



**Appropriate Assessment Screening Report
for DUB06 EdgeConneX Data Centre Development,
Ballymakailly, Co. Dublin**

on behalf of EdgeConneX Ireland Ltd.

Scott Cawley, College House, 71 – 73 Rock Road, Blackrock, Co. Dublin, A94 F9X9, Ireland

Tel+353(1)676-9815 Fax +353(1) 676-9816

Document Control

Project Title	DUB06 EdgeConneX			Project No.	220046
Document Title	Appropriate Report	Assessment	Screening	Status	Final
Revision	Issue Date	Author	Reviewed By	Approved By	
D01	30/05/2022	LG	NB	-----	
D02	01/07/2022	LG / EV	SOD	-----	
I01	26/07/2022	LG / EV	SOD	TR	

© Copyright Scott Cawley Limited.

This report has been prepared by Scott Cawley Ltd. for the sole use of our client (the 'Client') and, unless otherwise agreed in writing by Scott Cawley Ltd., no other party may use, make use of or rely on the contents of this report. No liability is accepted by Scott Cawley Ltd. for any use of this report, other than the purpose for which it was prepared.

This report has been prepared by Scott Cawley Ltd. in accordance with the particular instructions and requirements of our agreement with the Client, the project's budgetary and time constraints and in line with best industry standards. The methodology adopted and the sources of information used by Scott Cawley Ltd. in providing its services are outlined in this report. The scope of this report and the services are defined by these circumstances.

Where the conclusions and recommendations contained within this document are based upon information provided by others than Scott Cawley Ltd., no liability is accepted on the validity or accuracy of that information. It is assumed that all relevant information has been provided by those parties from whom it has been requested and that the information is true and accurate. No independent verification of any documentation or information supplied by others has been made.

The conclusions presented in this report represent Scott Cawley Ltd.'s best professional judgement based on review of site conditions observed during the site visit (if applicable) and the relevant information available at the time of writing. Scott Cawley Ltd. has used reasonable skill, care and diligence in compiling this report and no warranty is provided as to the report's accuracy.

Table of Contents

1 Introduction 1

2 Methodology 1

 2.1 Guidance 1

 2.2 Assessment Methodology 2

 2.3 Desktop Data Review 3

 2.4 Consultations 4

3 Provision of Information for Screening for Appropriate Assessment 6

 3.1 Description of the Proposed development 6

 3.2 Overview of the Receiving Environment 8

 3.3 Assessment of Effects on European Sites 13

4 Conclusions of Screening Assessment Process 21

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 2)

Appendix II

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

Appendix III

Records of SCI species from the desktop study in the vicinity of the study area

1 Introduction

- 1 This report, which contains information required for the competent authority (in this instance South Dublin County Council) 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. The proposed development consists of a data centre development, with associated landscaping, lighting and drainage.
- 2 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 Guidance

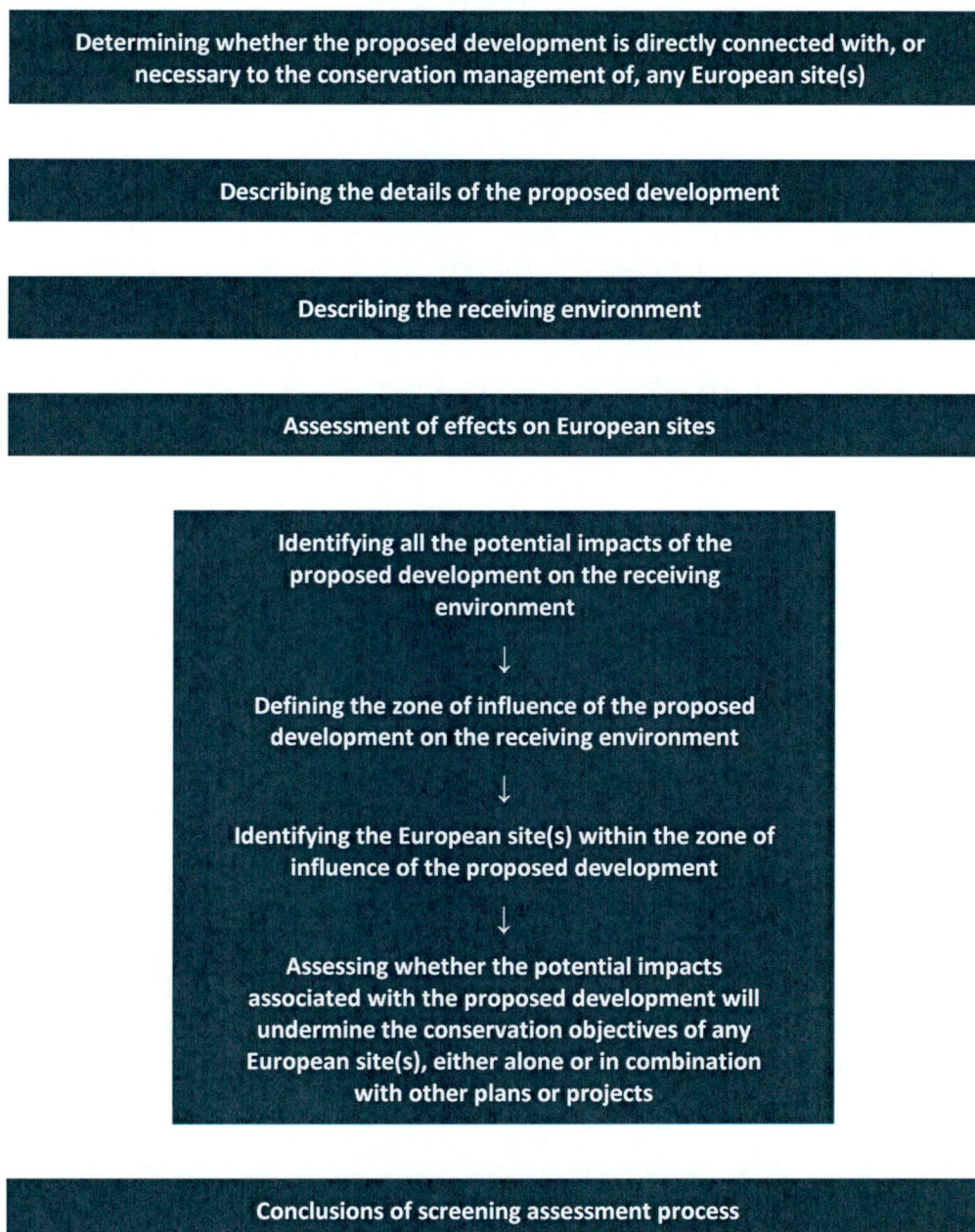
- 3 This Appropriate Assessment Screening Report has been prepared with regard to the following guidance documents, as relevant:
 - *OPR Practice Note PN01. Appropriate Assessment Screening for Development Management* (Office of the Planning Regulator, 2021)
 - *Appropriate Assessment of Plans and Projects 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 in Relation to Natura 2000 sites: Methodological Guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (European Commission, 2021)
 - *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)

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 conservation areas 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).

2.2 Assessment Methodology

- 4 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).
- 5 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).
- 6 Screening for Appropriate Assessment involves the following steps:



- 7 If the conclusions at the end of screening are that there is no likelihood of significant effects occurring on any European sites as a result of the proposed plan or project, either alone or in combination with other plans and projects, then there is no requirement to undertake an Appropriate Assessment.
- 8 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.
- 9 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 objectives³.
- 10 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).
- 11 The 'likely significant effects' test is based on the precautionary principle⁴. The precautionary principle means that, based on the most reliable available information, where there is uncertainty or doubt as to the absence of significant effects, the project cannot be screened out and an appropriate assessment must be carried out.

2.3 Desktop Data Review

- 12 The desktop data sources used to inform the assessment presented in this report are as follows (accessed on the 27th June 2022):
 - Online data available on European sites and protected habitats/species as held by the National Parks and Wildlife Service (NPWS) from www.npws.ie⁵, including conservation objectives documents

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”..

⁵ The following SAC and SPA GIS boundary datasets are the most recently available at the time of writing: SAC_ITM_2022_06 and SPA_ITM_2021_10.

- Online data available on protected species as held by the National Biodiversity Data Centre (NBDC) from www.biodiversityireland.ie
- Information on the conservation status of birds in Ireland from *Birds of Conservation Concern in Ireland*⁶
- Publicly available information on inland feeding sites for light-bellied Brent geese in the Dublin area⁷⁸⁹
- 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
- Information on the location, nature and design of the proposed development supplied by the applicant's design team
- *Environmental Impact Assessment Report for DUB05 EdgeConneX Data Centre Development*¹⁰
- *Environmental Impact Assessment Report for DUB06 EdgeConneX Data Centre Development*¹¹ (Marston Planning Consultancy, 2022)
- *AA Screening report for DUB05 EdgeConneX Data Centre Development*¹²

2.4 Consultations

- 13 A consultation letter was submitted by email to the Development Applications Unit (DAU) of the Department of Culture, Heritage and the Gaeltacht (DAU Ref: G Pre 00014/2021) on the 25th January 2021 in respect of DUB05 site which includes the current Proposed development site. The letter included an outline description of the proposed development and a request for any comments on the proposal. No response was received by Scott Cawley Ltd. prior to submission of the planning application for the proposed development. In the absence of a response to the previous consultation, a second consultation letter was submitted to the DAU of the Department of Culture, Heritage and the Gaeltacht (DAU Ref: G Pre 00156/2022) on the 24th June 2022. No response was received by Scott Cawley Ltd. prior to submission of the planning application for the proposed development.
- 14 Inland Fisheries Ireland was also contacted on the 25th January 2021 to request additional data on species which may use the Griffeen River and for any comments they may have on the proposal in respect of

⁶ Gilbert, G., Stanbury, A. & Lewis, L. (2021) Birds of Conservation Concern in Ireland 4: 2020-2026. *Irish Birds* 43: 1-22 (2021).

⁷ 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.

⁸ Scott Cawley (2017) Natura Impact Statement: Information for Stage 2 Appropriate Assessment – Proposed Residential Development, St. Paul's College, Sybil Hill, Raheny, Dublin 5. Report produced for Crekav by Scott Cawley.

⁹ Enviroguide (2019) Natura Impact Statement for Proposed Strategic Housing Development at St. Paul's College, Sybil Hill Road, Raheny, Dublin.

¹⁰ Marston Planning Consultancy (2021) Environmental Impact Assessment Report for DUB05 EdgeConneX Data Centre Development.

¹¹ Marston Planning Consultancy (2022) Environmental Impact Assessment Report for DUB06 EdgeConneX Data Centre Development.

¹² Marston Planning Consultancy (2021) AA Screening report for DUB05 EdgeConneX Data Centre Development.

DUB05 site which includes the current Proposed development site. No response was received by Scott Cawley Ltd. prior to submission of the planning application for the proposed development.

2.5 Baseline Surveys

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

2.5.1 Habitats and Flora Survey

- 16 A habitat survey was undertaken of the proposed development site on the 21st January 2021 by Alexis Fitzgerald B.A. (Hons) MSc and Síofra Quigley BSc (Hons) MSc of Scott Cawley Ltd, and again on the 10th June 2022 by Shane Brien BSc (Hons) MSc ACIEEM following the methodology described in Best Practice Guidance for Habitat Survey and Mapping¹³. All habitat types were classified using the Guide to Habitats in Ireland¹⁴, recording the indicator species and abundance using the DAFOR scale¹⁵ and recording any species of conservation interest. Vascular and bryophyte plant nomenclature generally follow that of The National Vegetation Database¹⁶, having regard to more recent taxonomic changes to species names after the New Flora of the British Isles¹⁷ and the British Bryological Society's Mosses and Liverworts of Britain and Ireland: A Field Guide¹⁸.

2.5.2 Fauna Surveys

2.5.2.1 Terrestrial Mammals (excluding Bats)

- 17 A terrestrial fauna survey (excluding bats) was undertaken on the 26th January 2021 by Alexis Fitzgerald B.A. (Hons) MSc and Síofra Quigley BSc (Hons) MSc of Scott Cawley Ltd and again on 10th June 2022 by Shane Brien BSc (Hons) MSc ACIEEM. 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 and otter holts within the study area, and to record any evidence of use, were undertaken.

2.5.2.2 Breeding Birds

- 18 Breeding bird surveys were undertaken on the 24th May 2022 by Lorna Gill BA (Hons) MSc and on the 10th June 2022 by Shane Brien BSc (Hons) MSc ACIEEM using a methodology adapted from the *Bird Monitoring Methods - A Manual of Techniques for Key UK Species*¹⁹. The study area covered the lands within the red line boundary. Lands within the study area were slowly walked in a manner allowing the surveyor to come

¹³ 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.

¹⁴ Fossitt, J.A. (2000) *A Guide to Habitats in Ireland*. Heritage Council, Kilkenny.

¹⁵ 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.

¹⁶ 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.

¹⁷ Stace, C. (2019) *New Flora of the British Isles*. 4th Edition. C&M Floristics.

¹⁸ Atherton, I., Bosanquet, S. & Lawley, M. (2010) *Mosses and Liverworts of Britain and Ireland: A Field Guide*. Latimer Trend & Co., Plymouth.

¹⁹ Gilbert, G., Gibbons, D.W. & Evans, J. (1998) *Bird Monitoring Methods - A Manual of Techniques for Key UK Species*. RSPB: Sandy

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

- 19 Given the timing and seasonal constraints dedicated wintering bird surveys were not carried out, however, wintering bird surveys were previously undertaken on the 22nd November 2018 by Maeve Maher-McWilliams BSc (Hons) MSc (ex-Scott Cawley Ltd) for the wider DUB05 application. Birds were identified by sight, and general location and activity were recorded using the BTO species and activity codes. The study area covered the masterplan lands which 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 BTO species and activity codes. Desktop information, site suitability and these older wintering bird surveys were used to inform this assessment with regards to wintering birds.

3 Provision of Information for Screening for Appropriate Assessment

- 20 The following sections provide information to facilitate the Appropriate Assessment screening of the proposed development to be undertaken by the competent authority.
- 21 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).
- 22 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 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

- 23 The proposed development is to be located to the west of Grange Castle Business Park, within the EdgeConneX development masterplan area. The site is located within the townland of Ballymakailly to the west of the Newcastle Road (R120), Lucan, Co. Dublin. The Grand Canal runs c. 120m to the north of the Proposed Development (see Figure 1).

Figure 1 Site location within the masterplan boundary and relative to its surroundings



- 24 The proposed development will consist of the construction of two no. adjoined single storey data centres with associated office and service areas with an overall gross floor area of 15,274sqm that will comprise of the following:
- Construction of 2 no. adjoined single storey data centres with a gross floor area of 12,859sqm that will include a single storey goods receiving area / store and single storey office area (2,415sqm) with PV panels above, located to the east of the data centres as well as associated water tower, sprinkler tank, pump house and other services;
 - The data centres will also include plant at roof level; with 24 no. standby diesel generators with associated flues (each 25m high) that will be located within a generator yard to the west of the data centres;
 - New internal access road and security gates to serve the proposed development that will provide access to 36 no. new car parking spaces (including 4 no. electric and 2 no. disabled spaces) and sheltered bicycle parking to serve the new data centres;
 - New attenuation ponds to the north of the proposed data centres; and
 - Green walls are proposed to the south and east that will enclose the water tower and pump house compound.
- 25 The development will also include ancillary site works, connections to existing infrastructural services as well as fencing and signage. The development will include minor modifications to the permitted landscaping to the west of the site as granted under SDCC Planning Ref. SD19A/0042 / ABP Ref. PL06S.305948 and Ref. SD21A/0042. The site will remain enclosed by landscaping to all boundaries. The development will be accessed off the R120 via the permitted access granted under SDCC Planning Ref. SD19A/0042 / ABP Ref. PL06S.305948 and SD21A/0042.

- 26 The site will be positively drained and surface water will be contained within the overall sites drainage network and managed in a sustainable manner, in accordance with all relevant guidelines and specifications.
- 27 Stormwater will discharge through an adequately sized attenuation pond at the northern end of the site ultimately discharging to the existing storm sewer to the north-east of the site. The outflow from the attenuation pond, will be restricted by way of a Hydrobrake facility, which will limit the discharge to 9.60l/s, which is the calculated QBAR greenfield run-off rate. A connection to the existing off site Irish Water foul sewer and potable water network will be established.
- 28 The proposed development will result in an increased demand for water of c. 0.086l/s (average). A confirmation by Irish Water that this resource is available within the existing network is required.
- 29 With regard to foul water, the proposed development is proposed to discharge foul water from the proposed development, via a 225mm diameter gravity foul sewer outfall and discharge into the existing 450mm diameter connection. It is proposed that all foul condensate effluent from the proposed new data halls, will be connected into head manholes adjacent to the data halls. The peak wastewater flow will not be in excess of c. 0.54l/s. A confirmation by Irish Water that this discharge on the existing network is feasible is required.
- 30 There will be no blasting or other works required for the proposed development that may impact groundwater.
- 31 The construction programme is expected to last up to 18 months.

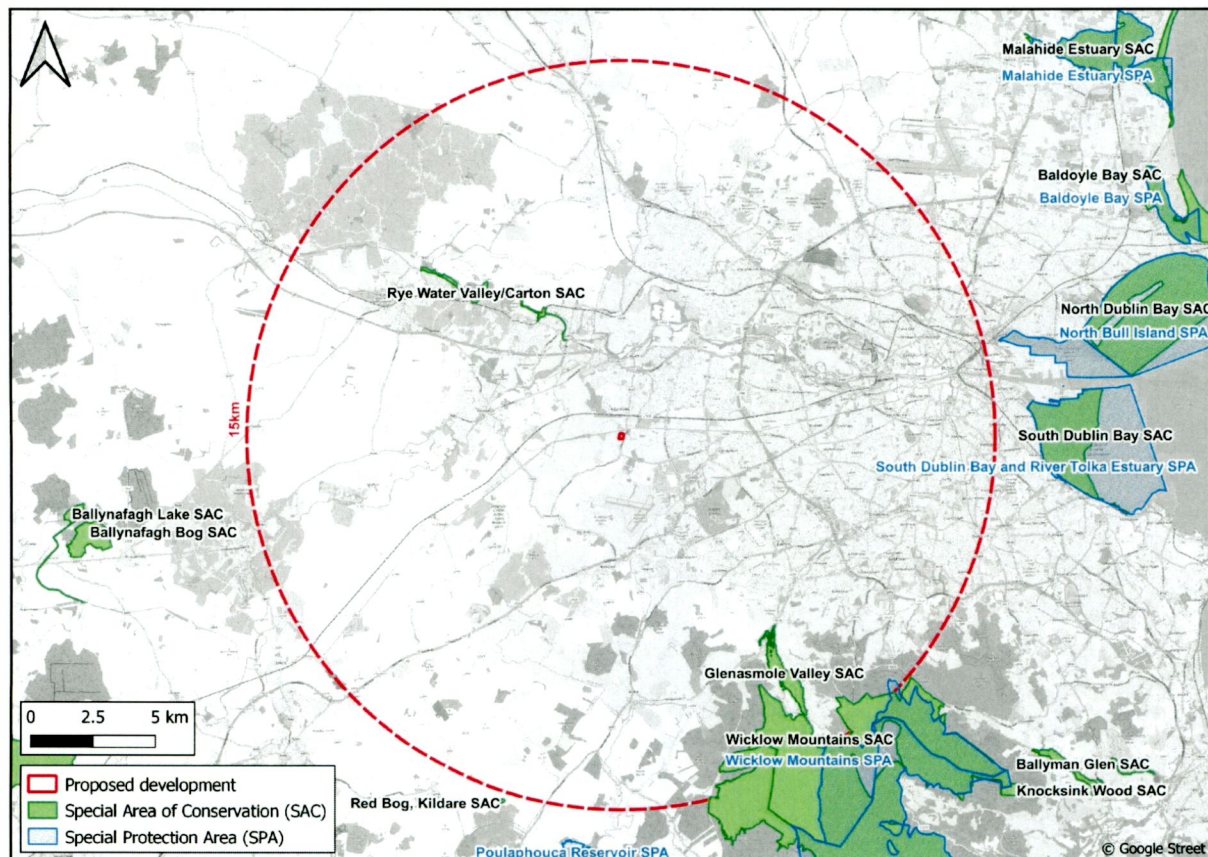
3.2 Overview of the Receiving Environment

3.2.1 European sites

- 32 There are nine European sites located within c. 15km and downstream of the proposed development. The proposed development does not overlap with any European sites. The nearest European site is Rye Water Valley/Cartron SAC, located c. 4.1km to the north-west of the proposed development site. The proposed development is hydrologically connected via the surface water network to European sites further downstream in Dublin Bay (North Dublin Bay SAC, South Dublin Bay SAC, North Bull Island SPA and South Dublin Bay and River Tolka Estuary SPA).

All of the European sites present in the vicinity of the proposed development are shown on Figure 2 below. The QIs/SCIs of the European sites in the vicinity of the proposed development are provided in Appendix I.

Figure 2 European sites in the vicinity of the proposed development



3.2.2 Habitats

- 33 The proposed development is flanked by the agricultural lands to the west and south, and by commercial areas to the east and north. The Grand Canal runs along the northern boundary of the masterplan lands.
- 34 The following habitat types assigned using the Heritage Council classification system¹⁴ were identified within the proposed development site:
- Dry meadows and grassy verges (GS2);
 - Recolonising bare ground (ED3); and,
 - Hedgerows (WL1).
- 35 There are no Annex I habitats present within the proposed development site or immediate environs. The dry meadows and grassy verges (GS2) habitat does not correspond with the Annex I habitat 'semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometea*) (6210)' by virtue of its regular management or species composition.

3.2.3 Flora

3.2.3.1 Protected Flora

- 36 The desktop study found did not find records for any Annex II flora within c. 2km of the proposed development.
- 37 Field surveys undertaken at the proposed development site did not record any Annex II flora.

3.2.3.2 Non-native Invasive Flora

- 38 With regards to records for non-native invasive species within c. 2km of the proposed development, the NBDC database search returned records for *Elodea nuttallii*. The these species is listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011 (as amended). Nuttall's waterweed *Elodea nuttallii* has been recorded once in 2020, c. 1km east of the proposed development along the Grand Canal.
- 39 In addition to the NBDC data records, *Reynoutria japonica* was recorded by the Scott Cawley Ltd. surveyors along the Kishoge Road, c. 1.4km north-east during field surveys in 2020. Japanese knotweed *Reynoutria japonica* is also listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011 (as amended).
- 40 No non-native invasive flora species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011 (as amended) were recorded within the proposed development site during the surveys.

3.2.4 Fauna

3.2.4.1 Mammals

Otter

- 41 The most recent and only record for otter *Lutra lutra* in the NBDC database from within c. 2km of the proposed development, is from along the Grand Canal, c. 50m east of the proposed development, in 1980. The most recent observation of otter by Scott Cawley Ltd., ecologists along the Grand Canal and near the proposed development is from the 1st February 2021. Otter have also previously been observed within the Baldonnell stream, a tributary of the of the Griffeen. Additionally, artificial otter have been installed along the Griffeen River as part of the Grangecastle area development (L. Higgins 2021, pers. comm. 1 February 2021). Otters are also known to use the River Liffey and the Camac River²⁰ and have been recorded on the Grand Canal. No evidence of otter was recorded within the proposed development site during field surveys undertaken in 2021 and 2022. The closest European site for which otter is a QI is the Wicklow Mountains SAC, c. 14.3km south-east of the proposed development site. There is no suitable habitat such as rivers or streams²¹ for foraging otter, nor is there suitable habitat (vegetated banks²¹) for breeding otter to establish holts.

3.2.4.2 Birds

Breeding Birds

- 42 The desktop study returned no breeding SCI bird species within c. 2km of the proposed development.
- 43 The field surveys recorded two breeding SCI bird species, herring gull *Larus argentatus* and lesser black-backed gull *Larus fuscus* flying across the proposed development. The nearest designated site for herring gull and lesser black-backed gull are the Ireland's Eye SPA and the Poulaphouca Reservoir SPA, located c. 27km north-east and c. 16.2km south-west of the proposed development, respectively. There is no suitable nesting habitat (sea cliffs, coastal habitats such as dunes or shingle or buildings²²) for either of these species.

²⁰ Macklin, R., Brazier, B. & Sleeman, P. (2019) *Dublin City otter survey*. Report prepared by Triturus Environmental Ltd. for Dublin City Council as an action of the Dublin City Biodiversity Action Plan 2015- 2020.

²¹ Hayden, T. and Harrington, R. (2000) *Exploring Irish Mammals*. Department of Arts, Heritage, Gaeltacht and the Islands, Dublin, Ireland.

²² BTO (2011) *A Field Guide for Monitoring Nests*. British Trust for Ornithology.

Raptors

- 44 The desktop study found no records for SCI raptor species within c. 2km of the proposed development, however, peregrine *Falco peregrinus* was recorded within the Clonburris SDZ lands during Scott Cawley Ltd.²³ surveys in 2020. The nearest SPA designated for this species is the Wicklow Mountains SPA, located c. 14.3km south-east of the proposed development. There is suitable foraging habitat for peregrine within the proposed development site.

Wintering Birds

- 45 The desk study records from the NBDC included no records for wintering bird species within c. 2km of the proposed development site. However, Scott Cawley Ltd. ecologist recorded 11 wintering bird species within the Clonburris SDZ lands during winter 2020/21²⁴. These records are present in Appendix III.
- 46 Previous ecological surveys on the proposed development site, and the lands adjacent to it, included a single wintering bird survey carried out for an EIAR²⁵ on the 22nd November 2018. A flock of c. 300 lapwing *Vanellus vanellus* was recorded south of the site boundary. The nearest designated site for lapwing is the Boyne Estuary SPA, located c. 43.9km north-east of the proposed development. Due to change in land use management practices, there is no longer suitable habitat (e.g. arable fields) for lapwing, or any other wintering SCI bird species, within the proposed development site.

The proposed development is within the normal foraging range, c. 15-20km²⁶, of SCI species of North Bull Island SPA and South Dublin Bay and River Tolka Estuary SPA. However, it comprises of no suitable foraging and/or roosting habitat (e.g. open amenity grassland) for wintering SCI species due to grasslands being closely enclosed by hedgerows, as well as their rank status, i.e. the grasslands are too tall for foraging and/or roosting wintering SCI species.

3.2.4.3 Fish

Atlantic salmon

- 47 The NBDC did not yield any records for Atlantic salmon *Salmo salar* within c. 2km of the proposed development, however, previous reports²³ for the Clonburris SDZ provided records for Atlantic salmon *Salmo salar* in the Griffeen River. The nearest designated site for Atlantic salmon is the River Boyne and River Blackwater SAC, c. 30.9km north-west of the proposed development. There is no suitable habitat (rivers, lakes or marine²⁷) for Atlantic salmon within the site.

3.2.4.4 Invertebrates

Freshwater white-clawed crayfish

- 48 The NBDC data search yielded no records for Annex II species freshwater white-clawed crayfish *Austropotamobius pallipes* within c. 2km of the proposed development site. However, ecological studies²⁸ carried out in the Clonburris Strategic Development Zone (SDZ) in 2018 found populations of freshwater white-clawed crayfish in the Grand Canal and the Griffeen River. Freshwater white-clawed crayfish is also

²³ Stephen Little & Associates (2020) *Environmental Impact Assessment Report for Road Infrastructure Development at Clonburris Strategic Development Zone, Co. Dublin*.

²⁴ Scott Cawley Ltd. (2021) *Wintering Bird Survey Report for Clonburris Strategic Development Zone at Clonburris, Co. Dublin*.

²⁵ Marston Planning Consultancy (2018) *Environmental Impact Assessment Report for EdgeConneX Ireland Ltd., Data Centre (Phase 4), Newcastle Road, Grange Castle*.

²⁶ Scottish Natural Heritage (2016). *Guidance: Assessing connectivity with Special Protection Areas (SPAs)*. Version 3.

²⁷ Atlantic salmon habitat preferences. Available at: <https://biodiversityireland.ie>. Accessed on: 27th June 2022.

²⁸ FERS (2018) *Ecological Survey of Clonburris Strategic Development Zone, Clondalkin, Co. Dublin*.

known from the downstream River Liffey. There are no European sites designated upstream or downstream of the proposed development site. The nearest designated site for the species is the Lough Lene SAC, c. 60.8km north-west of the proposed development site. There is no suitable habitat (rivers, lakes or drains²⁹) for freshwater white-clawed crayfish within the site.

3.2.4.5 Non-native Invasive Fauna

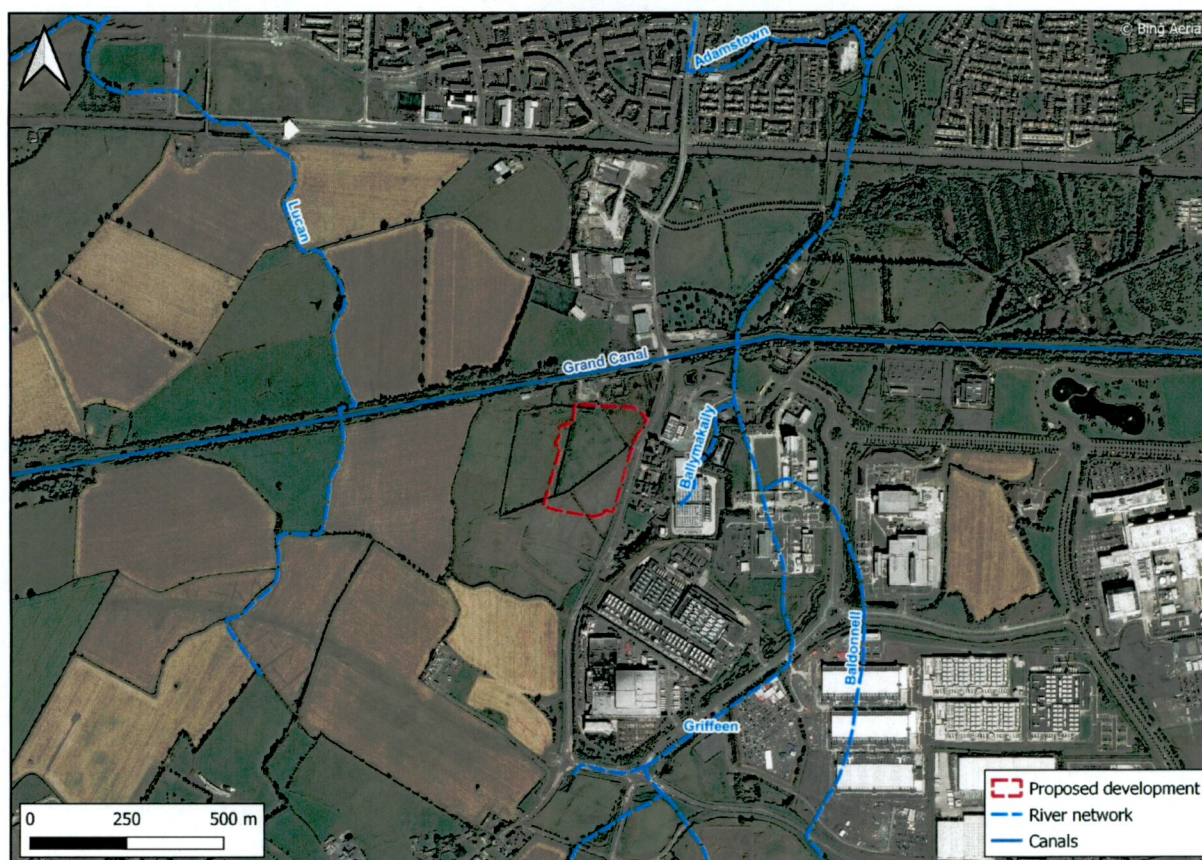
- 49 With regards to records for non-native invasive fauna species within c. 2km of the proposed development, the NBDC database search returned no records for fauna listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011 (as amended).
- 50 No non-native invasive fauna species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011 (as amended) were recorded within the proposed development site during the surveys.

3.2.5 Hydrology

- 51 There are no major waterbodies within the proposed development site, however, a network of drainage ditches connects the site to the Lucan Stream to the west, and the Griffeen River to the east. The nearest waterbody to the proposed development site is the Ballymakaily Stream, c. 150m, east of the proposed development. It joins the Griffeen River, c. 330m, east from its origin. The Griffeen River flows c. 180m east of the proposed development site towards north. It is joined by the Adamstown stream, c. 1km, the Laraghcon, c. 3.4km, and the Moat stream, c. 3.5km, north of the proposed development site, before it merges with the River Liffey, c. 4km downstream of the proposed development site. The Lucan Stream is located c. 300m west of the proposed development. It runs northerly and is joined by the Tobermaclugg and Backtown Streams, c. 1.5km and c. 3km north, respectively, before merging into the River Liffey, c. 4.1km downstream of the proposed development. The Griffeen River, the Lucan Stream and all their adjoining streams, all have 'Good' WFD status and are listed as 'At risk' waterbodies by the EPA. Kilmahuddrick stream, not shown on the EPA maps, starts at the southern edge of the Griffeen Valley Park, before joining the Griffeen River, c. 330m north-west of its starting point in the park. The River Liffey has a 'Moderate' WFD status, but changes to 'Good' WFD status before joining the Upper and Lower Liffey Estuary transitional waterbodies, c. 15.5km downstream and east of the proposed development site.
- 52 The Grand Canal runs along the northern boundary of the proposed development. It merges with the Lower Liffey Estuary waterbody c. 16km east of the proposed development site. It has a 'Good' WFD status and is listed as being 'At Risk' by the EPA. There is no direct hydrological connection between the Grand Canal and the proposed development site.
- 53 The Upper and Lower Liffey Estuary waterbodies have 'Good' WFD status and are listed as 'At risk' by the EPA. Dublin Bay, located c. 23.3km downstream of the proposed development site, is considered to be 'Unpolluted' with a 'Good' WFD status and belongs to the 'Not at risk' category.
- 54 The site is located within the Liffey sub-catchment and sub-basin in the Liffey and Dublin Bay catchment, which drain to Dublin Bay.
- 55 The waterbodies present in the vicinity of the proposed development are shown on Figure 3.

²⁹ Freshwater white-clawed crayfish habitat preferences. Available at: <https://biodiversityireland.ie> Accessed on: 27th June 2022.

Figure 3 Waterbodies in the vicinity of the proposed development



3.2.6 Hydrogeology

- 56 Geological Survey of Ireland (GSI) data indicates that the site is underlain by a Locally Important Bedrock Aquifer (LI), which is moderately productive only in local zones. The site is located in an area of 'Extreme' vulnerability, with bedrock close to surface at places, in relation to the underlying aquifer.
- 57 The Groundwater Body (GWB) underlying the site is the Dublin GWB, which is currently classified by the EPA as having 'Good Status' and 'Not at risk'. There is only one European site within the Dublin GWB designated for groundwater dependent terrestrial habitats and species, Rye Water Valley/Carton SAC, c. 4.1km north-west of the proposed development site.

3.3 Assessment of Effects on European Sites

- 58 This section identifies all the potential impacts associated with the proposed development, examines whether there are any European sites within the 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.
- 59 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.
- 60 Considering the baseline ecological environment and the extent and characteristics of the proposed development the following potential impacts have been identified:
- Habitat loss and fragmentation;
 - Habitat degradation / effects on QI / SCI species as a result of hydrological impacts;
 - Habitat degradation as a result of hydrogeological impacts;

- Habitat degradation as a result of introducing/spreading non-native invasive species; and
- Disturbance and displacement impacts.

3.3.1 Habitat loss and fragmentation

- 61 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.
- 62 As the proposed development does not traverse any European sites there is no potential for habitat fragmentation to occur.
- 63 The proposed development site does not support populations of any fauna species linked with the QI populations of any European site.
- Otter - while the Griffeen River and the River Liffey are known to support otter, the population is not considered to form part of the QI population of any European sites. The closest European site for which otter is a QI is the Wicklow Mountains SAC, c. 14.3km south-west of the proposed development site. Due to distance and estimated foraging ranges for otter (estimated as 7.5 ± 1.5 km in length for females, and 13.2 ± 5.3 km in length for males)³⁰, as well as the fact that the Wicklow Mountains SAC is located in a different sub-catchment to the proposed development and its adjacent waterbodies, the local population of otter is not considered to form part of the Wicklow Mountains SAC population.
 - Atlantic salmon - the nearest European site for Atlantic salmon is the River Boyne and River Blackwater SAC, c. 30.9km north-west of the proposed development. Considering that the Griffeen River is located in a different sub-catchment than the River Boyne and River Blackwater SAC and its location relative to the proposed development site, Atlantic salmon populations found in this river do not form part of any SAC population.
 - Freshwater white-clawed crayfish - there are no European sites designated for freshwater white-clawed crayfish hydrologically connected to the proposed development. The nearest European site for the species is the Lough Lene SAC, c. 60.8km north-west of the proposed development site. Considering the Lough Lene SAC is located in a different sub-catchment than the Griffeen River and its location relative to the proposed development, freshwater white-clawed crayfish populations found in the Griffeen River do not form part of any SAC population.
 - Birds - the breeding and wintering SCI species recorded within the proposed development site are not considered to be linked with the SCI populations of any European site. The proposed development is within the normal foraging range, c. 15-20km²⁶, of SCI species of North Bull Island SPA and South Dublin Bay and River Tolka Estuary SPA; however, it comprises of limited areas of suitable foraging habitat (e.g. open amenity grassland, wetlands) due to grasslands being enclosed by hedgerows and their rank status.

Breeding SCI bird species herring gull and lesser black-backed gull were recorded flying over the site during breeding bird surveys, however there is no suitable nesting habitat (sea cliffs, coastal habitats such as dunes or shingle or buildings²²) for either of these species, or any other breeding SCI bird species, within the proposed development. The nearest designated sites for the breeding populations of these species are the Ireland's Eye SPA and the Poulaphouca Reservoir SPA, located c. 27km north-east and c. 16.2km south-west of the proposed development. Considering the

³⁰ Reid, N., Hayden, B., Lundy, M.G., Pietravalle, S., McDonald, R.A. & Montgomery, W.I. (2013) *National Otter Survey of Ireland 2010/12*. Irish Wildlife Manuals No. 76. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

distance to the nearest designated site for breeding SCI bird populations, the local populations do not form part of SPA populations.

Although lapwing was recorded during the surveys in 2018, the habitats (dry meadows and grassy verges (GS2) and recolonising bare ground (ED3)) recorded within the proposed development site in 2021 and 2022 are considered sub-optimal habitat for the species, *i.e.* lapwing generally prefer open pastureland and arable fields (*i.e.* tillage) which are currently absent in the proposed development site, therefore making it sub-optimal for the species. At the time of the surveys in 2018, the site was dominated by arable crops (BC1) instead of the dry meadows and grassy verges (GS2) and recolonising bare ground (ED3) habitats recorded in 2021 and 2022. Land use change that has occurred since 2018, followed by habitat change, has rendered the proposed development site sub-optimal for lapwing. Considering that the nearest designated site for lapwing is c. 43.9km north-east of the proposed development site, the local populations do not form part of SPA populations.

- 64 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

- 65 Surface water run-off and discharges from the proposed development will enter the downstream receiving environment via existing and proposed surface water drainage network. This network will ultimately discharge into the Liffey Estuary and Dublin Bay. Therefore, the Zone of Influence (Zol) of potential effects on water quality from the proposed development could extend to Dublin Bay.
- 66 Surface water runoff from the proposed development will be attenuated to greenfield runoff rates and conveyed to the receiving watercourse, the Griffeen River. The surface drainage network will be designed in accordance with the recommendations of the Greater Dublin Strategic Drainage Study (GDSGS). Attenuation measures include gullies, channels, storage ponds and porous asphalt. All surface water will run through hydrocarbon interceptors before its release to the receiving watercourse.
- 67 Considering the above, and the following, the proposed development will not have any measurable effects on water quality in Dublin Bay or the Irish Sea:
- 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 from the proposed development site relative to the receiving surface water and marine environments, and
 - The level of mixing, dilution and dispersion of any surface water run-off/discharges from the proposed development site in the receiving watercourses, Dublin Bay and the Irish Sea
- 68 It is an recommendation of the Greater Dublin Strategic Drainage Study, and an objective the South Dublin County Development Plan 2022-2028, to incorporate Sustainable Urban Drainage Systems (SuDS) within new developments. The SuDS features associated with the proposed development are not included within the design to avoid or reduce any potential harmful effects to any European sites.
- 69 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 discharges.

Foul water

- 70 Foul water, comprising sewage and industrial effluent (and some surface water run-off), from the Dublin area has historically been, and will continue to be, treated at Ringsend WwTP prior to discharge to Dublin Bay. The most recent information from Irish Water indicates that the plant is operating above its capacity

of 1.64 million P.E. (Irish Water, 2020)³¹, with a current operational loading of c. 2.2 million P.E. Ringsend WwTP operates under a discharge licence from the EPA (D0034-01) and must comply with the licence conditions.

- 71 Despite the capacity issues associated with the Ringsend WwTP, Dublin Bay is currently classified by the EPA as being of “Unpolluted” water quality status³². The Liffey Estuary Lower is currently classified by the EPA as being of “Intermediate” water quality status and the Tolka Estuary as “Eutrophic”. The pollutant content of future foul water discharges to Dublin Bay is considered likely to decrease in the long-term for the following reasons:
- Irish Water are currently undertaking a major upgrade of the Ringsend WwTP to increase the plant's wastewater treatment capacity to a population equivalent of 2.4 million, which is programmed for completion in 2025³³, and
 - There is a commitment in the National Development Plan 2021-2030³⁴ to invest in and progress the Greater Dublin Drainage Project which includes the development of a new regional waste water treatment facility and associated infrastructure to serve Dublin and parts of the surrounding counties of Kildare and Meath. The project 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 and alleviate pressure within the existing wider waste water network and help to ensure that the waste water generated is treated safely, in compliance with the EU and national waste water treatment regulations.
- 72 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.
- 73 Considering the above, particularly the current unpolluted status of Dublin Bay, and that foul water discharges from the proposed development would equate to a very small percentage of the overall discharge volumes sent to Ringsend WwTP for treatment, it is concluded that the proposed development will not impact on the overall water quality status of Dublin Bay.
- 74 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.

In Combination

- 75 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 *Dublin City Development Plan 2016-2022* (Dublin City Council, 2016), the *Dún Laoghaire-Rathdown County Development Plan 2022-2028* (Dún Laoghaire-Rathdown County Council, 2022), the *Fingal Development Plan 2017-2023* (Fingal County Council, 2017), *South Dublin*

³¹ Irish Water (2020) *Annual Environmental Report, Ringsend D0034-01*.

³² Transitional and Coastal Surface Water Quality data (2018-2020) accessed from the EPA Envision Mapviewer www.gis.epa.ie/Envision. Accessed on: 27th June 2022.

³³ Details on Irish Water Ringsend WwTP upgrade. Available at: <https://www.water.ie/projects/local-projects/ringsend/> Accessed on: 27th June 2022.

³⁴ Government of Ireland (2021) *Project Ireland 2040, National Development Plan 2021-2030*.

County Development Plan 2022-2028 (South Dublin County Council, 2022), or any other land use plans which could influence conditions in Dublin Bay via rivers and other surface water features.

- 76 The Eastern & Midland Regional Assembly, *Regional Spatial & Economic Strategy 2019-2031*³⁵ (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).
- 77 The planning authority for the proposed development is South Dublin County Council (SDCC). Plans and developments within the administrative area of South Dublin County Council must comply with the following policy objectives of the *South Dublin County Development Plan 2022-2028* (South Dublin County Council, 2022) relevant to the protection of European sites and the protection of water quality in Dublin Bay:

Policy NCBH3 Natura 2000 Sites: Conserve and protect Natura 2000 sites and achieve and maintain favourable conservation status for habitats and species that are considered to be at risk through the protection of the Natura 2000 network from any plans or projects that are likely to have a significant effect on their coherence or integrity

NCBH3 Objective 1: To prevent development and activities that would adversely affect the integrity of any Natura 2000 site located within or adjacent to the County and promote the favourable conservation status of the habitats and species integral to these sites.

NCBH3 Objective 2: To ensure that plans, including land use plans, will only be adopted, if they either individually or in combination with existing and / or proposed plans or projects, will not have a significant adverse effect on a European Site, or where such a plan is likely or might have such a significant adverse effect (either alone or in combination), South Dublin County Council will, as required by law, carry out an appropriate assessment as per requirements of Article 6(3) of the Habitats Directive 92 / 43 / EEC of the 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, as transposed into Irish legislation. Only after having ascertained that the plan will not adversely affect the integrity of any European site, will South Dublin County Council adopt the plan, incorporating any necessary mitigation measures. A plan which could adversely affect the integrity of a European site may only be adopted in exceptional circumstances, as provided for in Article 6(4) of the Habitats Directive as transposed into Irish legislation.

NCBH3 Objective 3: To ensure that planning permission will only be granted for a development proposal that, either individually or in combination with existing and / or proposed plans or projects, will not have a significant adverse effect on a European Site, or where such a development proposal is likely or might have such a significant adverse effect (either alone or in combination), the planning authority will, as required by law, carry out an appropriate assessment as per requirements of Article 6(3) of the Habitats Directive 92 / 43 / EEC of the 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, as transposed into Irish legislation. Only after having ascertained that the development proposal will not adversely affect the integrity of any European site, will the planning authority agree to the development and impose appropriate mitigation measures in the form of planning conditions. A development proposal which could adversely affect the integrity of a European site may only be permitted in exceptional circumstances, as provided for in Article 6(4) of the Habitats Directive as transposed into Irish legislation.

Policy IE2 Water Supply and Wastewater: Ensure that water supply and wastewater infrastructure is sufficient to meet the growing needs of the population and to support growth

³⁵ Eastern & Midland Regional Assembly (2019) *Regional Spatial & Economic Strategy 2019-2031*.

in jobs over the lifetime of the Development Plan facilitating environmental protection and sustainable growth.

IE2 Objective 3: To promote and support the implementation of the Greater Dublin Strategic Drainage Study, Dublin Region Local Authorities (2005) GDSDS.

Policy IE3 Surface Water and Groundwater: Manage surface water and protect and enhance ground and surface water quality to meet the requirements of the EU Water Framework Directive.

IE3 Objective 1: To maintain, improve and enhance the environmental and ecological quality of our surface waters and groundwater by implementing the relevant programme of measures set out in the River Basin Management Plans.

IE3 Objective 2: To maintain and enhance existing surface water drainage systems in the County and to require Sustainable Drainage Systems (SuDS) in new development in accordance with objectives set out in section 4.2.2 of this Plan including, where feasible, integrated constructed wetlands, at a local, district and County level, to control surface water outfall and protect water quality.

IE3 Objective 3: To protect the regionally and locally important aquifers within the County from risk of pollution.

IE3 Objective 4: To continue efforts to improve water quality under the Local Government (Water Pollution) Act 1977, as amended and by implementing the measures outlined under the Nitrates Directive (91 / 676 / EEC) and the current National Nitrates Action Programme (NAP) and all other relevant legislation.

IE3 Objective 5: To generally prohibit development within restricted areas identified on the Bohernabreena / Glenasmole Reservoir Restricted Areas Map contained in Appendix 5.

IE3 Objective 6: To protect salmonid water courses, such as the Liffey and Dodder River catchments (including Bohernabreena Reservoir), which are recognised to be exceptional in supporting salmonid fish species.

IE3 Objective 7: To protect surface water quality by continuing to assess the impact of domestic and industrial misconnections to the drainage network in the County and the associated impact on surface water quality, and by implementing measures to address same, and to diagnose and repair any misconnections in Council housing stock as part of the re-letting process.

IE3 Objective 8: Integrate Surface Water and Groundwater systems as an essential component of all new developments, in accordance with the requirements set out in Chapter 12: Implementation and Monitoring and the policies and objectives of this chapter.

- 78 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. These include the *Dublin City Development Plan 2016-2022*, *Dún Laoghaire-Rathdown County Development Plan 2022-2028*, the *Fingal Development Plan 2017-2023*, the *South Dublin County Development Plan 2022-2028*, the *Kildare County Development Plan 2017-2023* (Kildare County Council, 2017) and the *Wicklow County Development Plan 2016-2022* (Wicklow County Council, 2016). The relevant policies and objectives in those plans for the protection of European sites and water quality are included in Appendix II.
- 79 In conclusion, there are a number of plans 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.
- 80 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.

- 81 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*

- 82 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, located c. 4.1km north-west of the proposed development. 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 GWB³⁶, '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 is separated from the Rye Water Valley/Carton SAC by several waterbodies and located downstream of the SAC, it cannot influence groundwater conditions in the European site.
- 83 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 plans or projects, as a result of hydrogeological effects.

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

- 84 No Third Schedule species of the European Communities (Birds and Natural Habitats) Regulations, 2011 (as amended) were recorded within, or directly adjacent to, the proposed development site, therefore non-native invasive species poses no risk to any European sites downstream.

3.3.5 *Disturbance and displacement impacts*

- 85 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 150m³⁷. For birds, disturbance effects would not be expected to extend beyond a distance of c. 300m, as noise levels associated with general construction activities would attenuate to close to background levels at that distance.³⁸ There are no European sites within the disturbance Zol; the next nearest European site to the proposed development is the Rye Water Valley/Carton SAC c. 4.1km away.
- 86 The Griffeen River and the Grand Canal may support populations of Annex II species such as otter and freshwater white-clawed crayfish, however, these local populations are not QI SAC populations. The nearest site designated for otter is the Wicklow Mountains SAC, located c. 14.3km south-east of the

³⁶ https://secure.dccae.gov.ie/GSI_DOWNLOAD/Groundwater/Reports/GWB/DublinGWB.pdf

³⁷ 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 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 Zol of construction related disturbance likely to be much less in reality.

³⁸ The disturbance zone of influence for waterbirds 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.