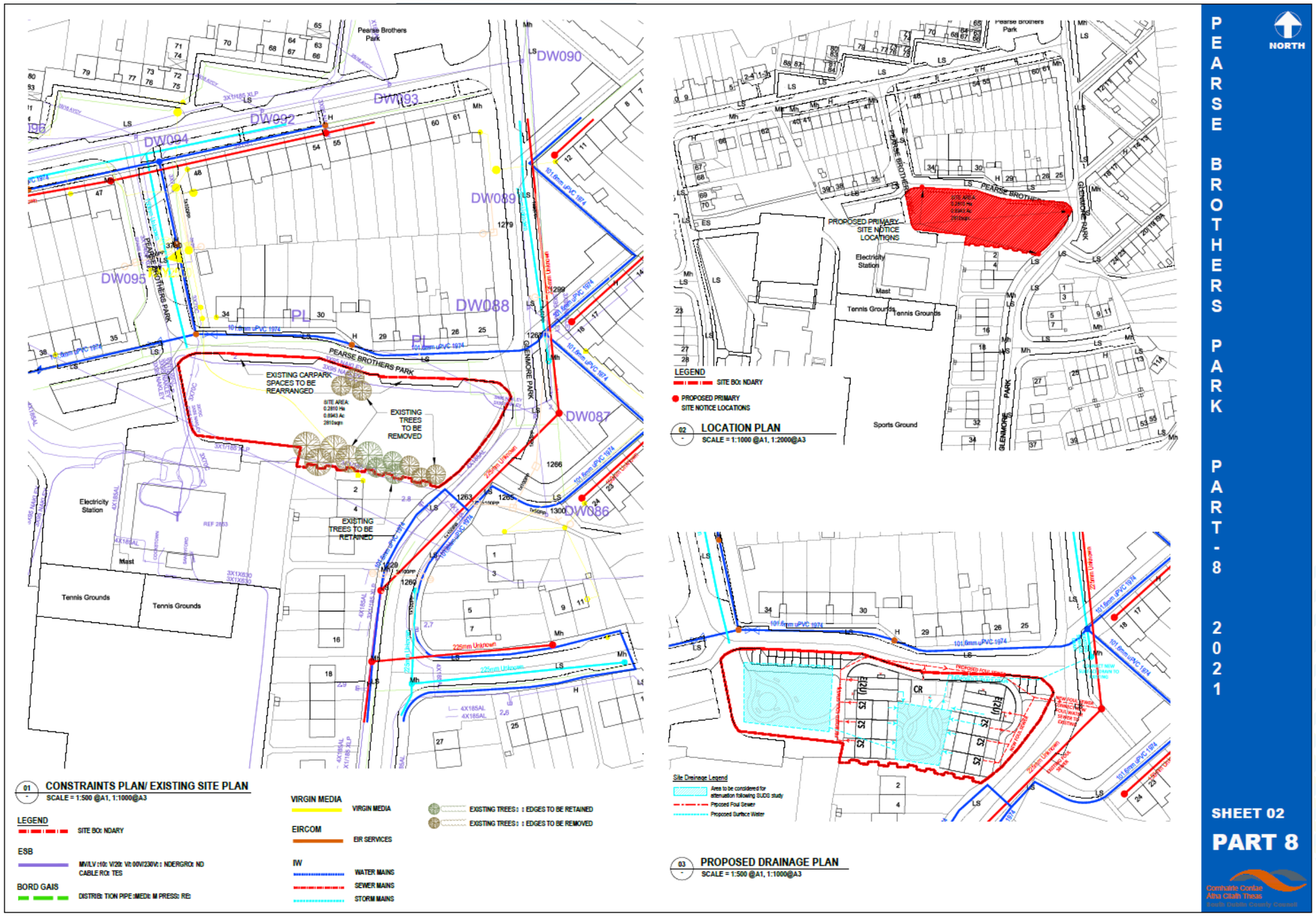
FPX-JBAI-XX-XX-RP-BD-0003-S4-P01-AA_Scr_Pearse

B Proposed Floor Plan:

FPX-JBAI-XX-XX-RP-BD-0003-S4-P01-AA_Scr_Pearse

C Sites Existing Constraints and Drainage Plans:

Including, telephone, electricity, gas, foul water/sewer lines and trees to be retained to the left. Site location and drainage plans are to the right.



FPX-JBAI-XX-XX-RP-BD-0003-S4-P01-AA_Scr_Pearse

D National Biodiversity Data Centre - Protected Species

Records of protected Flora and Fauna in 2km tile 'O12N' (2021):

Species group	Species name	Latin name	Date of last record	Title of dataset	Designation
amphibian	Common Frog	*Rana temporaria*	18/06/2018	Amphibians and reptiles of Ireland	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex V || Protected Species: Wildlife Acts
bird	Barn Swallow	*Hirundo rustica*	10/04/2015	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
bird	Black-headed Gull	*Choicephalus ridibundus*	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List

bird	Common Coot	*Fulica atra*	05/03/2014	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
bird	Common Linnet	*Carduelis cannabina*	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
bird	Common Redshank	*Tringa totanus*	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List

bird	Common Snipe	*Gallinago gallinago*	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section III Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
bird	Common Starling	*Sturnus vulgaris*	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
bird	Common Wood Pigeon	*Columba palumbus*	18/02/2017	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section I Bird Species
bird	Eurasian Oystercatcher	*Haematopus ostralegus*	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List

bird	Great Black-backed Gull	*Larus marinus*	05/03/2014	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
bird	Great Cormorant	*Phalacrocorax carbo*	31/12/2001	Irish Wetland Birds Survey (I-WeBS) 1994-2001.	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
bird	Herring Gull	*Larus argentatus*	01/02/2013	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
bird	House Martin	*Delichon urbicum*	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
bird	House Sparrow	*Passer domesticus*	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List

bird	Lesser Black-backed Gull	*Larus fuscus*	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
bird	Lesser Redpoll	*Carduelis cabaret*	31/12/2011	Bird Atlas 2007 - 2011	
bird	Little Egret	*Egretta garzetta*	05/03/2014	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species
bird	Little Grebe	*Tachybaptus ruficollis*	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
bird	Mallard	*Anas platyrhynchos*	05/03/2014	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section I Bird Species
bird	Mediterranean Gull	*Larus melanocephalus*	31/12/2001	Irish Wetland Birds Survey (I-WeBS) 1994-2001.	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List

bird	Mew Gull	*Larus canus*	31/12/2001	Irish Wetland Birds Survey (I-WeBS) 1994-2001.	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
bird	Mute Swan	*Cygnus olor*	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
bird	Rock Pigeon	*Columba livia*	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species
bird	Tufted Duck	*Aythya fuligula*	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
terrestrial mammal	Daubenton's Bat	*Myotis daubentonii*	01/06/2004	National Bat Database of Ireland	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts

terrestrial mammal	Eastern Grey Squirrel	*Sciurus carolinensis*	26/05/2018	Mammals of Ireland 2016-2025	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> EU Regulation No. 1143/2014 || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
terrestrial mammal	Eurasian Badger	*Meles meles*	24/05/2018	Mammals of Ireland 2016-2025	Protected Species: Wildlife Acts
terrestrial mammal	European Otter	*Lutra lutra*	03/03/2012	Otter (Lutra lutra) records 2011-2015	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex II || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
terrestrial mammal	Lesser Noctule	*Nyctalus leisleri*	31/10/2014	National Bat Database of Ireland	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
terrestrial mammal	Pipistrelle	*Pipistrellus pipistrellus sensu lato*	31/10/2014	National Bat Database of Ireland	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
terrestrial mammal	Soprano Pipistrelle	*Pipistrellus pygmaeus*	31/10/2014	National Bat Database of Ireland	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
terrestrial mammal	West European Hedgehog	*Erinaceus europaeus*	16/08/2018	Mammals of Ireland 2016-2025	Protected Species: Wildlife Acts
terrestrial mammal	Whiskered Bat	*Myotis mystacinus*	01/06/2004	National Bat Database of Ireland	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts

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