Appropriate Assessment Screening Report

Proposed Student Residential Development

Our Lady's Grove

Goatstown Road,

Goatstown, Dublin 14

prepared for Thornton O'Connor Town Planning
on behalf of Colbeam Limited

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Document Control

Project Title	Proposed Student Residential Development, Our Lady's Grove, Goatstown, Dublin 14		**Project No.**	190318
Document Title	Appropriate Assessment Screening Report		**Status**	Final
Revision	**Issue Date**	**Author**	**Reviewed By**	**Approved By**
I2	05/02/2021	NF	NB	MMW

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1 Introduction

This report, which contains information required for the competent authority (in this instance An Bord Pleanála) to undertake a screening for Appropriate Assessment (AA), has been prepared by Scott Cawley Ltd. on behalf of the applicant. It provides information on and assesses the potential for the proposed development to impact on the Natura 2000 network (hereafter referred to as European sites)[1]. Colbeam Limited intend to apply for permission for a strategic housing development at a c. 2.12 ha (21,218 sq m) site at Our Lady's Grove (which includes an existing childcare facility 'The Grove After School Care', Our Lady's Grove Goatstown Dublin 14, D14 V290 and D14 N8C2), Goatstown Road, Goatstown, Dublin 14 (centred on Irish Grid reference point O 17577 29174).

An AA is required if significant effects on European sites arising from a proposed development cannot be ruled out at the screening stage, either alone or in combination with other plans or projects. It is the responsibility of the competent authority to make a decision as to whether or not the proposed development is likely to have significant effects on European sites, either individually or in combination with other plans or projects.

For the reasons set out in detail in this AA Screening Report, an **Appropriate Assessment of the proposed development is not required in this instance** as it can be concluded, on the basis of objective information, that the proposed development, either individually or in combination with other plans or projects, will not have a significant effect on any European sites.

2 Methodology

2.1 Author Statement

This Appropriate Assessment (AA) Screening report was authored by Nicholas Fettes. Lauren Shinkwin and Nicholas Fettes carried out the field surveys to inform this report. It was reviewed by Niamh Burke of Coiscéim Ecology, and by Shea O'Driscoll and Maeve Maher-McWilliams of Scott Cawley Ltd.

Nicholas Fettes, Consultant Ecologist at Scott Cawley, holds an honours degree in Zoology and a Masters in Environmental Policy, both acquired at University College Dublin. He has obtained experience working in a diverse set of environmental roles in the public, private, and charity/NGO sectors, including as a biodiversity conservation officer with the IUCN where he worked on the red list for bryophytes and invasive alien species, as an environmental intern with An Taisce, and as an assistant to Fingal County Council's biodiversity officer. Since joining Scott Cawley in 2020, Nicholas has gained experience in habitat and protected species surveys, particularly bats, and has been involved in the preparation of environmental reports, namely AA Screening and Nature Impact Statements (NIS) for a range of different projects across the country.

Lauren Shinkwin holds a first class honours degree in Zoology from University College Dublin, and obtained a distinction in her Masters in Advanced Wildlife Conservation in Practice from the University of the West of England, Bristol. Lauren has professional experience working in a range of terrestrial, fresh water and marine environments in Ireland, the U.K., South Africa, and the U.S.A. Her work has included carrying out habitat surveys, invasive species surveys as well as surveying a wide variety of mammal, bird, reptile and

[1] The Natura 2000 network is a European network of important ecological sites, as defined under Article 3 of the Habitats Directive 92/43/EEC, which comprises both special areas of conservation and special protection areas. Special areas of conservation are sites hosting the natural habitat types listed in Annex I, and habitats of the species listed in Annex II, of the Habitats Directive, and are established under the Habitats Directive itself. Special protection areas are established under Article 4 of the Birds Directive 2009/147/EC for the protection of endangered species of wild birds. The aim of the network is to aid the long-term survival of Europe's most valuable and threatened species and habitats.

In Ireland these sites are designed as *European sites* - defined under the Planning Acts and/or the Birds and Habitats Regulations as (a) a candidate site of Community importance, (b) a site of Community importance, (c) a candidate special area of conservation, (d) a special area of conservation, (e) a candidate special protection area, or (f) a special protection area. They are commonly referred to in Ireland as Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

invertebrate species. Since joining Scott Cawley, her work has included preparing AA Screening Reports, Natura Impact Statements and Ecological Impact Assessments for a wide range of projects across Ireland, including tourism, industrial, residential and renewable energy developments.

Shea O'Driscoll, Consultant Ecologist at Scott Cawley, holds an honours degree in Zoology from University College Dublin and a Masters in Advanced Wildlife Conservation in Practice from the University of the West of England, Bristol. Shea has experience in habitat survey and assessment in a range of terrestrial and aquatic environments, surveys for protected species including otter, bats and badger, he has undertaken a number of ecological clerks of works roles as well as invasive species surveys for public infrastructure works across Ireland. Since joining Scott Cawley in 2017, Shea has gained extensive experience and been the lead author on numerous ecological assessments that include PEA, EcIA and AA Screening for a range of projects including tourism, industrial, residential and renewable energy developments.

Niamh Burke is Principal Ecologist with Coiscéim Ecology. She holds a BSc (Hons) in Natural Sciences with Environmental Science and a PhD in salmonid ecology. She is a Chartered Environmentalist (CEnv) with the Society for the Environment (Soc Env) and a Full Member of the CIEEM. Niamh is a senior scientist with academic research and consulting experience in terrestrial ecology, aquatic ecology and fluvial geomorphology. She is an experienced project manager with a full working knowledge of EIA, the planning process and relevant environmental legislation, both national and European. With a specialism in aquatic habitats, she also has experience of terrestrial species' surveys and mitigation approaches. In her extensive consultancy roles she has acted as reviewer for all ecological reporting, ensuring consistency of standards and approach.

Maeve Maher-McWilliams holds an honours degree in Biological Sciences from Queens University Belfast and attained a distinction in her Masters in Evolutionary and Behavioural Ecology from University of Exeter. She is an Associate member of CIEEM. She has worked in ecological consultancy for over eight years and has worked on a range of large to small scale projects across Ireland and the UK. Maeve's primary technical specialism is ornithology, however her skills extend to protected mammal and habitat surveys. Her involvement extends from inception to post planning compliance, survey completion, project and survey management, carrying out of Ecological Impact Assessment, and authoring of EIAR Chapters, Appropriate Assessment Screening reports and Natura Impact Statements. She regularly undertakes surveys and prepares AA Screening, NIS and EcIA reports.

2.2 Guidance

This Appropriate Assessment Screening Report has been prepared with regard to the following guidance documents, as relevant:

- *Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities*. (Department of Environment, Heritage and Local Government, 2010 revision)
- *Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities*. Circular NPW 1/10 & PSSP 2/10
- *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* (European Commission, 2001)
- *Communication from the Commission on the precautionary principle* (European Commission, 2000) and,
- *Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitat's Directive 92/43/EEC* (European Commission, 2019)

2.3 Assessment Methodology

The above referenced guidance sets out a staged process for carrying out Appropriate Assessment. To determine if an Appropriate Assessment is required, documented screening is required. Screening identifies the potential for effects on the conservation objectives of European sites, if any, which would

arise from a proposed plan or project, either alone or in combination with other plans and projects (i.e. likely significant effects).

Significant effects on a European site are those that would undermine the conservation objectives supporting the favourable conservation condition of the Qualifying Interest (QI) habitats and/or the QI/Special Conservation Interest (SCI) species of a European site(s).

Screening for Appropriate Assessment involves the following steps:

If significant effects on any European sites can be excluded on the basis of objective evidence at the end of screening, either alone or in combination with other plans and projects, then there is no requirement to undertake an Appropriate Assessment. In establishing which European sites are potentially at risk (in the absence of mitigation) from the proposed development, a source-pathway-receptor approach was applied. In order for an impact to occur, there must be a risk enabled by having a source (e.g. water abstraction or

construction works), a receptor (e.g. a European site or its QI(s) or SCI(s)[2]), and a pathway between the source and the receptor (e.g. pathway by air for airborne pollution, or a pathway by a watercourse for mobilisation of pollution). For an impact to occur, all three elements must exist; the absence or removal of one of the elements means there is no possibility for the impact to occur.

The identification of source-pathway-receptor connection(s) between the proposed development and European sites essentially is the process of identifying which European sites are within the Zone of Influence (ZoI) of the proposed development, and therefore potentially at risk of significant effects. The ZoI is the area over which the proposed development could affect the receiving environment such that it could potentially have significant effects on the QI habitats or QI/SCI species of a European site, or on the achievement of their conservation objectives[3].

The identification of a source-pathway-receptor link does not automatically mean that significant effects will arise. The likelihood for significant effects will depend upon the characteristics of the source (e.g. extent and duration of construction works), the characteristics of the pathway (e.g. direction and strength of prevailing winds for airborne pollution) and the characteristics of the receptor (e.g. the sensitivities of the European site and its QIs/SCIs). Where uncertainty exists, the precautionary principle[4] is applied.

2.4 Desktop Data Review

An initial desk study was undertaken on the 4th April 2018, with updated desk searches completed between 9th and 13th November 2020. The desktop data sources used to inform the assessment presented in this report are as follows:

- Online data available on European sites and protected habitats/species as held by the National Parks and Wildlife Service (NPWS) from www.npws.ie, including conservation objectives documents
- Online data available on European site designation status from the electronic Irish Statute Book from www.irishstatutebook.ie
- Online data available on protected species as held by the National Biodiversity Data Centre (NBDC) from www.biodiversityireland.ie
- Information on the surface water network and surface water quality in the area available from www.epa.ie
- Information on groundwater resources and groundwater quality in the area available from www.epa.ie and www.gsi.ie
- Ordnance Survey of Ireland mapping and aerial photography available from www.osi.ie

[2] The term qualifying interest is used when referring to the habitats or species for which an SAC is designated; the term special conservation interest is used when referring to the bird species (or wetland habitats) for which an SPA is designated.

[3] As defined in the *Guidelines for Ecological Impact Assessment in the UK and Ireland* (CIEEM, 2018)

[4] The precautionary principle is a guiding principle that derives from Article 191 of the Treaty on the Functioning of the European Union and has been developed in the case law of the European Court of Justice (e.g. ECJ case C-127/02 – Waddenzee, Netherlands).

The guidance document *Communication from the Commission on the Precautionary Principle* (European Commission, 2000) notes that the precautionary principle "*covers those specific circumstances where scientific evidence is insufficient, inconclusive or uncertain and there are indications through preliminary objective scientific evaluation that there are reasonable grounds for concern that the potentially dangerous effects on the environment, human, animal or plant health may be inconsistent with the chosen level of protection*".

Applying the precautionary principle in the context of screening for appropriate assessment requires that where there is uncertainty or doubt about the risk of significant effects on a European site(s), it should be assumed that significant effects are possible and AA must be carried out.

- Information on the location, nature and design of the proposed development supplied by the applicant's design team

2.5 Baseline Surveys

This section describes the ecological surveys carried out to inform the assessment of likely significant effects on European sites.

Initial site walkover surveys undertaken within the proposed development site, which included surveying habitats present as well as surveying for signs of mammal activity, were carried out by Lauren Shinkwin of Scott Cawley in April 2018. Nicholas Fettes performed a final site walkover survey on 13th November 2020 to ensure the most up to date information on the condition of the site was recorded.

In addition to the above, bat surveys were carried out by Adele Goulding Sheehan, Niall McHugh and Nicholas Fettes of Scott Cawley in June and July 2020.

Lorna Gill of Scott Cawley carried out wintering bird surveys in December 2019, and in January, February and March 2020, and breeding bird surveys in May and June 2020.

These surveys encompassed the proposed development site and its immediate surroundings. All surveys conducted of the site were carried out at the optimal time of year/season to identify any relevant fauna and flora present.

2.5.1 Habitats and Flora Survey

A site walkover survey was undertaken of the proposed development site on the 5th April 2018 by Lauren Shinkwin of Scott Cawley and on the 13th November 2020 by Nicholas Fettes of Scott Cawley. Habitats were noted following the methodology described in *Best Practice Guidance for Habitat Survey and Mapping*[5]. All habitat types were classified using the *Guide to Habitats in Ireland*[6], recording the indicator species and abundance using the DAFOR scale[7] and recording any species of conservation interest. Vascular and bryophyte plant nomenclature generally follow that of *The National Vegetation Database*[8], having regard to more recent taxonomic changes to species names after the *New Flora of the British Isles*[9] and the British Bryological Society's *Mosses and Liverworts of Britain and Ireland: A Field Guide*[10]. Annex I habitat types were classified after the *Interpretation manual of European Union Habitats EUR28*[11] with reference to the corresponding national habitat survey reports and NPWS wildlife manuals, as applicable. The nomenclature for Annex I habitats follows that of the *Interpretation manual of European Union Habitats EUR28* with abbreviated names after those used in *The Status of EU Protected Habitats and Species in Ireland. Volume 1: Summary Overview*[12].

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[5] Smith, G.F., O'Donoghue, P., O'Hora, K. & Delaney, E. (2011) *Best Practice Guidance for Habitat Survey and Mapping*. The Heritage Council Church Lane, Kilkenny, Ireland.

[6] Fossitt, J.A. (2000) A Guide to Habitats in Ireland. Heritage Council, Kilkenny.

[7] The DAFOR scale is an ordinal or semi-quantitative scale for recording the relative abundance of plant species. The name DAFOR is an acronym for the abundance levels recorded: Dominant, Abundant, Frequent, Occasional and Rare.

[8] Weekes, L.C. & FitzPatrick, Ú. (2010) The National Vegetation Database: Guidelines and Standards for the Collection and Storage of Vegetation Data in Ireland. Version 1.0. Irish Wildlife Manuals, No. 49. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.

[9] Stace, C. (2019) *New Flora of the British Isles*. *4th Edition*. C&M Floristics.

[10] Atherton, I., Bosanquet, S. & Lawley, M. (2010) *Mosses and Liverworts of Britain and Ireland: A Field Guide*. Latimer Trend & Co., Plymouth.

[11] CEC. (Commission of the European Communities) (2013) Interpretation manual of European Union Habitats EUR28. European Commission, DG Environment.

[12] NPWS (2019). *The Status of EU Protected Habitats and Species in Ireland. Volume 1: Summary Overview.* Unpublished NPWS report.

2.5.2 Fauna Surveys

2.5.2.1 Terrestrial Mammals and Bats

Site walkover surveys undertaken on 5th April 2018 by Lauren Shinkwin and on 13th November 2020 by Nicholas Fettes, both of Scott Cawley, encompassed surveying for terrestrial mammals (excluding bats). The presence/absence of terrestrial fauna species were surveyed through the detection of field signs such as tracks, markings, feeding signs, and droppings, as well as by direct observation. The habitats on site were assessed for signs of usage by protected/red-listed fauna species, and their potential to support these species. Surveys to check for the presence of badger setts within the study area, and to record any evidence of use, were undertaken on the 5th April 2018 and on the 13th November 2020.

Bat surveys were carried out in accordance with Bat Conservation Trust's Bat Surveys for Professional Ecologists – Good Practice Guidelines (Collins, 2016). However, within the Habitats Directive bats are relevant to Article 12 (Strict Protection), not Article 6 (Appropriate Assessment), and so are more properly considered in the Ecological Impact Assessment (EcIA) document accompanying this planning application.

2.5.2.2 Breeding Birds

Habitat suitability for breeding birds was assessed during the initial site walkover survey of the proposed development site on the 5th April 2018. Three dedicated breeding bird surveys were undertaken within the proposed development site on 20th May, 3rd June and 29th June 2020 by Lorna Gill of Scott Cawley. Methodology followed an adapted version from the *Bird Monitoring Methods - A Manual of Techniques for Key UK Species* [13]. The study area covered the lands east of Friarsland Road, north of Larchfield Road and west of The Grove housing development. Lands within the study area were slowly walked in a manner allowing the surveyor to come within 50m of all habitat features. Birds were identified by sight and song, and general location and activity were recorded using the British Trust for Ornithology (BTO) species and activity codes.

2.5.2.3 Wintering Birds

Wintering bird surveys were undertaken on the 19th December 2019, 24th January 2020, 19th February 2020 and 11th March 2020 by Lorna Gill of Scott Cawley using a methodology based on the *Bird Monitoring Methods - A Manual of Techniques for Key UK Species*. Lands were initially surveyed visually using binoculars/scope from a vantage point(s) at the edge of the study area followed by a walkover of the area to identify birds which may not be visible from a distance (e.g. waders) and evidence of usage by wildfowl such as swans or geese (e.g. droppings). Birds were identified by sight and general location and activity were recorded using the British Trust for Ornithology (BTO) species and activity codes.

3 Provision of Information for Screening for Appropriate Assessment

The following sections provide information to facilitate the Appropriate Assessment screening of the proposed development to be undertaken by the competent authority.

A description of the proposed development and the receiving environment is provided to identify the potential ecological impacts. The environmental baseline conditions are discussed, as relevant to the assessment of ecological impacts where they may highlight potential pathways for impacts associated with the proposed development to affect the receiving ecological environment (e.g. hydrogeological and hydrological data).

The potential impacts are examined in order to define the potential zone of influence of the proposed development on the receiving environment. This then informs the assessment of whether the proposed

[13] Gilbert, G., Gibbons, D.W. & Evans, J. (1998) *Bird Monitoring Methods - A Manual of Techniques for Key UK Species*. RSPB: Sandy

development will result in significant effects on any European sites; i.e., affect the conservation objectives supporting the favourable conservation condition of the European site's QIs or SCIs.

3.1 Description of the Proposed Development

The various elements of the proposed development are described in detail in the planning application. In brief, the proposed development will principally consist of:

- The construction of a Student Accommodation development containing 698 No. bedspaces with associated facilities located in 8 No blocks, which range in height from part 3 No. storeys to part 6 No. storeys over part lower ground floor level (7 No. storeys as viewed from an internal courtyard at Lower Ground Floor Level).
- Some 679 No. bedspaces are provided in 99 No. clusters ranging in size from 5 No. bedspaces to 8 No. bedspaces, each with a communal Living/Kitchen/Dining room. The remaining 19 No. bedspaces are accessible studios.
- The provision of communal residential amenity space at lower ground floor level (349 sq m) including the provision of a movie room (108 sq m), a music room (42 sq m) and a laundry (37 sq m); communal residential amenity space (1,356 sq m) at ground floor level including the provision of a gym (228 sq m), reception desk and seating area (173 sq m), a common room (338 sq m), a study space (104 sq m), a library (64 sq m), a yoga studio (74 sq m), a prayer room (33 sq m) and group dining (33 sq m).
- The development also includes staff and administrative facilities (195 sq m);
- 9 No. car parking spaces; 4 No. motorcycle parking spaces; 860 No. cycle parking spaces;
- Refuse stores; Signage; An ESB substation and switchroom;
- Boundary treatments; green roofs; PV panels; hard and soft landscaping; plant; lighting; and all other associated site works above and below ground.
- The development includes the demolition of part of the Goatstown Afterschool building (558 sq m) and the construction of a new external wall to the remaining ope, in addition to the demolition of a prefabricated structure adjacent to the Afterschool building (161 sq m).

Construction and commissioning is expected to take *c.* 2.5 years based on information provided by the design team.

Surface water runoff generated from the proposed development will discharge via a new internal storm drainage network to the existing surface water drainage network along the eastern boundary of Our Lady's Grove. From there, surface waters will flow via the existing surface water drainage network and will ultimately drain into Dublin Bay.

Sustainable Drainage Systems (SuDS) measures being proposed include permeable paving and other porous surfacing, green roofs, hydrobrake flow control devices and full retention interceptors. However, it must be noted that these are included in the design, not for the purposes of avoiding or reducing any potential harmful effects to any European sites, but are required for new developments under the objectives of the Greater Dublin Strategic Drainage Study[14] and Dún Laoghaire–Rathdown County Development Plan 2016-2022 (policy EI3).

The proposed development will result in an overall increase of 706 PE (population equivalent) foul effluent generated from the site, which will be discharged to the existing foul water drainage system on the main access road to the development. There is no foul overflow arrangement for the proposed development. Foul waters will then discharge to the public foul sewer trunk along Goatstown Road. From there, foul effluent will be transferred to Ringsend WWTP for treatment prior to discharge to Dublin Bay. The Ringsend WWTP is currently operating at over its capacity of 1,640,000 PE, with a current peak week loading of

[14] Dublin Drainage Consultancy (2005) Greater Dublin Strategic Drainage Study - Final Strategy Report.

2,378,000 PE. The Ringsend WWTP is non-compliant with the limits set out in its licence due to overloading, however its discharge is not having an observable negative impact on water quality of Dublin Bay[15].

3.2 Overview of the Receiving Environment

3.2.1 European sites

There are no European sites within or directly adjacent to the boundaries of the proposed development site. The closest European sites to the proposed development are South Dublin Bay SAC (000210) and South Dublin Bay and River Tolka Estuary SPA (004024), located *c.* 2.8km and 2.7km north east respectively. The proposed development site is within the Liffey and Dublin Bay catchment. The closest watercourses to the proposed development site are the Elm Park Stream, *c.* 200m north, and the River Slang, located *c.* 582m west, of the proposed development site.

The Elm Park Stream rises in Goatstown and is culverted for part of its course, discharges through UCD Belfield campus before emerging in Elm Park Golf Course, from where the water course finally discharges to Dublin Bay coastal waterbody just south of the Merrion Gates *c.* 1.3km downstream. There is a sensitive habitat located at the outlet of this stream, a sand bar which is exposed at high tide and is used for feeding and roosting purposes by wintering birds.

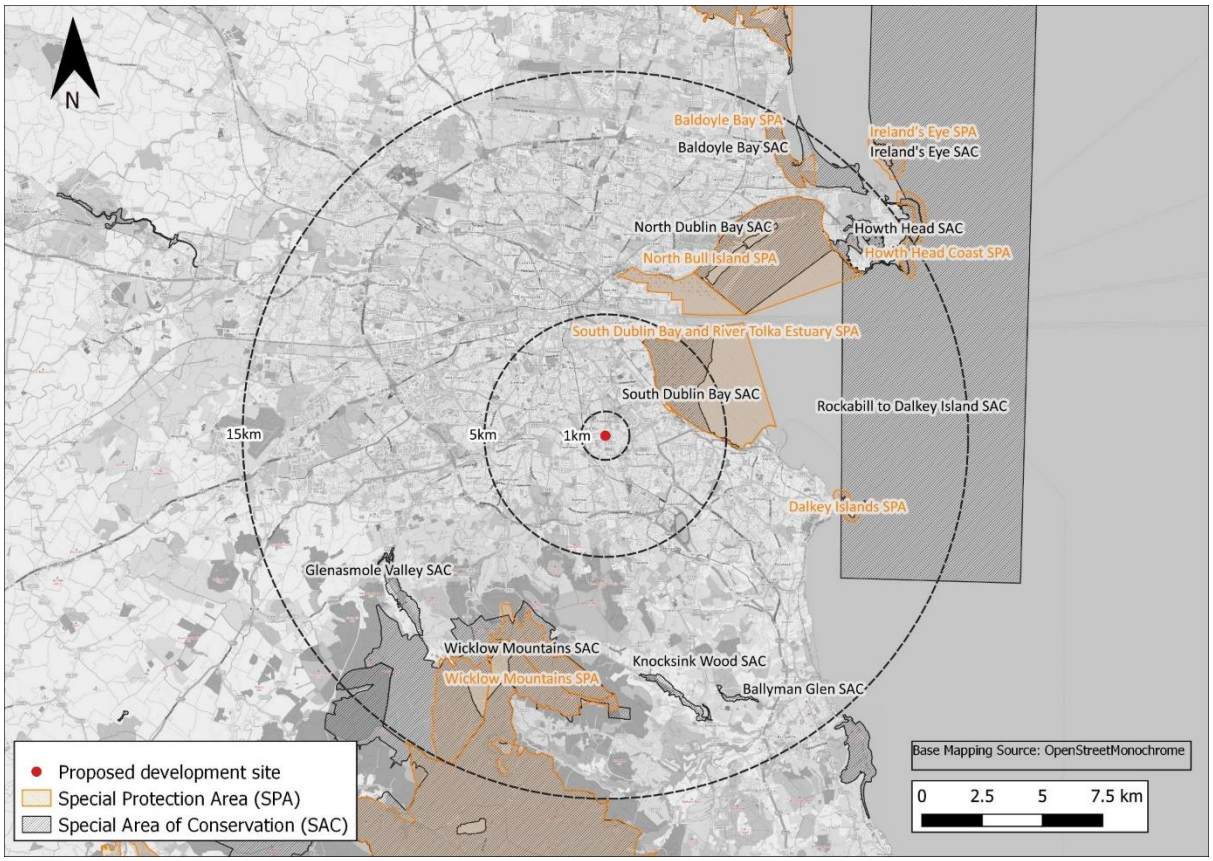
Surface waters within the River Slang flow into the River Dodder after *c.* 834m before converging with the River Liffey a further *c.* 5.2km downstream. Surface waters within the River Liffey ultimately discharge into Dublin Bay coastal waterbody a further *c.* 5.8km downstream.

Therefore, the proposed development is hydrologically connected to the following European sites in Dublin Bay: South Dublin Bay SAC (000210), North Dublin Bay SAC (000206), Rockabill to Dalkey Island SAC (003000), Dalkey Islands SPA (004172), South Dublin Bay and River Tolka Estuary SPA (004024) and North Bull Island SPA (004006).

All of the European sites present in the vicinity of the proposed development are shown in Figure 1 below. The QIs/SCIs of the European sites in the vicinity of the proposed development are provided in Appendix I.

[15] EPA (2020) Ringsend D0034-01 Annual Environmental Report 2019. Accessed 16.11.2020 [http://www.epa.ie/licences/lic_eDMS/090151b280778766.pdf].

Figure 1 European sites in the vicinity of the proposed development



3.2.2 Habitats

The proposed development site is bound to the south and west by existing dwellings along Larchfield Road and Friarsland Road respectively, to the east by Our Lady's Grove primary school and to the north by playing pitches and open space associated with the primary school.

The proposed development site is mostly dominated by buildings and artificial surfaces, spoil and bare ground, recolonising bare ground and dry meadow and grassy verges habitat. Some small sections of the site contain examples of scattered trees and parkland habitat, and amenity grassland habitat with treelines present along the southern and western boundary of the site. OSI aerial photography from before 2005 shows the southern section of the proposed development site as maintained amenity grassland. However, due to the site being subject to different developments over the last number of years, the land use pattern has changed from being managed grassland to unmanaged and disturbed and appears to have been previously used as a construction compound (AWN, 2021; see Appendix III).

No Annex I habitats for which European sites listed in Appendix I have been designated were recorded within the proposed development site.

3.2.3 Flora and Fauna Species

The National Biodiversity Data Centre (NBDC) database search returned no records of any Annex II plant species recorded within 2km of the proposed development site. No Annex II plant species and no records of plant species protected through their inclusion within the Flora (Protection) Order, 2015 were recorded during the field surveys in 2020. The following non-native invasive species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 were recorded from the desktop search within the proposed development site:

- Canadian waterweed *Elodea canadensis*
- Three-cornered garlic *Allium triquetrum*
- Spanish bluebell *Hyacinthoides hispanica*
- Japanese knotweed *Fallopia japonica*
- Himalayan balsam *Impatiens glandulifera*
- Giant hogweed *Heracleum mantegazzianum*

The NBDC database search returned records of five qualifying interest (QI) and special conservation interest (SCI) species, for which European sites have been designated in Ireland, within 2km of the proposed development site:

- Otter *Lutra lutra*
- Black-headed Gull *Larus ridibundus*
- Curlew *Numenius arquata*
- Oystercatcher *Haematopus ostralegus*
- Redshank *Tringa tetanus*

Although mostly associated with wetland habitats, which do not occur within the proposed development site, some of these species are wintering waders which can utilise inland sites for terrestrial feeding purposes, such as Redshank, Curlew and Black-headed Gull. Only Black-headed Gull was recorded during the dedicated wintering bird surveys in very low numbers (peak count of 6 was recorded on one occasion), with none of the other species or their signs (e.g. feathers and droppings) observed within the proposed development site.

Furthermore, the proposed development site is dominated by areas of spoil and bare ground, overgrown grassy verges and artificial surfaces and provides very low suitability, if any, for wetland and wader species. Therefore, this site does not represent an important inland *ex situ* site or habitat for wintering Black-headed Gull, or any other Special Conservation Interest (SCI) species.

In addition, there are no features present that represent potentially suitable habitat for Otter.

3.2.4 Hydrology

The proposed development site is located within the Liffey and Dublin Bay catchment. There are no surface water features within the proposed development site, with the closest watercourses to the proposed development site being the Elm Park Stream *c.* 200m north, and the River Slang, located c. 582m west, of the proposed development site at the closest point. The EPA does not collect water quality data for Elm Park Stream[16], however, according to a recent study on Otter usage of the stream, it was considered to be of appreciably poor water quality[17]. Surface waters within the River Slang flow into the River Dodder after c. 834m before converging with the River Liffey (Liffey Estuary Lower) a further c. 5.2km downstream. Surface waters in the River Slang and River Dodder are listed as being of Q3-4 Moderate by the EPA, with most recent data collected in 2019[18]. The Liffey Estuary Lower has a transitional waterbody WFD status of '*Good*' according to the EPA. All surface waters from the proposed development site ultimately discharge into Dublin Bay coastal waterbody a further c. 5.8km downstream. The most recent surface water quality

[16] AWN Consulting (2020) Hydrological and Hydrogeological Qualitative Risk Assessment for a Strategic Housing Development (SHD) at Our Lady's Grove, Goatstown Road, Goatstown, Dublin 14.

[17] Macklin, R. & Brazier, B. (2019) Otter survey of selected rivers in Dún Laoghaire-Rathdown County Council district with management recommendations. Prepared by Triturus Environmental Ltd. for Dún Laoghaire-Rathdown County Council

[18] EPA (2020) EPA RIVER QUALITY SURVEYS: BIOLOGICAL. Accessed 16.11.2020 [http://www.epa.ie/QValue/webusers/PDFS/HA9.pdf?Submit=Get+Results].

information for Dublin Bay coastal waterbody indicates that it is '*Unpolluted*' and has a Water Framework Directive status of '*Good*' and is *'Not at risk'* of not achieving good status under the Water Framework Directive[19].

3.2.5 Hydrogeology

Geological Survey of Ireland (GSI) data indicates that the site is underlain by a "Poorly Productive Bedrock". The Groundwater Body (GWB) underlying the site is "Dublin" (Code IE_EA_G_008), which is currently classified by the EPA as having '*Good*' groundwater status and '*Not at risk*' of not achieving good status under the Water Framework Directive.

3.3 Assessment of Likely Significant Effects on European Sites

This section identifies all the potential impacts associated with the proposed development, examines whether there are any European sites within the Zone of Influence (ZoI) of effects from the proposed development, and assesses whether there is any risk of the proposed development resulting in a significant effect on any European site, either alone or in combination with other plans or projects.

In assessing the potential for the proposed development to result in a significant effect on any European sites, any measures intended to avoid or reduce the harmful effects of the project on European sites are not taken into account.

3.3.1 Habitat loss and fragmentation

The proposed development does not overlap with the boundary of any European site. Therefore, there are no European sites at risk of direct habitat loss impacts.

As the proposed development does not traverse any European sites, there is no potential for habitat fragmentation to occur.

Based on surveys and assessment of site suitability by Scott Cawley ecologists, the proposed development site is not an *ex situ* site for QI/SCI populations of any European sites for the following reasons:

- The River Slang is a tributary of the River Dodder. The River Dodder is listed as being important for Otter, and the River Slang is a functional part of the Dodder River system. The Otter population in the River Dodder and its tributaries does form part of the QI population of the European site, Wicklow Mountains SAC. The closest European site for which Otter is a QI is the Wicklow Mountains SAC, southwest of the proposed development site *c*. 7.6km as the crow flies. Tributaries of the River Dodder are located within the Wicklow Mountains SAC, and there is therefore a link between the Otter population in the River Slang, and that of the Wicklow Mountains SAC. Although it is acknowledged that Otter use these waterways, evidence of Otter usage of the River Slang itself was found to be very low compared to other watercourses (a total of n=3 signs of Otter were recorded along the Slang, with a very low average compared to other watercourses of 0.4 signs per kilometre) [20]. The River Slang was found to be a heavily modified and urbanised watercourse, with poor levels of naturalness overall, thus providing limited ecological value for aquatic fauna including Otter. Furthermore, the River Slang is located approximately 582m west of the proposed development site (far exceeding the 10m riparian buffer considered to comprise the foraging/hunting range of Otter either side of watercourses)[21], and the proposed development site itself is mostly dominated by artificial surfaces and recolonising bare ground, making it largely unsuitable for Otter. In principle, it is possible that an impact on the Otter population in the River Dodder may occur if domestic sewage outlets were connected to stormwater drains in error in the

[19] EPA (2018) Waterbody: Dublin Bay. Accessed 16.11.2020. [https://www.catchments.ie/data/#/waterbody/IE_EA_090_0000?_k=hojuqs].

[20] Macklin, R. & Brazier, B. (2019) Dublin City Otter Survey. Prepared by Triturus Environmental Ltd. for Dublin City Council

[21] NPWS (2007) *Lutra Lutra* (1355) Conservation status assessment report. [https://www.npws.ie/sites/default/files/general/otter-conservation-status-report.pdf]

proposed development. To prevent any possibility of this occurring, the Construction Management Plan accompanying this planning application will ensure and provide for certification that the sewer drain connections are correct before the development is occupied.

- Light-bellied Brent Geese and other wintering wetland bird species that are special conservation interests of European sites such as Oystercatcher, Curlew and Black-headed Gull are known to feed on inland terrestrial sites of amenity grassland outside European site boundaries in the Dublin region[22]. The proposed development site contains no significant area of amenity grassland, and is dominated by artificial surfaces, areas of spoil and bare ground and recolonising bare ground and overgrown grassy verges, thus providing very low suitability for wetland and wader species. Only Black-headed Gull was recorded during the wintering bird surveys in very low numbers (peak count of 6 on one occasion), with no other evidence of wintering wetland birds or their signs (e.g. feathers and droppings) observed. Thus, this site does not represent an important inland *ex situ* site or habitat for wintering Black-headed Gull, or any other SCI species.

Therefore, the proposed development does not support any populations of any fauna species linked with the QI/SCI populations of any European site(s).

As the proposed development will not result in habitat loss or habitat fragmentation within any European site, there is no potential for any in combination effects to occur in that regard.

3.3.2 Habitat degradation as a result of hydrological impacts

Surface water runoff generated from the proposed development will discharge via a new internal storm drainage network to the existing surface water drainage network along the eastern boundary of Our Lady's Grove. From there, surface waters will flow via the existing surface water storm drainage network and will ultimately drain into Dublin Bay. The proposed development will result in an overall increase of 706 P.E. (population equivalent) foul effluent generated from the site, which will be discharged to the existing foul sewer system on the main access road to the development. There is no foul overflow arrangement for the proposed development. Foul waters will then discharge to the public foul sewer trunk along Goatstown Road. From there, foul effluent will be transferred to Ringsend WWTP for treatment prior to discharge to Dublin Bay. Therefore, the Zone of Influence (ZoI) of potential effects on water quality from the proposed development could extend to Dublin Bay.

Surface Water

A hydrological risk assessment report was prepared for the proposed development by AWN Consulting[23], see Appendix III. The assessment is carried out using a conceptual site model (CSM) which is based on a good understanding of the hydrological and hydrogeological environment, plausible sources of impact and knowledge of receptor requirements. This allows possible source-pathway-receptor linkages to be identified. Potential sources of impacts during construction and operation are considered in the CSM and all potential sources of contamination are considered without taking account of any measures intended to avoid or reduce harmful effects of the proposed project (mitigation measures) i.e. a worst-case scenario.

Results of conceptual site modelling carried out by AWN and which inform this AA screening report, indicate that surface run-off and foul water effluent from the proposed development site, during both construction and operational phases respectively, will not result in any impact on water quality or habitats in downstream receiving waters in Dublin Bay (and thus in the European sites therein). This is in light of the

[22] Benson, L. (2009). Use of Inland Feeding Sites by Light-bellied Brent Geese in Dublin 2008-2009: A New Conservation Concern? Irish Birds 8: 563-570

Enviroguide (2019). Natura Impact Statement for Proposed Strategic Housing Development at St. Paul's College, Sybil Hill Road, Raheny, Dublin.

[23] AWN Consulting (2021) Hydrological and Hydrogeological Qualitative Risk Assessment for a Strategic Housing Development (SHD) at Our Lady's Grove, Goatstown Road, Goatstown, Dublin 14.

low chemical loading and the distance between the proposed development site and sensitive aquatic habitats, which allows for adequate attenuation and dilution. The CSM also considered cumulative effects and concluded that there is adequate assimilation and dilution capacity in the surface water network between the proposed development site and Dublin Bay that there would be no perceptible impact on water quality in Dublin Bay as a result of the proposed development. For example, due to attenuating stormwater from the site prior to discharge, any increase in loading (quantitative and qualitative) is expected to have been diluted and dispersed within 0.5km downstream of the site. As the Elmpark Stream outflow is *c.*3km from the proposed development site, there will be no impact on the sand bar at the outlet of the stream either directly or cumulatively from the surface water outflow from the site following attenuation.

Sustainable Drainage Systems (SuDS) measures, such as permeable paving and other porous surfacing, green roofs, hydrobrake flow control devices and full retention interceptors, have been included in the construction design, management of construction programme and during the operational phase of the proposed development. However, it must be noted that these are included in the design, not for the purposes of avoiding or reducing any potential harmful effects to any European sites, but are required for new developments under the objectives of the Greater Dublin Strategic Drainage Study and Dún Laoghaire–Rathdown County Development Plan 2016-2022, specifically policy El3. As stated, the CSM prepared by AWN was done so in the absence of consideration of any of these measures i.e. the CSM was based on a worst-case scenario.

Considering the above, the proposed development will not have any measurable effects on water quality or habitats in Dublin Bay for the following reasons:

- the scale and location of the proposed development relative to the receiving surface water network;
- the relatively low volume of any surface water run-off or discharge events relative to the receiving surface water and marine environments; and
- the level of mixing, dilution and dispersion of any surface water run-off/discharges in the receiving watercourses, Liffey Estuary Lower and Dublin Bay.

Therefore, there is no possibility of the proposed development undermining the conservation objectives of any of the qualifying interests or special conservation interests of the European sites in, or associated with, Dublin Bay as a result of surface water run-off or discharge.

Foul Water

Foul waters from the proposed development will be discharged to the existing foul sewer system on the main access road to the development. There is no foul overflow arrangement for the proposed development. From here they will be transferred to Ringsend WWTP via the Goatstown Road trunk sewer to the east of the proposed development site for treatment prior to discharge into Dublin Bay. The proposed development is anticipated to result in an additional foul water loading value of 706 PE to Ringsend WWTP. The Ringsend WWTP is currently operating at over its capacity of 1,640,000 PE, with a current peak week loading of 2,378,000 PE. The Ringsend WWTP is non-compliant with the limits set out in its EPA licence (D0034-01) due to overloading. Despite the capacity issues and non-compliance associated with the Ringsend WWTP, its discharge is not having an observable negative impact on water quality of Dublin Bay (EPA 2020). Additionally, as outlined within the hydrological risk assessment accompanying this report (AWN 2021), even without treatment at the Ringsend WWTP, the average effluent discharge, calculated for the proposed development as 1.01 litres/sec (which would equate to 0.019% of the licensed discharge at Ringsend WWTP), would not impact on the overall water quality within Dublin Bay. Therefore, in the event that there are discharges as a result of the proposed development before the completion of the Ringsend WWTP upgrades in 2025, these will not have any significant effect on water quality in Dublin Bay.

The pollutant content of future foul water discharges to Dublin Bay is considered likely to decrease in the long-term for the following reasons:

- An Bord Pleanála granted planning permission for an upgrade to the Ringsend WWTP in April 2019[24]. The first stage of the project (01), involving the construction of a new 400,000 PE extension at the plant, is due to be completed in the first half of 2021. In November 2020, the project entered the second stage (02) involving the upgrading of secondary treatment tanks at the plant with new Aerobic Granular Sludge (AGS) Technology. The overall upgrade works will increase capacity at the plant of up to 2,400,000 PE by 2025[25], and
- There is a commitment in the National Development Plan 2018-2027[26] to invest in and progress the Greater Dublin Drainage Project which will involve the provision of a new regional wastewater treatment plant at a site in the northern part of the Greater Dublin Area and the provision of a new Orbital Drainage Sewer linking the new plant to the existing regional sewer network, which will enable future connections for identified areas of development within the catchment area. The provision of the Greater Dublin Drainage Project will augment the waste water treatment capacity currently provided by Ringsend WWTP across the Greater Dublin Area.

For completeness it is noted that, on 24 November 2020, the High Court delivered judgment quashing the decision of An Bord Pleanála made on 11 November 2019 to grant permission to Irish Water for the development of the Greater Dublin Drainage Project, comprising a new wastewater treatment plant on a 29.8 ha site at Clonshaugh, a sludge hub centre on the same site, an orbital sewer running from Blanchardstown to Clonshaugh, a pumping station at Abbotstown, a regional biosolids storage facility at Newtown/Kilshane in Fingal, and an outfall pipeline into the Irish sea, about one km north-east of Ireland's eye: *Joyce-Kemper v. An Bord Pleanála* [2020] IEHC 601.

It is also an objective of the Greater Dublin Strategic Drainage Study, and all development plans within the catchment of Ringsend WWTP, to include Sustainable Urban Drainage Systems (SUDS) within new developments. The relevant development plans also have protective policies/objectives in place to protect water quality in the receiving freshwater and marine environments, and to implement the Water Framework Directive in achieving good water quality status for Dublin Bay.

Considering the above, particularly the current '*Good'* WFD status of Dublin Bay and that foul water discharges from the proposed development would equate to a very small proportion of the overall volumes sent to Ringsend WWTP for treatment, the proposed development will not have any perceptible impact on water quality of Dublin Bay. Although the water quality of Dublin Bay is '*Good'*, the current WFD status of the Tolka Estuary, a key feeding area for wintering birds and which Dublin Bay coastal water body is connected to, is assessed as '*Moderate'* according to the EPA. Whilst acknowledging the potential for a near shore-effect on water quality, the effect of this development is not measurable, and thus the cumulative effect of the proposed development discharge with all other discharges, present and future, is a matter for control under Irish Water's operating permit. The approach taken is entirely consistent with that which withstood High Court challenge in the *Dublin Cycling Campaign CLG v. An Bord Pleanála* [2020] IEHC 587.

Finally, it would make sense that discharges from treatment plants is a matter for Irish Water, and for the authorisation processes to which it is subject.

Therefore, there is no possibility of the proposed development undermining the conservation objectives of any of the qualifying interests or special conservation interests of the European sites in, or associated with, Dublin Bay as a result of foul water discharges.

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[24] An Bord Pleanála Case Reference PL29S.301798 – *10-year permission for development of the Ringsend wastewater treatment plant upgrade project including a regional bio solids storage facility*, Available online at www.pleanala.ie/casenum/301798.htm.

[25] Irish Water (2018) Ringsend Wastewater Treatment Plant Upgrade Project Environmental Impact Assessment Report

[26] Government of Ireland (2018) *Project Ireland 2040, National Development Plan 2018-2027*.

In Combination

There is potential for "*in-combination*" effects on water quality in Dublin Bay from any other projects carried out within the functional areas of the *Dún Laoghaire-Rathdown County Development Plan 2016-2022* (Dún Laoghaire-Rathdown County Council, 2016) *Dublin City Development Plan 2016-2022* (Dublin City Council, 2016), the *Fingal Development Plan 2017-2023* (Fingal County Council, 2017), *South Dublin County Council Development Plan 2016-2022* (South Dublin County Council, 2016), or any other land use plans which could influence conditions in Dublin Bay via rivers and other surface water features.

The Eastern & Midland Regional Assembly, Regional Spatial & Economic Strategy 2019-2031[27] (Eastern & Midland Regional Assembly, 2019) includes a range of policy objectives relevant to the protection of European sites and the protection of water quality in Dublin Bay, to which the relevant planning authorities must have regard to in the preparation and adoption of their development plans (included in Appendix II).

The planning authority for the proposed development is Dún Laoghaire-Rathdown County Council. Plans and developments within Dún Laoghaire-Rathdown County must comply with the following policy objectives of the *Dún Laoghaire-Rathdown County Development Plan 2016-2022* relevant to the protection of European sites and the protection of water quality in Dublin Bay:

> **LHB19: Protection of Natural Heritage and the Environment** – It is council policy to protect and conserve the environment including, in particular, the natural heritage of the County and to conserve and manage Nationally and Internationally important and EU designated sites – such as Special Protection Areas, candidate Special Areas of Conservation, proposed Natural Heritage Areas and Ramsar sites – as well as non-designated areas of high nature conservation value which serve as 'Stepping Stones' for the purposes of Article 10 of the Habitats Directive
>
> **LHB20: Habitats Directive** – It is council policy to ensure the protection of natural heritage and biodiversity, including European sites that form part of the Natura 2000 network, in accordance with relevant EU Environmental Directives and applicable National Legislation, Policies, Plans and Guidelines.
>
> **LHB22: Designated Sites** – It is council policy to protect and preserve areas designated as proposed Natural Heritage Areas, candidate Special Areas of Conservation, and Special Protection Areas. It is Council Policy to promote the maintenance and as appropriate, delivery of 'favourable' conservation status of habitats and species within these areas.
>
> **EI1: Water Supply and Appropriate Assessment** – It is Council policy to require that all developments relating to water supply and waste water treatment are subject to screening for Appropriate Assessment to ensure there are no likely significant effects on the integrity, defined by the structure and function, of any Natura 2000 sites and that the requirements of Article 6 of the EU Habitats Directive are met.
>
> **EI2: Wastewater Treatment and Appropriate Assessment** – It is Council policy to provide adequate wastewater treatment facilities to serve the existing and future population of the County, subject to complying with the Water Framework Directive and the associated River Basin Management Plan or any updated version of this document, 'Water Quality in Ireland 2007-2009' (EPA 2011) or any updated version of the document, Pollution Reduction Programmes for Designated Shellfish Areas, the Urban Waste Water Treatment Directive and the Habitats Directive.
>
> **El3: Surface Water Drainage and Appropriate Assessment** – It is Council policy to require that a Sustainable Drainage System (SuDS) is applied to any development and that site specific solutions to surface water drainage systems are developed, which meet the requirements of the Water Framework Directive and the associated River Basin Management Plans and 'Water Quality in Ireland 2007-2009' (EPA 2011) or any updated version of the document.

[27] Eastern & Midland Regional Assembly (2019) *Regional Spatial & Economic Strategy 2019-2031*

EI4: Groundwater Protection and Appropriate Assessment – It is Council policy to ensure the protection of the groundwater resources in and around the County and associated habitats and species in accordance with the Groundwater Directive 2006/118/EC and the European Communities Environmental Objectives (Groundwater) Regulations, 2010. In this regard, the Council will support the implementation of Irish Water's Water Safety Plans to protect sources of public water supply and their contributing catchment.

EI7: Water Quality Management Plans – It is Council policy to ensure that all development proposals incorporate Sustainable Drainage Systems (SuDS).

Plans and developments within the other local authority areas which could influence conditions in Dublin Bay via rivers and other surface water features, also must comply with the policies and objectives relevant to the protection of European sites and water quality. This includes the *Dublin City Development Plan 2016-2022* (Dublin City Council, 2016), the *Fingal Development Plan 2017-2023* (Fingal County Council, 2017), *South Dublin County Council Development Plan 2016-2022* (South Dublin County Council, 2016), *Wicklow County Development Plan 2016-2022* (Wicklow County Council, 2016) and the *Kildare County Development Plan 2017-2023* (Kildare County Council, 2017). The relevant policies and objectives of those plans for the protection of European sites and water quality are included in Appendix II.

In conclusion, there are a number of projects referred to above which will upgrade the capacity of Ringsend WWTP which will, over time, address the capacity issues at Ringsend WWTP referred to above.

As noted under the surface water and foul water sections above, Dublin Bay is currently unpolluted, and the proposed development will not result in any measurable effect on water quality in Dublin Bay. There are also protective policies and objectives in place at a strategic planning level to protect water quality in Dublin Bay.

Therefore, and having regard to the policies and objectives referred to under the relevant development plans, it is concluded that the possibility of any other plans or projects acting in combination with the proposed development to give rise to significant effects on any European site in, or associated with, Dublin Bay can be excluded.

3.3.3 Habitat degradation as a result of hydrogeological impacts

The proposed development lies within the Dublin Groundwater Body (Dublin GWB). The only European site within the Dublin GWB that is designated for groundwater dependant habitats and/or species is the Rye Water Valley/Carton SAC. All of the qualifying interests of the Rye Water Valley/Carton SAC, the priority Annex I habitat Petrifying springs and the two whorl snail species, are dependent upon the existing condition and functioning of the groundwater regime. Based on information published by Geological Survey Ireland (GSI) on the Dublin GWB[28], 'The general groundwater flow direction in this aquifer is towards the coast and also towards the River Liffey and Dublin City'. As the proposed development site lies down gradient of the Rye Water Valley/Carton SAC and given the substantial distance between the two, the proposed development site cannot influence groundwater conditions in the European site.

Therefore, there is no possibility of the proposed development undermining the conservation objectives of any of the qualifying interests or special conservation interests of any European sites, either alone or in combination with any other pans or projects, as a result of hydrogeological effects.

3.3.4 Disturbance and displacement impacts

Construction-related disturbance and displacement of fauna species could potentially occur within the vicinity of the proposed development. For mammal species such as Otter, disturbance effects would not be expected to extend beyond 150m[29]. For birds, disturbance effects would not be expected to extend

[28] https://secure.dccae.gov.ie/GSI_DOWNLOAD/Groundwater/Reports/GWB/DublinGWB.pdf

[29] This is consistent with Transport Infrastructure Ireland (TII) guidance (Guidelines for the Treatment of Otters prior to the Construction of National Road Schemes and Guidelines for the Treatment of Badgers prior to the Construction of National

beyond a distance of *c*.300m, as noise levels associated with general construction activities would attenuate to close to background levels at that distance[30]. There are no European sites within the disturbance ZoI; the nearest European site to the proposed development is *c*. 2.8km away.

The nearest European site designated for Otter is Wicklow Mountains SAC located *c.* 7.6km southwest of the proposed development site. The proposed development site is more than 500m from the River Slang which is more than 800m from the Dodder River. Any Otter in the Dodder River which may interact with the Wicklow Mountains SAC are outside the disturbance zone of 150m. Any impact of construction noise and dust on Otter in the Dodder River may therefore be excluded.

The nearest European site designated for wetland and wader species such as Black-headed Gull, Redshank and Oystercatcher is South Dublin Bay and River Tolka Estuary SPA located *c*. 2.7km northeast of the proposed development site. In addition, as noted in Section 3.3.1, the lands within the proposed development site do not constitute an *ex situ* habitat or site for any QI or SCI species. Therefore, the proposed development will not result in the disturbance or displacement of the QI/SCI species of any European site.

As the proposed development will not result in the disturbance/displacement of QI/SCI species of any European site, there is no potential for any in combination effects to occur in that regard.

3.3.5 Habitat degradation as a result of introducing/spreading non-native invasive species

The proposed development site does not support any non-native invasive species which could be accidentally spread or introduced to habitats within European sites. No invasive plant species which are listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011, and therefor subject to restrictions in Irish Law, were recorded within the proposed development site.

3.3.6 Summary

The potential impacts associated with the proposed development do not have the potential to affect the receiving environment and, consequently, do not have the potential to affect the conservation objectives supporting the qualifying interest/special conservation interests of any European sites. Therefore, the proposed development is not likely to have significant effects on any European sites.

As the proposed development itself will not have any effects on the QIs/SCIs or conservation objectives of any European sites, there is no potential for any other plan or project to act in combination with it to result in significant effects on any European sites.

The potential impacts of the proposed development on the receiving environment, their ZoI, and the European sites at risk of significant effects are summarised in Table 1 below. In assessing the potential for the proposed development to result in a significant effect on any European sites, any measures intended to avoid or reduce the harmful effects of the project on European sites are not taken into account.

Road Schemes) documents. This is a precautionary distance, and likely to be moderated by the screening effect provided by surrounding vegetation and buildings, with the actual ZoI of construction related disturbance likely to be much less in reality.

[30] This is based on the relationship between the noise levels generated by general construction traffic/works (BS 5228:2009 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 1 Noise) and the proximity of those noise levels to birds – as assessed in Cutts, N. Phelps, A. & Burdon, D. (2009) *Construction and Waterfowl: Defining Sensitivity, Response, Impacts and Guidance*, and Wright, M., Goodman, P & Cameron, T. (2010) Exploring Behavioural Responses of Shorebirds to Impulsive Noise. *Wildfowl* (2010) 60: 150–167. At 300m, noise levels are below 60dB or, in most cases, are approaching the 50dB threshold below which no disturbance or displacement effects would arise.

Table 1 Summary of Analysis of Likely Significant Effects on European sites

Potential Direct, Indirect In Combination Effects and the ZoI of the Potential Effects	Are there any European sites within the ZoI of the proposed development?
Habitat loss and fragmentation Habitat loss will be confined to the lands within the proposed development boundary.	No There are no European sites within the proposed development site, and the habitats within the proposed development site do not constitute an *ex situ* habitat or site for any QI or SCI species.
Habitat degradation as a result of hydrological impacts Habitats and species downstream of the proposed development site and the associated surface water drainage discharge points, and downstream of offsite wastewater treatment plants.	No There are no European sites at risk of hydrological effects associated with the proposed development.
Habitat degradation as a result of hydrogeological impacts Groundwater-dependant habitats, and the species those habitats support, in the local area that lie downgradient of the proposed development site.	No Although the European site Rye Water Valley/Carton SAC, designated for groundwater dependant habitats, is in the same groundwater body as the proposed development, the proposed development site lies down gradient of the European site and given the substantial distance between the two, the proposed development site cannot influence groundwater conditions in the European site.
Disturbance and displacement impacts Potentially up to several hundred metres from the proposed development boundary, dependent upon the predicted levels of noise, vibration and visual disturbance associated with the proposed development, taking into account the sensitivity of the qualifying interest species to disturbance effects	No There are no European sites within the potential zone of influence of disturbance effects associated with the construction or operation of the proposed development. As outlined in section 3.3.1 the proposed development site does not support any *ex-situ* populations of QI or SCI species and thus no impacts are predicted.
Habitat degradation as a result of introducing/spreading non-native invasive species Habitat areas within, adjacent to, and potentially downstream of the proposed development site.	No There are no Third Schedule non-native invasive species present on the proposed development site and, therefore, no risk associated with the proposed development to any European sites from the spread/introduction of non-native invasive species.

4 Conclusions of Screening Assessment Process

Following an examination, analysis and evaluation of the best available information, and applying the precautionary principle, it can be concluded that the possibility of any significant effects on any European sites, whether arising from the project alone or in combination with other plans and projects, can be excluded, for the reasons set out in Section 3.3 above. In reaching this conclusion, the nature of the project and its potential relationship with all European sites within the Zone of Influence, and their conservation objectives, have been fully considered.

Therefore, it is the professional opinion of the author of this report that the application for consent for the proposed development does not require an Appropriate Assessment or the preparation of a Natura Impact Statement (NIS).

Appendix I

The Qualifying Interests (QIs) and Special Conservation Interests (SCIs) of the European sites in the vicinity of the proposed development site (see Figure 1)

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) **(*Priority Annex I Habitats)**	**Location Relative to the Proposed Development Site**
Special Area of Conservation (SAC)	
South Dublin Bay SAC [000210] 1140 Mudflats and sandflats not covered by seawater at low tide 1210 Annual vegetation of drift lines 1310 *Salicornia* and other annuals colonising mud and sand 2110 Embryonic shifting dunes NPWS (2013) *Conservation Objectives: South Dublin Bay SAC 000210.* Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.	Located *c.*2.8km north east of the proposed development site.
North Dublin Bay SAC [000206] 1140 Mudflats and sandflats not covered by seawater at low tide 1210 Annual vegetation of drift lines 1310 *Salicornia* and other annuals colonising mud and sand 1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) 1395 Petalwort *Petalophyllum ralfsii* 1410 Mediterranean salt meadows (*Juncetalia maritimi*) 2110 Embryonic shifting dunes 2120 Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes) 2190 Humid dune slacks NPWS (2013) *Conservation Objectives: North Dublin Bay SAC 000206.* Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.	Located *c.*7.5km north east of the proposed development site.
Wicklow Mountains candidate SAC [002122] 3110 Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) 3160 Natural dystrophic lakes and ponds 4010 Northern Atlantic wet heaths with *Erica tetralix* 4030 European dry heaths 4060 Alpine and Boreal heaths 6130 *Calaminarian* grasslands of the *Violetalia calaminariae* 6230 Species-rich *Nardus* grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) 7130 Blanket bogs (* if active bog) 8110 Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*) 8210 Calcareous rocky slopes with chasmophytic vegetation 8220 Siliceous rocky slopes with chasmophytic vegetation 91A0 Old sessile oak woods with *Ilex* and Blechnum in the British Isles	Located *c.*7.6km south west of the proposed development site.

1355 *Lutra lutra* (Otter) NPWS (2017) *Conservation Objectives: Wicklow Mountains SAC 002122.* Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.	
Rockabill to Dalkey Island SAC [003000] 1170 Reefs 1351 Harbour porpoise *Phocoena phocaena* NPWS (2013) *Conservation Objectives: Rockabill to Dalkey Island SAC 003000.* Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.	Located *c.*9.8km east of the proposed development site.
Glenasmole Valley candidate SAC [001209] 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites) 6410 *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) 7220 Petrifying springs with tufa formation (*Cratoneurion*)* NPWS (2020) *Conservation objectives for Glenasmole Valley SAC [001209].* Generic Version 7.0. Department of Culture, Heritage and the Gaeltacht.	Located *c.*9.9km south of the proposed development site.
Knocksink Wood SAC [000725] 7220 Petrifying springs with tufa formation (*Cratoneurion*)* 91A0 Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles 91E0 Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae)* NPWS (2020) *Conservation objectives for Knocksink Wood SAC [000725].* Generic Version 7.0. Department of Culture, Heritage and the Gaeltacht.	Located *c.*9.9km south west of the proposed development site.
Ballyman Glen SAC [000713] 7220 Petrifying springs with tufa formation (*Cratoneurion*)* 7230 Alkaline fens NPWS (2019) *Conservation Objectives: Ballyman Glen SAC 000713.* Version 1. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht.	Located *c.*11.3km south east of the proposed development site.
Howth Head candidate SAC [000202] 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts 4030 European dry heaths NPWS (2016) *Conservation Objectives: Howth Head SAC 000202.* Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.	Located *c.*12.1km north east of the proposed development site.
Baldoyle Bay candidate SAC [000199] 1140 Mudflats and sandflats not covered by seawater at low tide 1310 Salicornia and other annuals colonizing mud and sand 1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) 1410 Mediterranean salt meadows (*Juncetalia maritimi*) NPWS (2012) *Conservation Objectives: Baldoyle Bay SAC 000199.* Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht	Located *c.*12.9km north east of the proposed development site.

Special Protection Area (SPA)	
South Dublin Bay and River Tolka Estuary SPA [004024] A046 Light-bellied Brent Goose *Branta bernicla hrota* A130 Oystercatcher *Haematopus ostralegus* A137 Ringed Plover *Charadrius hiaticula* A141 Grey Plover *Pluvialis squatarola* A143 Knot *Calidris canutus* A144 Sanderling *Calidris alba* A149 Dunlin *Calidris alpina* A157 Bar-tailed Godwit *Limosa lapponica* A162 Redshank *Tringa totanus* A179 Black-headed Gull *Croicocephalus ridibundus* A192 Roseate Tern *Sterna dougallii* A193 Common Tern *Sterna hirundo* A194 Arctic Tern *Sterna paradisaea* A999 Wetland and Waterbirds NPWS (2015) *Conservation Objectives: South Dublin Bay and River Tolka Estuary SPA 004024*. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.	Located *c.* 2.7km north east of the proposed development site.
North Bull Island SPA [004006] A046 Light-bellied Brent Goose *Branta bernicla hrota* A048 Shelduck *Tadorna tadorna* A052 Teal *Anas crecca* A054 Pintail *Anas acuta* A056 Shoveler *Anas clypeata* A130 Oystercatcher *Haematopus ostralegus* A140 Golden Plover *Pluvialis apricaria* A141 Grey Plover *Pluvialis squatarola* A143 Knot *Calidris canutus* A144 Sanderling *Calidris alba* A149 Dunlin *Calidris alpina* A156 Black-tailed Godwit *Limosa limosa* A157 Bar-tailed Godwit *Limosa lapponica* A160 Curlew *Numenius arquata* A162 Redshank *Tringa totanus* A169 Turnstone *Arenaria interpres* A179 Black-headed Gull *Croicocephalus ridibundus* A999 Wetlands & Waterbirds NPWS (2015) *Conservation Objectives: North Bull Island SPA 004006.* Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.	Located *c.* 7.5km north east of the proposed development site.

Wicklow Mountains SPA [004040] A098 Merlin *Falco columbarius* A103 Peregrine *Falco peregrinus* NPWS (2020) *Conservation objectives for Wicklow Mountains SPA [004040].* Generic Version 7.0. Department of Culture, Heritage and the Gaeltacht.	Located *c.* 7.8km south west of the proposed development site.
Dalkey Islands SPA [004172] A192 Roseate Tern *Sterna dougallii* A193 Common Tern *Sterna hirundo* A194 Arctic Tern *Sterna paradisaea* NPWS (2020) *Conservation objectives for Dalkey Islands SPA [004172].* Generic Version 7.0. Department of Culture, Heritage and the Gaeltacht.	Located *c.* 9.7km south east of the proposed development site.
Baldoyle Bay SPA [004016] A046 Light-bellied Brent Goose *Branta bernicla hrota* A048 Shelduck *Tadorna tadorna* A137 Ringed Plover Charadrius hiaticula A140 Golden Plover *Pluvialis apricaria* A141 Grey Plover *Pluvialis squatarola* A157 Bar-tailed Godwit *Limosa lapponica* A999 Wetland and Waterbirds NPWS (2013) *Conservation Objectives: Baldoyle Bay SPA 004016. Version 1.* National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.	Located *c.* 12.9km north east of the proposed development site.
Howth Head Coast SPA [004113] A188 Kittiwake *Rissa tridactyla* NPWS (2020) *Conservation objectives for Howth Head Coast SPA [004113].* Generic Version 7.0. Department of Culture, Heritage and the Gaeltacht.	Located *c.* 14.1km north east of the proposed development site.

Appendix II

Planning polices/objectives relating to the protection of European sites and water quality

Eastern & Midland Regional Assembly, Regional Spatial & Economic Strategy 2019-2031
Regional Policy Objective 3.4 Ensure that all plans, projects and activities requiring consent arising from the Regional Spatial and Economic Strategy are subject to the relevant environmental assessment requirements including SEA, EIA and AA as appropriate. In addition the future strategic development of settlements throughout the Region will have full cognisance of the legal requirements pertaining to sites of International Nature Conservation Interest. **Regional Policy Objective 7.2** To achieve and maintain 'Good Environmental Status' for marine waters and to ensure the sustainable use of shared marine resources in the Region, and to promote the development of a cross-boundary and cross-border strategic management and stakeholder engagement framework to protect the marine environment. **Regional Policy Objective 7.10** Support the implementation of the Water Framework Directive in achieving and maintaining at least good environmental status for all water bodies in the Region and to ensure alignment between the core objectives of the Water Framework Directive and other relevant Directives, River Basin Management plans and local authority land use plans. **Regional Policy Objective 7.11** For water bodies with 'high ecological status' objectives in the Region, local authorities shall incorporate measures for both their continued protection and to restore those water bodies that have fallen below high ecological status and areas 'At Risk' into the development of local planning policy and decision making any measures for the continued protection of areas with high ecological status in the Region and for mitigation of threats to waterbodies identified as 'At Risk' as part of a catchment based approach in consultation with the relevant agencies. This shall include recognition of the need to deliver efficient wastewater facilities with sufficient capacity and thus contribute to improved water quality in the Region. **Regional Policy Objective 7.12** Future statutory land use plans shall include Strategic Flood Risk Assessment (SFRA) and seek to avoid inappropriate land use zonings and development in areas at risk of flooding and to integrate sustainable water management solutions (such as SuDS, nonporous surfacing and green roofs) to create safe places in accordance with the Planning System and Flood Risk Assessment Guidelines for Local Authorities. **Regional Policy Objective 7.15** Local authorities shall take opportunities to enhance biodiversity and amenities and to ensure the protection of environmentally sensitive sites and habitats, including where flood risk management measures are planned. **Regional Policy Objective 7.16** Support the implementation of the Habitats Directives in achieving an improvement in the conservation status of protected species and habitats in the Region and to ensure alignment between the core objectives of the EU Birds and Habitats Directives and local authority development plans. **Regional Policy Objective 7.22** Local authority development plan and local area plans, shall identify, protect, enhance, provide and manage Green Infrastructure in an integrated and coherent manner and should also have regard to the required targets in relation to the conservation of European sites, other nature conservation sites, ecological networks and protected species. **Regional Policy Objective 10.6** Delivery and phasing of services shall be subject to the required appraisal, planning and environmental assessment processes and shall avoid adverse impacts on the integrity of the Natura 2000 network. **Regional Policy Objective 10.7** Local authority core strategies shall demonstrate compliance with DHPLG Water Services Guidelines for local authorities and demonstrate phased infrastructure – led growth that is commensurate with the carrying

capacity of water services and prevent adverse impacts on the integrity of water dependent habitats and species within the Natura 2000 network.

Regional Policy Objective 10.10

Support Irish Water and the relevant local authorities in the Region to eliminate untreated discharges from settlements in the short term, while planning strategically for long term growth in tandem with Project Ireland 2040 and in increasing compliance with the requirements of the Urban Waste Water Treatment Directive from 39% today to 90% by the end of 2021, to 99% by 2027 and to 100% by 2040.

Regional Policy Objective 10.11

EMRA supports the delivery of the waste water infrastructure set out in Table 10.2, subject to appropriate environmental assessment and the planning process.31

Regional Policy Objective 10.12

Development plans shall support strategic wastewater treatment infrastructure investment and provide for the separation of foul and surface water networks to accommodate the future growth of the Region.

Regional Policy Objective 10.15

Support the relevant local authorities (and Irish Water where relevant) in the Region to improve storm water infrastructure to improve sustainable drainage and reduce the risk of flooding in the urban environment and in the development and provision at a local level of Sustainable Urban Drainage solutions.

Regional Policy Objective 10.16

Implement policies contained in the Greater Dublin Strategic Drainage Study (GDSDS), including SuDS.

Regional Policy Objective 10.18

Local authorities shall ensure adequate surface water drainage systems are in place which meet the requirements of the Water Framework Directive and the associated River Basin Management Plans.

Dublin City Development Plan 2016-2022

GI23

To protect flora, fauna and habitats, which have been identified by Articles 10 and 12 of Habitats Directive, Birds Directive, Wildlife Acts 1976–2012, the Flora (Protection) Order 2015 S.I No. 356 of 2015, European Communities (Birds and Natural Habitats) Regulations 2011 to 2015.

GI24

To conserve and manage all Natural Heritage Areas, Special Areas of Conservation and Special Protection Areas designated, or proposed to be designated, by the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

GIO17

To seek the continued improvement of water quality, bathing facilities and other recreational opportunities in the coastal, estuarine and surface waters in the city and to protect the ecology and wildlife of Dublin Bay.

GI20

To seek continued improvement in water quality, bathing facilities and other recreational opportunities in the coastal, estuarine and surface waters in the city, having regard to the sensitivities of Dublin Bay and to protect the ecology and wildlife of Dublin Bay.

SI18:

To require the use of Sustainable Urban Drainage Systems in all new developments, where appropriate, as set out in the Greater Dublin Regional Code of Practice for Drainage Works. The following measures will apply:

[31] The Greater Dublin Drainage Project, the Ringsend Wastewater Treatment Plant Project, the Athlone Main Drainage Project and the Upper Liffey Valley Sewerage Scheme

- The infiltration into the ground through the development of porous pavement such as permeable paving, swales, and detention basins
- The holding of water in storage areas through the construction of green roofs, rainwater harvesting, detention basins, ponds, and wetlands
- The slow-down of the movement of water.

Fingal Development Plan 2017-2023

Objective NH10

Ensure that the Council takes full account of the requirements of the Habitats and Birds Directives, as they apply both within and without European Sites in the performance of its functions.

Objective NH11

Ensure that the Council, in the performance of its functions, takes full account of the objectives and management practices proposed in any management or related plans for European Sites in and adjacent to Fingal published by the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

Objective NH15

Strictly protect areas designated or proposed to be designated as Natura 2000 sites (i.e. Special Areas of Conservation (SACs) and Special Protection Areas (SPAs); also known as European sites) including any areas that may be proposed for designation or designated during the period of this Plan.

Objective SW04

Require the use of sustainable drainage systems (SuDS) to minimise and limit the extent of hard surfacing and paving and require the use of sustainable drainage techniques where appropriate, for new development or for extensions to existing developments, in order to reduce the potential impact of existing and predicted flooding risks.

Objective WQ01

Strive to achieve 'good status' in all waterbodies in compliance with the Water Framework Directive, the Eastern River Basin District Management Plan 2009-2015 and the associated Programme of Measures (first cycle) and to cooperate with the development and implementation of the second cycle national River Basin Management Plan 2017-2021.

Objective WQ04

Protect existing riverine wetland and coastal habitats and where possible create new habitats to maintain naturally functioning ecosystems whilst ensuring they do not impact negatively on the conservation objectives of any European Sites.

Objective WT01

Liaise with and work in conjunction with Irish Water during the lifetime of the plan for the provision, extension and upgrading of waste water collection and treatment systems in all towns and villages of the County to serve existing populations and facilitate sustainable development of the County, in accordance with the requirements of the Settlement Strategy and associated Core Strategy.

Objective WT02

Liaise with Irish Water to ensure the provision of wastewater treatment systems in order to ensure compliance with existing licences, EU Water Framework Directive, River Basin Management Plans, the Urban Waste Water Directive and the EU Habitats Directive.

South Dublin County Council Development Plan 2016-2022

HCL12 Objective 1

To prevent development that would adversely affect the integrity of any Natura 2000 site located within and immediately adjacent to the County and promote favourable conservation status of habitats and protected species including those listed under the Birds Directive, the Wildlife Acts and the Habitats Directive.

HCL12 Objective 2

To ensure that projects that give rise to significant direct, indirect or secondary impacts on Natura 2000 sites, either individually or in combination with other plans or projects, will not be permitted unless the following

is robustly demonstrated in accordance with Article 6(4) of the Habitats Directive and S.177AA of the Planning and Development Act (2000 – 2010) or any superseding legislation:

1. There are no less damaging alternative solutions available; and
2. There are imperative reasons of overriding public interest (as defined in the Habitats Directive) requiring the project to proceed; and
3. Adequate compensatory measures have been identified that can be put in place.

IE Policy 1 Water & Wastewater

It is the policy of the Council to work in conjunction with Irish Water to protect existing water and drainage infrastructure and to promote investment in the water and drainage network to support environmental protection and facilitate the sustainable growth of the County.

IE1 Objective 1

To work in conjunction with Irish Water to protect, manage and optimise water supply and foul drainage networks in the County.

IE1 Objective 2

To work in conjunction with Irish Water to facilitate the timely delivery of ongoing upgrades and the expansion of water supply and wastewater services to meet the future needs of the County and the Region.

IE Policy 2 Surface Water & Groundwater

It is the policy of the Council to manage surface water and to protect and enhance ground and surface water quality to meet the requirements of the EU Water Framework Directive.

IE2 Objective 1

To maintain, improve and enhance the environmental and ecological quality of our surface waters and groundwater by implementing the programme of measures set out in the Eastern River Basin District River Basin Management Plan.

IE2 Objective 3

To maintain and enhance existing surface water drainage systems in the County and promote and facilitate the development of Sustainable Urban Drainage Systems (SUDS), including integrated constructed wetlands, at a local, district and County level, to control surface water outfall and protect water quality.

IE2 Objective 4

To incorporate Sustainable Urban Drainage Systems (SUDS) as part of Local Area Plans, Planning Schemes, Framework Plans and Design Statements to address the potential for Sustainable Urban Drainage at a site and/or district scale, including the potential for wetland facilities.

IE2 Objective 5

To limit surface water run-off from new developments through the use of Sustainable Urban Drainage Systems (SUDS) and avoid the use of underground attenuation and storage tanks.

IE2 Objective 6

To promote and support the retrofitting of Sustainable Urban Drainage Systems (SUDS) in established urban areas, including integrated constructed wetlands.

Kildare County Development Plan 2017-2023

NH 4

Support the conservation and enhancement of Natura 2000 Sites including any additional sites that may be proposed for designation during the period of this Plan and to protect the Natura 2000 network from any plans and projects that are likely to have a significant effect on the coherence or integrity of a Natura 2000 Site.

NH 5

Prevent development that would adversely affect the integrity of any Natura 2000 site located within and immediately adjacent to the county and promote favourable conservation status of habitats and protected species including those listed under the Birds Directive, the Wildlife Acts and the Habitats Directive.

NH 6

Ensure an Appropriate Assessment, in accordance with Article 6(3) and Article 6(4) of the Habitats Directive and with DEHLG guidance (2009), is carried out in respect of any plan or project not directly connected with or necessary to the management of a Natura 2000 site to determine the likelihood of the plan or project having a significant effect on a Natura 2000 site, either individually or in combination with other plans or projects and to ensure that projects which may give rise to significant cumulative, direct, indirect or secondary impacts on Natura 2000 sites will not be permitted (either individually or in combination with other plans or projects) unless for reasons of overriding public interest.

WQ 1

Co-operate with the EPA and other authorities in the continued implementation of the EU Water Framework Directive and assist and co-operate with the lead authority for the River Basin Management Plan(s).

WQ 2

Ensure, through the implementation of the River Basin Management Plan(s) and the associated Programmes of Measures and any other associated legislation, the protection and improvement of all drinking water, surface water and ground waters throughout the county.

WQ 6

Protect recognised salmonid water courses in conjunction with Inland Fisheries Ireland such as the Liffey catchment, which are recognised to be exceptional in supporting salmonid fish species.

WW 4

Ensure that adequate wastewater services will be available to service development prior to the granting of planning permission. Applicants who are proposing to connect to the public wastewater network should consult with Irish Water regarding available capacity prior to applying for planning permission.

WW 12

Ensure that existing and permitted private wastewater treatment plants are operated in compliance with their wastewater discharge license, in order to protect water quality.

Wicklow County Development Plan 2016-2022

NH2

No projects giving rise to significant cumulative, direct, indirect or secondary impacts on Natura 2000 sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects shall be permitted on the basis of this plan (either individually or in combination with other plans or projects).

Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be: a) no alternative solution available, b) imperative reasons of overriding public interest for the project to proceed; and c) Adequate compensatory measures in place.

NH3

To contribute, as appropriate, towards the protection of designated ecological sites including candidate Special Areas of Conservation (cSACs) and Special Protection Areas (SPAs); Wildlife Sites (including proposed Natural Heritage Areas); Salmonid Waters; Flora Protection Order sites; Wildfowl Sanctuaries (see S.I. 192 of 1979); Freshwater Pearl Mussel catchments; and Tree Preservation Orders (TPOs). To contribute towards compliance with relevant EU Environmental Directives and applicable National Legislation, Policies, Plans and Guidelines, including the following and any updated/superseding documents:

- EU Directives, including the Habitats Directive (92/43/EEC, as amended)7 , the Birds Directive (2009/147/EC)8 , the Environmental Liability Directive (2004/35/EC)9 , the Environmental Impact Assessment Directive (85/337/EEC, as amended), the Water Framework Directive (2000/60/EC) and the Strategic Environmental Assessment Directive (2001/42/EC).
- National legislation, including the Wildlife Act 197610, the European Communities (Environmental Impact Assessment) Regulations 1989 (SI No. 349 of 1989) (as amended), the Wildlife (Amendment) Act 2000, the European Union (Water Policy) Regulations 2003 (as amended), the Planning and Development Act 2000 (as amended), the European Communities (Birds and Natural Habitats)

Regulations 2011 (SI No. 477 of 2011) and the European Communities (Environmental Liability) Regulations 200811.

- National policy guidelines (including any clarifying Circulars or superseding versions of same), including the Landscape and Landscape Assessment Draft Guidelines 2000, the Environmental Impact Assessment Sub-Threshold Development Guidelines 2003, Strategic Environmental Assessment Guidelines 2004 and the Appropriate Assessment Guidance 2010.
- Catchment and water resource management Plans, including Eastern and South Eastern River Basin Management Plan 2009-2015 (including any superseding versions of same).
- Biodiversity Plans and guidelines, including Actions for Biodiversity 2011-2016: Ireland's 2nd National Biodiversity Plan (including any superseding version of same).
- Ireland's Environment 2014 (EPA, 2014, including any superseding versions of same), and to make provision where appropriate to address the report's goals and challenges.

NH4

All projects and plans arising from this plan12 (including any associated improvement works or associated infrastructure) will be screened for the need to undertake Appropriate Assessment under Article 6 of the Habitats Directive. A plan or project will only be authorised after the competent authority has ascertained, based on scientific evidence, Screening for Appropriate Assessment, and a Stage 2 Appropriate Assessment where necessary, that:

1) The Plan or project will not give rise to significant adverse direct, indirect or secondary effects on the integrity of any European site (either individually or in combination with other plans or projects); or

2) The Plan or project will have significant adverse effects on the integrity of any European site (that does not host a priority natural habitat type and / or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000; or

3) The Plan or project will have a significant adverse effect on the integrity of any European site (that hosts a natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons for overriding public interest, restricted to reasons of 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. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000.

NH5

To maintain the conservation value of all proposed and future Natural Heritage Areas (NHAs) and to protect other designated ecological sites in Wicklow.

Along with cSACs, SPAs and pNHA these include Salmonid Waters; Flora Protection Order sites; Wildfowl Sanctuaries (see S.I. 192 of 1979); Freshwater Pearl Mussel catchments; and Tree Preservation Orders (TPOs).

WI2

To protect existing and potential water resources of the County, in accordance with the EU Water Framework Directive, the River Basin Management Plans, the Groundwater Protection Scheme and source protection plans for public water supplies.

WI12

Ensure the implementation of Sustainable Urban Drainage Systems (SUDS) and in particular, to ensure that all surface water generated in a new development is disposed of on-site or is attenuated and treated prior to discharge to an approved surface water system.

WI6

In order to fulfil the objectives of the Core Strategy, Wicklow County Council will work alongside and facilitate the delivery of Irish Water's Water Services Investment Programme, to ensure that all lands zoned for development are serviced by an adequate wastewater collection and treatment system and in particular, to

endeavour to secure the delivery of regional and strategic wastewater schemes. In particular, to support and facilitate the development of a WWTP in Arklow, at an optimal location following detailed technical and environmental assessment and public consultation.

WI7

Permission will be considered for private wastewater treatment plants for single rural houses where: • the specific ground conditions have been shown to be suitable for the construction of a treatment plant and any associated percolation area;

- the system will not give rise to unacceptable adverse impacts on ground waters / aquifers and the type of treatment proposed has been drawn up in accordance with the appropriate groundwater protection response set out in the Wicklow Groundwater Protection Scheme (2003);
- the proposed method of treatment and disposal complies with Wicklow County Council's Policy for Wastewater Treatment & Disposal Systems for Single Houses (PE ≤ 10) and the Environmental Protection Agency "Waste Water Treatment Manuals"; and
- in all cases the protection of ground and surface water quality shall remain the overriding priority and proposals must definitively demonstrate that the proposed development will not have an adverse impact on water quality standards and requirements set out in EU and national legislation and guidance documents.

WI9

Private wastewater treatment plants for commercial / employment generating development will only be considered where:

- Irish Water has confirmed the site is due to be connected to a future public system in the area6 or Irish Water have confirmed there are no plans for a public system in the area;
- it can clearly demonstrated that the proposed system can meet all EPA / Local Authority environmental criteria; and
- an annually renewed contract for the management and maintenance of the system is contracted with a reputable company / person, details of which shall be provided to the Local Authority.

Appendix III

AWN Hydrological and Hydrogeological Qualitative Risk Assessment

HYDROLOGICAL & HYDROGEOLOGICAL QUALITATIVE RISK ASSESSMENT FOR A STRATEGIC HOUSING DEVELOPMENT (SHD) AT OUR LADY'S GROVE, GOATSTOWN ROAD, GOATSTOWN, DUBLIN 14

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Technical Report Prepared For

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Our Reference

PC/20/11386

Date of Issue

5 February 2021

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Document History

Document Reference		Original Issue Date	
PC/20/11386		5 February 2021	
Revision Level	Revision Date	Description	Sections Affected
1	13/01/2021	Figure 1.1 Updated Site Outline colour	1
2	05/02/2021	Page 9 text	3

Record of Approval

Details	Written by	Approved by
Signature		
Name	Paul Conaghan	Teri Hayes
Title	Environmental Consultant	Director
Date	5 February 2021	5 February 2021

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1.0 INTRODUCTION

1.1 Site Location & Hydrological Setting

The proposed development site is located off Goatstown Road, Dublin 14 within the grounds of Our Lady's Convent and School.

The site is currently compromised of open grassland to the south with tarmac covered sport surfaces in the northern section of the site, a creche facility is situated in the north eastern corner with additional hardstanding to the south east which appears to have been previously used as a construction compound. The topography ranges from approx. + 42 mOD to + 40 mOD with a gradent rising south to north east.

Figure 1.1 Site location in relation to regional drainage (hydrological setting)

It is proposed that stormwater from the site, following attenuation, will discharge to the existing 300mm diameter public storm sewer located at the entrance to the site on the eastern boundary of Our Lady's Grove. Foul water will discharge, also on the eastern site of the site at the entrance, to an existing 225 mm diameter foul sewer, which later joins a public foul sewer line along the Goatstown Road to the east of the proposed development site.

There is no direct discharge to ground or surface water body proposed as part of this development. The nearest surface water receptor to the west is the River Slang which is approx. 560 m west of the proposed development site boundary; the Elm Park Stream is approx. 200 m at its nearest point to the north of the proposed development site (Figure 1.2).

1.2 Objective of Report

The scope of this desk top review is to confirm any hydrological pathway to a Natura 2000 site and determine any risk of impact on water body status or habitat requirements to any Natura 2000 sites based on the construction and operation of the proposed development.

In particular, this review considers the likely impact of construction run-off and domestic sewage from the proposed development on water quality status within Dublin Bay farther to the east. This technical report will inform The Project Ecologist's '*Provision of Information for Screening for Appropriate Assessment'* report, which aims to address the unmitigated impact on any Natura 2000 site that might be at risk of likely significant effects

Figure 1.2 Site location in relation to European sites and NHAs/pNHAs in the vicinity of the proposed development. (EPA, 2020)

The assessment relies on information regarding construction and design provided by the site engineers DBFL, as outlined in their '*Civil & Structural Design Statement* (2020).

This report is prepared by *Paul Conaghan* (BSc and MSc) and *Teri Hayes* (BSc MSc PGeol EurGeol). Teri is a hydrogeologist with over 25 years of experience in water resource management and impact assessment. She has a Masters in Hydrogeology and is a former President of the Irish Group of the Association of Hydrogeologists (IAH) and has provided advisory services on water related environmental and planning issues to both public and private sector bodies. She is qualified as a *competent person* as recognised by the EPA in relation to contaminated land assessment (IGI Register of competent persons www.igi.ie). Her specialist area of expertise is water resource management eco-hydrogeology, hydrological assessment and environmental impact assessment.

Paul is an Environmental Consultant with over 9 years' experience working in the environmental science and environmental engineering fields. Paul holds a degree in Environmental Science from the University of Limerick and a master's in environmental engineering from Queens University Belfast. Paul has worked on a wide range of projects including hydrogeology, contaminated land, project management, site geotechnical evaluations, site assessments specialising in environmental impact assessment. Paul is a member of the International Association of Hydrogeologists.

2.0 ASSESSMENT OF BASELINE WATER QUALITY, RIVER FLOW AND WATER BODY STATUS

A reliable Conceptual Site Model (CSM) requires an understanding of the existing hydrological and hydrogeological setting. This is described below for the proposed development site and surrounding hydrological and hydrogeological environments.

2.1 Hydrological Catchment Description

The proposed development site lies within the Liffey and Dublin Bay Catchment (Id. 09) and River Dodder sub-catchment (name: Dodder_SC_010, Id. 09_16) (EPA, 2020). The River Slang (Figure 1.2) - a tributary of the River Dodder - is located approx. 560 m west of the subject lands. From here the River Slang flows for approx. 780 m in a northerly direction before converging with the River Dodder which then flows north for a further ~4.9 km before discharging into the Liffey Estuary lower transitional waterbody which in turn discharges into Dublin Bay coastal waterbody which includes a Special Area of Conservation (SAC)/proposed Natural Heritage Area (pNHA). The Elm Park Stream rises in Goatstown approx. 200 m from the proposed development lands, is culverted for part of its course (Figure 1), and discharges through UCD before emerging in Elm Park Golf Course, from where the water course finally discharges to Dublin Bay just south of the Merrion Gates.

The EPA (2020) on-line mapping presents the available water quality status information for water bodies in Ireland. The River Slang and the River Dodder have a Water Framework Directive (WFD) status (2013-2018) of 'Moderate' and a current WFD risk score of 'At risk of not achieving good status'. The EPA does not collect water quality data for Elm Park Stream. The Dodder catchment discharges to the Liffey Estuary Lower which has a WFD status (2013-2018) of 'Good' and current score of 'At risk'. The Dublin Bay waterbody has a WFD risk score of 'Not at risk' and achieved 'Good' status between 2013-2018. The most recent surface water quality data for the Liffey Estuary Lower and Dublin Bay (2010-2012) indicate that they are 'Unpolluted'. Under the 2015 'Trophic Status Assessment Scheme' classification of the EPA, 'Unpolluted' means there have been no breaches of the EPA's threshold values for nutrient enrichment, accelerated plant growth, or disturbance of the level of dissolved oxygen normally present.

2.2 Aquifer Description & Superficial Deposits

The Geological Survey of Ireland GSI (2018) classifies the bedrock beneath the site as 'Dinantian Upper Impure Limestones' - dark Limestone and shale (Calp). The GSI also classifies the principal aquifer types in Ireland as:

- Lk - Locally Important Aquifer - Karstified
- Ll - Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones
- Lm - Locally Important Aquifer - Bedrock which is Generally Moderately Productive
- Pl - Poor Aquifer - Bedrock which is Generally Unproductive except for Local Zones
- Pu - Poor Aquifer - Bedrock which is Generally Unproductive
- Rkd - Regionally Important Aquifer (karstified diffuse)

The GSI (2020) has described the bedrock aquifer beneath the subject site as a '*Locally Important Aquifer – Bedrock which is Moderately Productive only in Local Zones*'. The proposed development is within the '*Dublin*' groundwater body and is classified as '*Poorly productive bedrock*'. The most recent WFD groundwater status for this water body (2013-2018) is '*Good'* with a current WFD risk score of '*Not at risk'*.

Aquifer vulnerability is a term used to represent the intrinsic geological and hydrological characteristics that determine the ease with which groundwater may be contaminated generally by human activities. The GSI (2020) classifies the bedrock aquifer in the region of the site as having *Low* (L) vulnerability status. This shows that the aquifer is naturally protected by low permeability glacial clays.

The aquifer vulnerability class in the region of the site is presented as Figure 2.1 below.

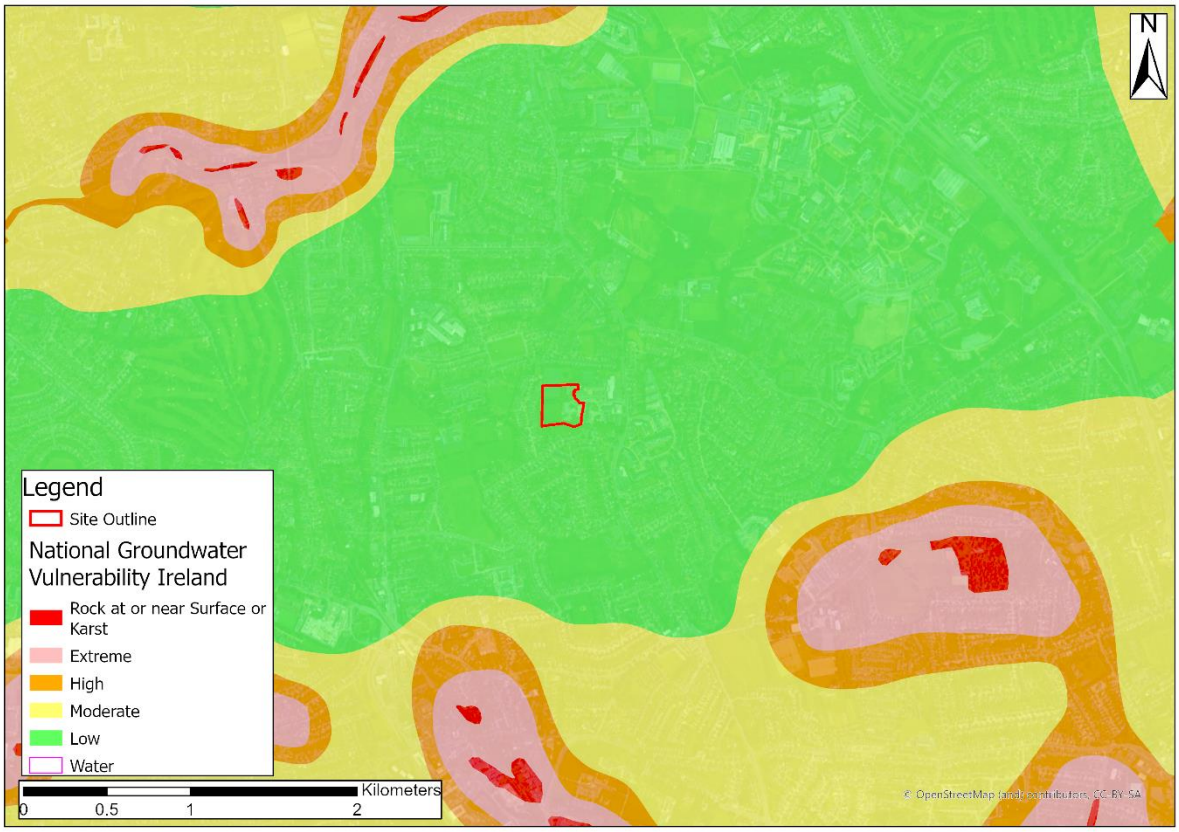

Figure 2.1 Aquifer Vulnerability (GSI, 2020)

The GSI/ Teagasc (2020) online shallow soils map indicates the site and surrounding area is underlain by Made Ground which reflects the urbanised land use in the immediate area.

3.0 CONCEPTUAL SITE MODEL

A conceptual site model (CSM) is developed based on a good understanding of the hydrological and hydrogeological environment, plausible sources of impact and knowledge of receptor requirements. This in turn allows possible Source Pathway Receptor (S-P-R) linkages to be identified. If no S-P-R linkages are identified, then there is no risk to identified receptors.

3.1 Assessment of Plausible Sources

Potential sources during both the construction and operational phases are considered. For the purposes of undertaking the potential of any hydrological/ hydrogeological S-P-R linkages, all potential sources of contamination are considered without taking account of any measures intended to avoid or reduce harmful effects of the proposed project (mitigation measures) i.e. a worst-case scenario. Construction sources (temporary to short-term) and operational sources (long-term) are considered below.

Construction Phase

The following sources (hazards) are considered plausible for the proposed construction site:

(i) Leakage could occur from construction site equipment. As a worst-case scenario an unmitigated leak from a temporary refuelling tank which would typically have a maximum capacity of 300 litres is considered. This would be a single short-term event i.e. if not adequately mitigated. It is noted all chemicals will be bunded to a volume of 110% of the capacity of the largest tank/ container within the bunded area(s) (plus an allowance of 30 mm for rainwater ingress). Refuelling of construction vehicles will take place in a designated area (or where possible off site) which will be away from surface water gullies or drains

(ii) Use of wet cement is a requirement during construction. Run-off water from recently cemented areas will result in highly alkaline water with high pH. As this would only occur during particular phases of work this is again considered as a single short-term potential event rather than an ongoing event.

(iii) Construction requires soil excavation and removal and import. Unmitigated run-off could contain a high concentration of suspended solids during earthworks. This could be considered an intermittent short-term event i.e. if proposed mitigation measures to control sediment laden run-off were to fail.

It is noted that the proposed development site is currently surrounded by established development which already has stormwater infrastructure in place and as such, this built infrastructure provides additional attenuation for run-off prior to discharging to the public stormwater sewer.

Operational Phase

The following sources are considered plausible post construction:

(i) The development will use gas heating. Leakage of petrol/ diesel fuel may occur from individual cars in parking areas, run-off may contain a worst-case scenario of 70 litres for example. The development will be fully serviced with foul and storm sewers which will have adequate capacity for the facility as required by Irish Water licencing. Discharge from the site to the public foul sewer will be sewage and grey water only due to the residential nature of the proposed development. The foul discharge from the site will join the public sewer and will be treated at the Irish Water Ringsend Wastewater Treatment Plant (WWTP) prior to subsequent discharge to Dublin Bay. This WWTP is required to operate under an EPA licence and meet environmental legislative requirements as set out in such licence. It is noted that an application for a new upgrade to this facility has been granted.

3.2 Assessment of Pathways

The following pathways have been considered within this assessment with impact assessment presented in Section 3.4:

(i) Vertical migration to the underlying limestone is minimised due to the recorded low vulnerability present at the site resulting in good aquifer protection from any localised diesel/ fuel oil spills during either construction or operational phases. The site is underlain by Calp limestone which is a Locally Important Limestone Aquifer characterised by discrete local fracturing with little connectivity rather than large connected fractures which are more indicative of Regional Aquifers. As such, flow paths are generally local.
(ii) There is no direct hydrological linkage for construction or operation run-off or any small hydrocarbon leaks from the site to the River Slang (and River Dodder), Elm Park Stream or Dublin Bay. However, an indirect pathway exists through the public stormwater sewers.
(iii) There is no direct pathway for foul sewage to any receiving water body (as identified above). There is however an indirect pathway through the public sewer which ultimately discharges to the Irish Water WWTP at Ringsend prior to discharge to Dublin Bay post treatment.

3.3 Assessment of Receptors

The receptors considered in this assessment include the following:

(i) Underlying limestone aquifer;
(ii) River Slang and Elm Park Stream; and
(iii) Liffey Estuary Lower and Dublin Bay.

3.4 Assessment of Source Pathway Receptor Linkages

3.4.1 Assessment Without Mitigation

Table 3.1 below summarises the plausible pollutant linkages (S-P-R) considered as part of the assessment and a review of the assessed risk is also summarised below.

The overburden thickness and a lack of fracture connectivity within the limestone will minimise the rate of off-site migration for any indirect discharges to ground at the site.

Should any silt-laden stormwater from construction or hydrocarbon-contaminated water from a construction vehicle leak manage to enter the public stormwater sewer, the suspended solids will naturally settle within the drainage pipes and hydrocarbons will dilute to background levels (water quality objectives as outlined in S.I. No. 272 of 2009 (as amended) & S.I. No. 77 of 2019); by the time the stormwater reaches any open water. Similarly, during operation, should any leak of hydrocarbon occur from a vehicle, the volume of contaminant release is low and combined with the significant attenuation within in the public stormwater sewers, hydrocarbons will dilute to background levels with no likely impact above water quality objectives as outlined in S.I. No. 272 of 2009 (as amended) & S.I. No. 77 of 2019. It can also be

concluded that the in-combination effects of surface water arising from the proposed development taken together with that of other developments will not be significant.

The average wastewater discharge is calculated at a rate of 1.01 litres/sec. The sewage discharge will be licensed by Irish Water, collected in the public sewer and treated at Irish Water's WWTP at Ringsend prior to discharge to Dublin Bay. This WWTP is required to operate under an EPA licence (D0034-01) and to meet environmental legislative requirements. The plant has received planning (2019) and will be upgraded with increased treatment capacity over the next five years. Even without treatment at the Ringsend WWTP, the average effluent discharge, calculated for the proposed development as 1.01 litres/sec (which would equate to 0.019% of the licensed discharge at Ringsend WWTP), would not impact on the overall water quality within Dublin Bay and therefore would not have an impact on the current Water Body Status (as defined within the Water Framework Directive). This assessment is supported by hydrodynamic and chemical modelling within Dublin Bay which has shown that there is significant dilution for contaminants of concern (DIN and MRP) available quite close to the outfall for the treatment plant (WWTP 2012 EIS, WWTP 2018 EIAR). Recent water quality assessment of Dublin Bay also shows that Dublin Bay on the whole, currently has an 'Unpolluted' water quality status (EPA, 2018).

The assessment has also considered th*e effect of cumulative events, such as* release *of* sediment laden water combined with a hydrocarbon leak on site. As there is adequate assimilation and dilution between the site and the receiving water bodies, it is concluded that no perceptible impact on water quality would occur. It can also be concluded that the cumulative or in-combination effects of effluent arising from the proposed development with that of other developments discharging to Ringsend WWTP will not be significant having regard to the size of the calculated discharge from the proposal.

The existing and proposed foul and storm sewers are 'separate' in compliance with the Building Regulations and Dublin City Councils '*Regional Code of Practice for Drainage works and Irish Waters Code of Practice for Wastewater Infrastructure'*. As such, there is no potential for sewage-laden water from the proposed development to enter the local stormwater network ultimately discharging to Dublin Bay.

Table 3.1 Pollutant Linkage Assessment *(without mitigation)*

Source	Pathways	Receptors considered	Risk of Impact
Construction Impacts Unmitigated leak from an oil tank to ground/ unmitigated leak from construction vehicle.	Vertical migration to weathered/ less competent limestone. (Calp limestone has discrete local fracturing rather than large connected fractures).	Limestone bedrock aquifer (locally Important aquifer)	Low Risk of localised impact to shallow weathered limestone due to protective overburden. No likely impact on the status of the aquifer due to volume of leak indicated, natural attenuation within overburden and discrete nature of fracturing reducing off site migration.
Discharge to ground of runoff water with High pH from cement process Unmitigated run-off containing a high concentration of suspended solids	Overland flow/ indirect pathway through stormwater drainage to Slang and Elm Park water courses	River Slang & Elm Park Stream	No perceptible risk – Distance from source too great (> 0.5 km) and potential contaminant loading will be attenuated diluted and dispersed near source area.
Operational Impacts Foul effluent discharge to sewer	Indirect pathway to Dublin Bay through public sewer	Dublin Bay	No perceptible risk – Even without treatment at Ringsend WWTP, the average effluent discharge (1.01 litres/sec which would equate to 0.019% of the licensed discharge at Ringsend WWTP), would not impact on the overall water quality within Dublin Bay and therefore would not have an impact on the current Water Body Status (as defined within the Water Framework Directive).
Discharge to ground of hydrocarbons from car leak	Indirect pathway through stormwater drainage to Slang and Elm Park water courses	Slang and Elm Park Rivers	No perceptible risk – Distance from source too great (> 0.5 km) and potential contaminant loading will be attenuated diluted and dispersed near source area.

Note 1: This assessment is based on the current licenced hydraulic capacity of the Ringsend WWTW.

4.0 CONCLUSIONS

A conceptual site model (CSM) has been prepared following a desk top review of the site and surrounding environs. Based on this CSM, plausible source-pathway-receptor linkages have been assessed assuming an absence of any measures intended to avoid or reduce harmful effects of the proposed project (i.e. mitigation measures) in place at the proposed development site at Our Lady's Grove.

There is no direct source pathway linkage between the proposed development site and open water (i.e. Dodder Catchment or Dublin Bay). It is concluded that there is also no resultant indirect source pathway linkage from the proposed development through public sewers which could result in any change to the current water regime (water quality or quantity) and open water as defined.

Finally, as outlined in the report prepared by DBFL (2020), and in line with good practice, mitigation measures have been included in the construction design, management of construction programme and during operation of the proposed development. These specific measures will provide further protection to the receiving soil and water environments. However, the protection of downstream European sites is in no way reliant on these measures.

5.0 REFERENCES

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