

**Ballymun / Finglas to
City Centre Core Bus
Corridor Scheme**
September 2022

**Natura
Impact
Statement**

**BUS
CONNECTS**

SUSTAINABLE TRANSPORT FOR A BETTER CITY.

Ballymun / Finglas to City Centre Core Bus Corridor Scheme

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Natura Impact Statement

Main Report

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CONNECTS**

SUSTAINABLE TRANSPORT FOR A BETTER CITY.

Table of Contents

1	Introduction	1
2	Legislative Context.....	2
3	Description of the Proposed Scheme	3
3.1	Overview	3
4	Methodology	9
4.1	Scientific and Technical Competence Relied Upon.....	9
4.2	Guidance and Approach.....	10
4.3	Assessment Methodology.....	11
4.4	Desk Study.....	12
4.5	Consultations	13
4.6	Baseline Surveys.....	15
5	Overview of the Receiving Environment	18
5.1	European Sites	18
6	Potential Impacts, Zone of Influence and Identifying European Sites at Risk of Effects	33
6.1	Habitat Loss and Fragmentation	33
6.2	Habitat Degradation / Effects on QI / SCI Species as a Result of Hydrological Impacts.....	34
6.3	Habitat Degradation as a Result of Hydrogeological Impacts.....	34
6.4	Habitat Degradation as a Result of Introducing / Spreading Non-Native Invasive Species	35
6.5	Habitat Degradation as a Result of Air Quality Impacts.....	35
6.6	Disturbance and Displacement Impacts.....	35
6.7	Summary	37
7	Assessment of Potential Effects on European Sites	38
7.1	North Dublin Bay SAC [000206] & South Dublin Bay SAC [000210].....	38
7.2	Howth Head SAC [000202], Rockabill to Dalkey Island SAC [003000] and Lambay Island SAC [000204]	60
7.3	Howth Head Coast SPA [004113], Dalkey Islands SPA [004172] and Rockabill SPA [004014].....	69
7.4	North Bull Island SPA [004006]	77
7.5	South Dublin Bay and River Tolka Estuary SPA [004024].....	83
7.6	Malahide Estuary SPA [004025]	91
7.7	Baldoyle Bay SPA [004016]	96
7.8	Rogerstown Estuary SPA [004015].....	101
7.9	Skerries Islands SPA [004122]	106
7.10	Ireland’s Eye SPA [004117] and Lambay Island SPA [004069]	111
7.11	The Murrough SPA [004186].....	118

8	Summary of Mitigation Measures and Residual Impacts	122
8.1	Summary of Mitigation Measures.....	122
8.2	Summary of Residual Impacts.....	128
9	In Combination Assessment	128
9.1	Analysis of Potential In Combination Effects	128
9.2	Plan Level Environmental Protection Policies and Objectives	187
9.3	Conclusion of the In Combination Assessment.....	190
10	NIS Conclusion	190
11	References	191

List of Figures

Figure 1 – Proposed Scheme Location

Figure 2 – Wintering Bird Transect Routes

Figure 3 – European sites in the Vicinity of the Proposed Scheme

Figure 4 – Wintering Bird Survey Results

Figure 5 – Hydrological Connectivity to the Proposed Scheme

List of Appendices

Appendix I – GA Drawings

Appendix II – Desk Study

Appendix III – CEMP

Appendix IV – Surface Water Drainage Works

Appendix V – WFD Assessment

Appendix VI – Aquatic Assessment

1 Introduction

- 1 This Natura Impact Statement (NIS) has been prepared by Scott Cawley Ltd. on behalf of the National Transport Authority (NTA) in respect of the Ballymun / Finglas to City Centre Core Bus Corridor Scheme (hereinafter referred to as the Proposed Scheme). The Proposed Scheme aims to provide delivery of an enhanced walking, bus and cycleway infrastructure on this key access corridor in the Dublin region, which will enable and deliver efficient, safe and integrated sustainable transport movement along the corridor.
- 2 This NIS has been prepared in accordance with the provisions of Part XAB of the Planning and Development Act, 2000 (as amended) (the 2000 Act) and in accordance with the requirements of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive).
- 3 It considers the implications of the Proposed Scheme, on its own and in combination with other plans or projects, for European sites¹ in view of the conservation objectives of those sites. It includes a scientific examination of evidence and data to identify and assess the implications of the Proposed Scheme for any European sites in view of the conservation objectives of those sites. The NIS considers whether the Proposed Scheme, by itself and in combination with other plans or projects, would adversely affect the integrity of any European sites. In reaching a conclusion in this regard consideration is given to any mitigation measures necessary to avoid or reduce any potential negative impacts.
- 4 This Report has been prepared following an assessment of the potential, in view of best scientific knowledge for, the Proposed Scheme to have significant effects, either individually or in combination with other plans or projects on European sites, set out in an Appropriate Assessment Screening Report.
- 5 Following an examination, analysis and evaluation of all relevant information, and in view of best scientific knowledge, and applying the precautionary principle, the Appropriate Assessment Screening Report, concluded that there is the possibility for significant effects on European sites, either from the Proposed Scheme alone or in combination with other plans and projects.
- 6 Accordingly, an Appropriate Assessment of the Proposed Scheme is required in this instance as, in the professional opinion of Scott Cawley Ltd., it cannot be excluded, in view of best scientific knowledge and on the basis of objective information, that the Proposed Scheme, either individually or in combination with other plans or projects, will have a significant effect on some European site(s) in view of their conservation objectives.
- 7 Thus the purpose of this NIS is to provide an examination, analysis and evaluation of the potential impacts of the Proposed Scheme on European sites and to present findings and conclusions with respect to the Proposed Scheme in light of the best scientific knowledge in the field. This NIS will inform and assist the competent authority, An Bord Pleanála, in carrying out its Appropriate Assessment as to whether or not the Proposed Scheme will adversely affect the integrity of any European sites, either alone or in combination with other plans and projects, taking into account their conservation objectives.
- 8 The Proposed Scheme is neither connected with nor necessary to the management of any European sites.
- 9 It is the considered view of the authors of this NIS (Scott Cawley Ltd.) that, following the implementation of the mitigation measures prescribed in Section 7, the Proposed Scheme will not, individually or in

¹ The Natura 2000 network of sites are defined under the Habitats Directive (Article 3) as a European ecological network of special areas of conservation, composed of sites hosting the natural habitat types listed in Annex I and species listed in Annex II, and special protection areas classified pursuant to the Birds Directive (2009/147/EC). 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 designated as *European sites* – as defined under section 177R of the Planning and Development Act 2000 (as amended). as (a) a candidate site of Community importance, (b) a site of Community importance, (ba) a candidate special area of conservation, (c) a special area of conservation, (d) a candidate special protection area, or (e) a special protection area. They are commonly referred to in Ireland as candidate Special Areas of Conservation (cSACs) and Special Protection Areas (SPAs).

combination with other plans or projects, have any adverse effect on the integrity of any European sites in view of their conservation objectives.

2 Legislative Context

10 Article 6(3) of the Habitats Directive states that:

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

11 For the purposes of this application for approval, which is made pursuant to the provisions of Section 51 of the Roads Act 1993, as amended, the obligations under Article 6(3) are transposed into Irish law by Part XAB of the 2000 Act. Subsection 177U(4) of the 2000 Act provides for screening for Appropriate Assessment as follows:

'The competent authority shall determine that an appropriate assessment of [...] a proposed development [...] is required if it cannot be excluded, on the basis of objective information, that the [...] proposed development, individually or in combination with other plans or projects, will have a significant effect on a European site.'

12 For the reasons set out in detail in the Appropriate Assessment Screening Report included in the application documentation, a Stage Two Appropriate Assessment of the Proposed Scheme is required to be undertaken by the Board pursuant to Article 6(3) of the Habitats Directive and section 177V of the 2000 Act.

13 In the latter context, subsections 177T(1) and (2) provide that:

'A Natura impact statement means a statement, for the purposes of Article 6 of the Habitats Directive, of the implications of a proposed development, on its own or in combination with other plans or projects, for one or more than one European site, in view of the conservation objectives of the site or sites'

'a Natura impact statement... shall include a report of a scientific examination of evidence and data, carried out by competent persons to identify and classify any implications for one or more than one European site in view of the conservation objectives of the site or sites.'

14 Consideration has been given in the preparation of this Report, to the evolution in interpretation and application of provisions of European Union (EU) Directives and Irish legislation arising from jurisprudence of the European and Irish courts, in respect of Article 6 of the Habitats Directive, in particular.

3 Description of the Proposed Scheme

- 15 The following sections provide information to facilitate the Appropriate Assessment of the Proposed Scheme to be undertaken by the competent authority.
- 16 A description of the Proposed Scheme 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 Scheme to affect the receiving ecological environment (e.g., geological, hydrogeological and hydrological data etc.).
- 17 The potential impacts are examined in order to define the potential zone of influence (Zol) of the Proposed Scheme on the receiving environment. This then informs the assessment of whether the Proposed Scheme 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 Qualifying Interests (QIs) or Special Conservation Interests (SCIs)).

3.1 Overview

- 18 The Proposed Scheme will be approximately 11km in length and has two main sections. The Ballymun Section will run from R108 Ballymun Road at its junction with St. Margaret's Road just south of M50 Motorway Junction 4 to R148 Arran Quay. The Finglas Section of the Proposed Scheme will run from the R135 Finglas Road at the roundabout junction with R104 St. Margaret's Road to Hart's Corner in Phibsborough where it will join the Ballymun Section of the Proposed Scheme (See Figure 1 for Scheme Overview Drawings and Appendix I for General Arrangement Drawings).
- 19 The Proposed Scheme has been divided into seven principal sections (sections 1 to 4 comprise the Ballymun Section, while sections 5 to 7 comprise the Finglas Section). The division line between sections has been determined by grouping similar carriageway types together. These sections have been further subdivided into 17 sub-sections, according to the types of construction works required, see list below.
- **Section 1:** Ballymun Road from St. Margaret's Road to Griffith Avenue;
 - **Section 2:** St. Mobhi Road and Botanic Road from Griffith Avenue to Hart's Corner:
 - **Section 2a:** Griffith Avenue to Botanic Road;
 - **Section 2b:** Griffith Avenue;
 - **Section 2c:** Ballymun Road, Glasnevin Hill, Botanic Road; and
 - **Section 2d:** Botanic Road to Prospect Way.
 - **Section 3:** Prospect Road, Phibsborough Road from Hart's Corner to Western Way:
 - **Section 3a:** Prospect Way to Lindsay Road;
 - **Section 3b:** Lindsay Road to Royal Canal;
 - **Section 3c:** Royal Canal to Western Way; and
 - **Section 3d:** Royal Canal Bank Cycleway.
 - **Section 4:** Constitution Hill and Church Street to Arran Quay:
 - **Section 4a:** Western Way to Coleraine Street;
 - **Section 4b:** Coleraine Street to Arran Quay; and
 - **Section 4c:** Markets Cycleway.
 - **Section 5:** Finglas Road from St. Margaret's Road to Wellmount Road;
 - **Section 6:** Finglas Road from Wellmount Road to Ballyboggan Road; and
 - **Section 7:** Finglas Road from Ballyboggan Road to Hart's Corner:
 - **Section 7a:** Ballyboggan Road to Claremont Lawns;
 - **Section 7b:** Claremont Lawns to St. Vincent's School; and
 - **Section 7c:** St. Vincent's School to Hart's Corner.

20 The Proposed Scheme involves the delivery of an enhanced bus and cycleway system between the Ballymun and Finglas areas and the City Centre. In summary, the proposed works involve a range of minor to moderate works including the construction of new cycle tracks along existing roads and pavements, parking laybys, road widening, upgrading of junctions, the provision of several new bus stops, upgrading of existing public lighting and the provision of new lighting. Resurfacing and pavement repairs will take place along the length of the route, where necessary. Major works proposed include the construction of a new cycle bridge over the railway adjacent to Whitworth Road and a new pedestrian /cycle bridge over the Royal Canal in Phibsborough. The construction of the pedestrian and cycle bridges in Phibsborough will involve rotary bored piling in clays and gravels to rock foundation, which is a relatively low noise method. An underpass is proposed at the North Circular Road. Conventional excavation of existing embankments in soils, some breaking out of hard features in walls and pavements and rotary bored piling will occur in this location.

3.1.1 Construction Phase

21 The main characteristics of the Construction Phase of the Proposed Scheme that have potential for ecological impact are:

- Site preparation and clearance;
- Removal of existing boundaries, pavements, lighting columns, bus stops, and signage;
- Protection and / or diversion of buried services;
- Reconnection of existing and new drainage infrastructure into the existing surface water drainage infrastructure;
- Road widening, pavement reconstruction, and kerb improvements;
- Temporary and permanent land take at a number of key areas including:
 - Royal Canal pNHA at Cross Guns Bridge; and
 - Home Farm Football Club on R108 St. Mobhi Road – road frontage).
- Installation of new bus stops and junction / roundabout modification;
- Property boundary reinstatement, signage replacement;
- Installation of lighting columns;
- Landscaping and tree planting; and
- Reinstatement of temporary land acquisitions.

3.1.1.1 Structural / Demolition Works

22 The following are the main structural works to form part of the Proposed Scheme:

Structure No. 01: Pedestrian / Cycle Bridge over Rail at Lindsay Grove & Structure No. 02 Pedestrian / Cycle Bridge over Rail at Whitworth Road

- Screen protection to prevent materials falling onto the rail track;
- Installation of bored concrete piles behind the existing railway retaining walls with a pile driver;
- Excavation and construction of the abutments, behind the existing walls, and the demolition of the parapet walls;
- Installation of precast concrete beams (lifted into place using a mobile crane), and reinforcement to complete deck; and
- Pavement and parapets will be finished.

Structure No. 03: Pedestrian / Cycle Bridge over Royal Canal

- Abutments:

- Lower the canal water level to 0.5m over a distance of 300m between locks temporarily to prevent flooding of the works areas;
- Surface will be prepared with minor excavation to achieve the piling level; and
- Steel pile casings will be pushed down as the auger bores the hole. Steel cases will be adopted to prevent leakage of concrete in the canal. As the auger withdraws, concrete will be pumped into the hole and finally reinforcement cages pushed into the concrete. The drilling / piling activity will be completed over a period of two weeks, with one to two piles per day.
- Southern Ramp:
 - Surface will be prepared with minor excavation to achieve the foundation level;
 - Pre-cast concrete ramp trough sections will be installed by crane, with masonry wall finishes pre-installed;
 - Filling of the ramps with crushed stone; and
 - Pavements and parapets will be finished.
- Bridge Deck:
 - The steel deck will be preassembled off site (including arch, ribs and deck);
 - Transport of the segments to site;
 - Erection and assembly of the segments by crane either side of the canal;
 - Positioning and tensioning of the hangers; and
 - Final parapets and lighting will be put in place.

Structure No. 04: Royal Canal Bank Underpass under North Circular Road

- Underground services will firstly be diverted temporarily to the side of the bridge works area to allow underpass construction;
- The underpass will be constructed in two halves. Piled foundations will be installed and ground beams / pile caps constructed for the sub-structures in the first half of the bridge;
- The pavement in the works area of R101 North Circular Road will be excavated to a depth of approximately 1.5m;
- Prefabricated structural elements will be delivered to the works location on R101 North Circular Road where a mobile crane will be positioned to lift the elements into place. Precast concrete beams will be installed, and reinforced in-situ with concrete poured to complete the deck;
- Underground services will be repositioned to their final location;
- Road pavement and concrete footpaths will be installed in the works areas;
- The completed half of the underpass will be opened, and traffic on the R101 North Circular Road will be diverted to the recently completed half of the underpass;
- The same methodology will be completed in the new works area to complete the second half of the structure;
- Final finishes to the road surface will be required in the middle of the road where the two halves meet;
- Once the structure and road finishes are completed, the approach ramps and underneath the new underpass structure will be excavated to the required levels from underneath;
- Construction of concrete faces to the abutments and wingwalls of the bridge in front of the support piles;
- Complete the access ramp on the south-eastern side up to R101 North Circular Road; and
- Landscaping and finishes.

Structure No. 05: Retaining Wall at St. Mobhi Road, Home Farm Football Club

- Site of the retaining wall will be isolated using fencing, as appropriate;
- The retained area behind the existing retaining wall will be excavated and the retaining wall will be demolished with a hydraulic breaker mounted to an excavator;
- Existing ground will be stripped to formation level;
- Existing services will be diverted, as required;
- A side-slope will be battered back to enable construction;
- Blinding will be installed at formation level;
- Formwork and reinforcing steel for the wall will be fixed in place;
- Concrete will be poured in sections and formwork removed after the initial curing of concrete;
- After a sufficient curing period, the area behind the wall will be backfilled; and
- The new boundary railing will be installed, and replacement trees will be planted behind the new railing.

3.1.1.2 Surface Water Drainage Infrastructure

- 23 The Ballymun Section of the Proposed Scheme discharges to the River Tolka in the northernmost section, with a portion of this section potentially discharging to the River Santry (as a worst-case, it is assumed it is connected via surface water sewers for a short section and is therefore included in this assessment). South of the Royal Canal, this section of the Proposed Scheme discharges to Ringsend Wastewater Treatment Plant (WwTP). To the north of the River Tolka, the Finglas Section of the Proposed Scheme discharges into the Bachelors Stream (tributary of the River Tolka). Between the River Tolka and the Royal Canal, the Proposed Scheme discharges to the River Tolka.
- 24 There is very limited data available for Sustainable Drainage Systems (SUDs) within the study area. The details of six SUDs on the Proposed Scheme were available from the SUDs Register and Map for Dublin City Council (DCC) and indicate the presence of filter drains at 39A Violet Hill Drive and attenuation tanks at 31 to 36 Ormond Quay Upper, 113 Phibsborough Road, 274 North Circular Road, 106a and 107 King Street North and Mellowes Road (DCC 2010).
- 25 It is estimated that the existing surface water drainage system will remain unchanged due to the changes to the existing street layout for the Proposed Scheme, resulting in relatively small changes in impermeable area for minor road widening. This small increase in impermeable surface area will cause a small increase in surface water discharge rates. A full breakdown is provided in Table 1.
- 26 The drainage design principles ensure that there will be no net increase in the surface water flow discharged to these receptors.
- 27 The proposed drainage design includes the relocation and addition of drainage gullies, as well as the installation of a new surface water sewer on Finglas Road South. Attenuation will be in the form of filter drains, bioretention systems and permeable pavement areas. These SUDs measures allow a level of treatment and / or attenuation to be provided before discharge to the network, reducing the impact on water quality as well as preventing an increase in runoff rates.
- 28 The following drainage types are proposed:
- Bioretention;
 - Oversized pipes – Where there is insufficient space available for SUDs measures it is proposed to provide some attenuation volume online using oversized pipes; and
 - Permeable paving: a new off street parking area is included as part of the proposals at Claremount Lawns. This parking area is to use permeable paving to allow attenuation and treatment of runoff.

- 29 The drainage system for the Proposed Scheme will discharge to two surface waterbodies and one WwTP. Details of the proposed drainage treatment for each catchment and subsequently each waterbody are provided in Table 1. This table also includes details of the changes to impermeable areas. No new outfalls are proposed.

Table 1: Proposed SUDS and Impermeable Areas

Existing Catchment Reference	Water Body	Approx. Surface Area (m ²)				SUDs Measure(s) Proposed
		Existing (m ²)	Proposed New (m ²)	Change (m ²)	Change (%)	
D4_01	Tolka_050	3,356	3,898	542	16.2	Bioretention
D4_02	Tolka_050	995	1,048	53	5.3	None
D4_03	Tolka_050	3,664	3,848	184	5.0	Bioretention
D4_04	Tolka_050	4,263	4,263	0	0.0	None
D4_05	Tolka_050	34,715	36,190	1475	4.2	Bioretention
D4_06	Tolka_050	13,313	13,227	-86	-0.6	Bioretention
D4_07	Tolka_050	3,158	3,174	16	0.5	Bioretention
D4_08	Tolka_050	2,662	2,768	106	4.0	None
D4_09	Tolka_050	837	844	7	0.8	None
D4_10	Tolka_050	2,463	2,463	0	0.0	None
D4_11	Tolka_050	11,189	11,190	1	0.0	Oversized pipe
D3_01	Tolka_060	113,772	110,727	-3045	-2.7	Bioretention
D3_02	Tolka_060	277	200	-77	-27.8	None
D3_03	Tolka_060	21,266	21,683	417	2.0	Bioretention
D3_04	Tolka_060	1,392	1,395	3	0.2	None
D3_05	Tolka_060	4,955	5,159	204	4.1	Bioretention
D3_06	Tolka_060	19,508	19,554	46	0.2	Bioretention and oversized pipe
D4_12	Tolka_060	22,401	23,912	1511	6.7	Bioretention, permeable paving
D3_07	Ringsend Wastewater Treatment Plant (WwTP)	44,518	45,154	636	1.4	Oversized pipe
D3_08	Ringsend WwTP	20,854	20,836	-18	-0.1	None
D3_09	Ringsend WwTP	7,395	7,822	427	5.8	None
D3_10	Ringsend WwTP	3,001	3,001	0	0.0	None

3.1.1.3 Lighting

- 30 The majority of the Proposed Scheme is already artificially lit, however temporary lighting may be required along the Proposed Scheme at certain locations during the Construction Phase. A number of existing / permanent lighting columns are proposed to be relocated or replaced are also proposed as part of the lighting strategy.

3.1.1.4 Landscape and Urban Realm

- 31 It is proposed that localised replanting to compensate for loss of vegetation across the Proposed Scheme will be undertaken. Key areas of the design consideration include the Ballymun Section and the Finglas Section of the Proposed Scheme with well developed, mature trees in localised areas such as R108 St. Mobhi Road, in and around the main parks, in the vicinity of the River Tolka and the Botanic Gardens, as well as Harts Corner. Existing trees in good condition are to be kept, whenever possible, and fully protected during construction. Areas of semi-natural / reduced management vegetation in good condition are being kept, while the medians throughout most of the north part of the Proposed Scheme will provide a good opportunity for natural wildflowers and shrubs to be planted, thus contributing to biodiversity and ecological resilience. In terms of the urban realm, new enlarged pedestrian areas such as the area immediately surrounding Structure No. 4: North Circular Road Underpass, will feature new green ornamental planting and urban furniture while the areas identified as hotspots will include also a more differentiated design with different paving materials.

3.1.1.5 Construction Compounds

- 32 Six Construction Compounds have been selected based on where there is the most available space, in close proximity to the majority of the Proposed Scheme major works and with access to the National and Regional Road network. The Construction Compounds will be located at the following sites:
- Construction Compound B1: North-eastern corner of Santry Cross;
 - Construction Compound B2: St. Mobhi Drive;
 - Construction Compound B3: Constitution Hill / Catherine lane North Junction;
 - Construction Compound F1: Mellows Park in the vicinity of St. Margaret's Road Roundabout;
 - Construction Compound F2: Finglas Road / Finglas Place Junction; and
 - Construction Compound F3: Claremont Lawns (opposite Glasnevin Cemetery).
- 33 The Construction Compounds will be used as the primary location for storage of materials, plant and equipment, site offices, worker welfare facilities and limited car parking.

3.1.1.6 Estimated Construction Phase Duration

- 34 The total Construction Phase for the overall Proposed Scheme is estimated at approximately 24 months. However, individual activities will have shorter durations.

3.1.2 Operational Phase

- 35 The main characteristics of the Operational Phase of the Proposed Scheme that have potential for ecological impact are:
- The presence and operation (traffic) of the road;
 - The presence of additional lighting; and
 - Routine maintenance, including ongoing landscape maintenance.

4 Methodology

4.1 Scientific and Technical Competence Relied Upon

- 36 This NIS was co-authored by Laura Higgins, Kristie Watkin-Bourne, Emmi Virkki, Tim Ryle and Eoin Cussen, and reviewed by Niamh Burke and Aebhín Cawley of Scott Cawley Ltd. The background and experience of the author and contributors to this Report are set out below.

Laura Higgins

- 37 Laura Higgins is a Senior Ecologist with Scott Cawley Ltd., and holds a first class honours degree in Zoology from Trinity College Dublin. Laura has a range of fieldwork experience in Ireland including habitat, invasive species and protected species surveys. She has surveyed a wide range of mammal, bird and invertebrate species in terrestrial and aquatic habitats in Ireland. Laura has a great interest in ecology and is continually improving her professional skills through training courses and volunteer work. Since joining Scott Cawley Ltd., her work has included the collection of ecological data, data analysis and preparing Appropriate Assessment Reports and Ecological Impact Assessments for residential and infrastructural projects across the country.

Kristie Watkin-Bourne

- 38 Kristie Watkin-Bourne is a Consultant Ecologist at Scott Cawley Ltd. She holds a first-class honours degree in Physical Geography from Swansea University, and a first-class master's degree in Applied Environmental Science from University College Dublin. She is a Chartered Institute of Ecology and Environmental Management (CIEEM) Member (Qualifying) and is experienced in conducting a range of terrestrial and aquatic ecological surveys for habitat and site appraisals, species monitoring, and impact assessment. With five years consultancy experience, Kristie has a wide range of experience in Appropriate Assessment, Ecological Impact Assessment, Cumulative Impact Assessment, and Strategic Environmental Assessment of plans and projects within the Irish planning environment. Kristie has worked on behalf of public sector bodies including Irish Water, the NTA, and several County Councils in addition to private developers across infrastructure, renewable energy, and residential development projects.

Emmi Virrki

- 39 Emmi Virkki is a Senior Consultant Ecologist with Scott Cawley Ltd. She obtained an honours degree in Environmental Biology, from University College Dublin and a Master's degree in Environmental Science from the same institution. Emmi is a member and volunteer of BirdWatch Ireland, and a member of the British Trust for Ornithology, the Irish Bryophyte Group, the Botanical Society of Britain and Ireland, and Bat Conservation Ireland. She has five years of professional experience working in ecology in Ireland and has worked with clients at both government and private levels. Emmi's specialism is ornithology, but she is also skilled in protected flora and fauna, invasive species and habitat surveys. She has conducted ecological survey and assessment (Ecological Impact Assessment, Appropriate Assessment and Biodiversity Chapters of Environmental Impact Assessment Reports) of linear infrastructure, residential, commercial and industrial projects.

Eoin Cussen

Eoin Cussen is a Senior Consultant Ecologist with Scott Cawley Ltd. Eoin holds a BSc (Hons) in Zoology from University College Cork and MSc (Hons) in Ecological Assessment from the same institution. Eoin is an experienced ecologist with over 4 years of professional postgraduate experience in ecological consultancy including planning related casework for state and non-governmental organisations within Ireland and the UK, input to and preparation of Appropriate Assessment screenings, NISs, Preliminary Ecological Assessments and Ecological Impact Assessments, and a wide range of experience of ecological surveys for protected habitats and species including otters, bats, birds.

Tim Ryle

- 40 Tim Ryle is a Principal Ecologist with Scott Cawley Ltd. He holds an honours degree in Botany from University College Dublin and was later awarded a PhD. from the same institution. He is a full Member of the Institute of Environmental Scientists. Tim is an experienced ecological consultant with twenty years of experience in private consultancy in designing, undertaking and managing a wide range of ecological surveys and in assessing impacts and designing mitigation measures and biodiversity enhancements, in particular for protected species including badgers, otters, bats, birds, amphibians as well as habitats of conservation importance. He is also experienced in undertaking Appropriate Assessment for small-scale development projects and larger infrastructural projects, land plans as well as national / government plans.

Niamh Burke

- 41 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.

Aebhín Cawley

- 42 Aebhín Cawley is Managing Director with Scott Cawley Ltd. She holds an honours degree in Zoology from Trinity College, Dublin and a postgraduate diploma in Physical Planning at Trinity. She is a Chartered Environmentalist (CEnv) with the Society for the Environment (Soc Env) and a Full Member of the CIEEM. Aebhín Cawley is an experienced ecological consultant with extensive experience in public and private sector projects including complex development types including infrastructure, renewable energy and ports. Aebhín has delivered lectures and training on Appropriate Assessment to a range of organisations and professional institutes and regularly provides Appropriate Assessment training to local authorities and other public sector organisations. She authored guidelines on Appropriate Assessment for the EPA and delivered training on its application to its inspectorate.

4.2 Guidance and Approach

- 43 This NIS has been prepared having regard to the following documents.

European Commission Guidance

- *Assessment of Plans and Projects in Relation to Affecting Natura 2000 sites: Methodological Guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (European Commission 2021);
- *Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitat's Directive 92/43/EEC* (European Commission 2019);
- *Communication from the Commission on the Precautionary Principle* (European Commission 2000)²;

² 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).

This guidance document 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

- *Nature and Biodiversity Cases – Ruling of the European Court of Justice* (European Commission 2006);
- Interpretation Manual of European Union Habitats. Version EUR 28. (European Commission 2013); and
- *Article 6 of the Habitats Directive – Rulings of the European Court of Justice* (European Commission 2014).

Irish Guidance

- *Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities* (Department of Environment, Heritage and Local Government 2010);
- Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities. *Circular NPW 1/10 & PSSP 2/10* (National Parks and Wildlife Service (NPWS 2010)); and
- Appropriate Assessment Screening for Development Management: OPR Practice Note PN01 (OPR 2021).

44 In addition, regard has been had to the following guidance in characterising impacts, including determining magnitude and significance of impacts, as relevant in the application to Appropriate Assessment and European sites:

- *Guidelines for Ecological Impact Assessment in the UK and Ireland* (CIEEM 2018).

4.3 Assessment Methodology

- 45 The Proposed Scheme was analysed and appraised to identify the potential impacts that could affect the ecological environment.
- 46 From this, the ecological Zol of the Proposed Scheme was defined. Based on the identified impacts, and their Zol, the European sites potentially at risk of any direct or indirect impacts were identified.
- 47 A source-pathway-receptor approach has been 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 or SCI species), 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.
- 48 The identification of source-pathway-receptor connection(s) between the Proposed Scheme and European sites essentially is the process of identifying which European sites are within the Zol of the Proposed Scheme, and therefore potentially at risk of significant effects. The Zol is defined as the area within which the Proposed Scheme 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 (as defined in CIEEM 2018).
- 49 The identification of a source-pathway-receptor risk does not automatically mean that significant effects will arise. The likelihood of 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

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 likely and Appropriate Assessment must be carried out.

European site and its QIs / SCIs). However, identification of the risk does mean that there is a possibility of an effect on the environment occurring, with the significance of the effect depending upon the nature of and exposure to the risk and the characteristics of the receptor. Where there is any uncertainty, the precautionary principle has been applied.

- 50 This assessment has been undertaken in consideration of all potential impact sources and pathways connecting the Proposed Scheme to European sites, in view of the conservation objectives supporting the conservation condition of the sites' QIs / SCIs.
- 51 The conservation objectives relating to each European site and its QIs / SCIs are expressed generally for SACs as *'to maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the cSAC has been selected'*, and for SPAs *'to maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA'*.
- 52 Following on from this, and as defined in the Habitats Directive, favourable conservation status (or condition, at a site level) of a habitat is achieved when:
- Its natural range, and area it covers within that range, are stable or increasing;
 - The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future; and
 - The conservation status of its typical species is favourable.
- 53 The favourable conservation status (or condition, at a site level) of a species is achieved when:
- Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats;
 - The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future; and
 - There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.
- 54 Where site-specific conservation objectives have been prepared for the individual European sites, these include a series of specific attributes and targets against which effects on conservation condition, or integrity, can be measured (i.e. an impact which affects the achievement of favourable conservation condition, as measured by the attributes and targets, is an impact on site integrity).
- 55 In the case of Wicklow Mountains SPA, Howth Head Coast SPA, Lambay Island SPA, Ireland's Eye SPA, Skerries Islands SPA, the Murrough SPA and Dalkey Islands SPA, site-specific conservation objectives are not available, or have not been published. Where that is the case, sample site-specific attributes and targets for a given QI / SCI have been compiled, based on those from other relevant European sites, as a guide in assessing how the conservation condition of these sites could potentially be affected by the Proposed Scheme. In the case of some QIs / SCIs in certain European sites, the conservation objective is to restore rather than maintain conservation condition and this distinction is taken into account in the assessment; as is any legacy damage to European sites which has occurred since their designation, insofar as possible.
- 56 To the extent that the assessment carried out as part of the preparation the NIS has found that the Proposed Scheme has the potential to impact on European sites, avoidance and mitigation measures have been included as part of the Proposed Scheme to ensure that, in view of the European sites' conservation objectives, the Proposed Scheme will not adversely affect the integrity of the sites concerned.

4.4 Desk Study

- 57 The desktop data sources used to inform the assessment presented in this Report are as follows (accessed in October 2020 and updated in February 2022) (See Appendix II of this NIS):

- Online data available on European sites and on Natural Heritage Areas (NHAs) or proposed Natural Heritage Areas (pNHAs) from www.npws.ie³, including conservation objectives documents;
- Online data records available on National Biodiversity Data Centre Database (NBDC Online Database 2022);
- Online data records made available via a NPWS data request (NPWS 2020);
- Information on the status of EU protected habitats and species in Ireland (NPWS 2019a; NPWS 2019b; NPWS 2019c);
- Ordnance Survey Ireland (OSI) orthophotography (from 1995 to 2012) for the Proposed Scheme study area available from www.osi.ie;
- BusConnects drone imagery (surveyed 2020);
- Records of rare and / or protected species for the 10km grid squares O03, O13 and O23, held by the NPWS;
- Habitat and species GIS datasets provided by the NPWS, including Article 12 and Article 17 data⁴;
- Records from the Botanical Society of Britain and Ireland (BSBI);
- Information contained within the Flora of County Dublin⁵;
- Environmental information /data for the area available from the EPA website www.epa.ie;
- Information on light-bellied Brent goose inland feeding sites⁶;
- The results of ecological surveys undertaken as part of the EIA studies for the Proposed Scheme (see Section 5 below for details); and
- Information on the location, nature and design of the Proposed Scheme.

4.5 Consultations

Table 2 outlines the Appropriate Assessment issues raised during consultation.

³ The following SAC and SPA GIS boundary datasets are the most recently available at the time of writing: SAC_ITM_2022_04 and SPA_ITM_2021_10.

⁴ Article 17 of the EU Directive on the Conservation of habitats, Floras and Fauna (Habitats Directive) required that all member states report to the European Commission every six years on the status and on the implementation of the measures taken under the Habitats Directive. In similar manner, there is an obligation to report on the status and trends of bird species required under Article 12 of the Bird's Directive

⁵ Doogue, D., Nash, D., Parnell, J., Reynolds, S. & Wyse Jackson, P. (eds) (1998) Flora of County Dublin. The Dublin Naturalists' Field Club, Dublin

⁶ Scott Cawley Ltd. (2017). Natura Impact Statement – Information for Stage 2 Appropriate Assessment for the Proposed Residential Development St. Paul's College, Sybill Hill, Raheny, Dublin 5.

Table 2: Appropriate Assessment Issues Raised During Consultation

Consultee	Date of Consultation	Issues Raised	Relevant Section of the NIS Where Issues Raised in Consultation is Addressed
Department of Housing, Local Government and Heritage (formerly Department of Culture, Heritage and the Gaeltacht)	30/07/19 Ref. G Pre00165/2019	The Department recommend identification, description, and assessment of direct and indirect impacts of the Proposed Scheme on the following features: <ul style="list-style-type: none"> • Biodiversity in general and with specific attention to Natura 2000 sites; • Habitats and species protected under the Habitats Directive, such as Annex I habitats, Annex II species and their habitats, and Annex IV species and their breeding sites and resting places (wherever they occur), bird species protected under the Birds Directive, such as Annex I species and other regularly occurring migratory species, and their habitats (wherever they occur); • species and / or habitats listed in the Habitats Directive inside or outside of Natura 2000 sites be recorded; • Species protected under the Wildlife Act, including protected flora; • Important bird areas such as those identified by Birdwatch Ireland; and • Features of the landscape which are of major importance as biodiversity corridors to wild flora or fauna, as referenced in Article 10 of the Habitats Directive. 	Section 5.1 European Sites, Section 4.6 Baseline Surveys, Section 7 Assessment of Potential Effects on European Sites
		Detailed bird surveys should be undertaken at all times of the year to establish areas of the Proposed Scheme used by birds should be included in the Appropriate Assessment.	Section 4.6 Baseline Surveys, Section 7 Assessment of Potential Effects on European Sites
		The Department requires that the Appropriate Assessment addresses the issue of invasive alien plant and animal species and includes detailed methods to ensure that the accidental introduction or spreading of invasive species does not occur. The Department recommended that an Invasive Species Action Plan should form part of the planning application.	Section 6.4 Habitat Degradation as a Result of Introducing / Spreading Non-Native Invasive Species, and Appendix III of this Natura Impact Statement
		Department recommended that the Cumulative impacts of the Proposed Scheme be considered, to include interaction between different and / or	Section 1 Introduction, Section 2 Legislative Context, Section 6.6

Consultee	Date of Consultation	Issues Raised	Relevant Section of the NIS Where Issues Raised in Consultation is Addressed
		<p>approved plans and projects in the same area as the Proposed Scheme.</p> <p>The Department recommended that the Proposed Scheme be subject to Appropriate Assessment in respect of potential to impact Natura 2000 sites either alone or in combination with other plans or projects, and must contain complete (contain no lacunae), precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the works proposed on the protected site concerned.</p> <p>To assess mitigations, the following tasks must be completed:</p> <ul style="list-style-type: none"> • List each of the measures to be introduced (e.g., noise bunds, tree planting); • Explain how the measures will avoid the adverse impacts on the site; and • Explain how the measures will reduce the adverse impacts on the site. <p>Then, for each of the listed mitigation measures:</p> <ul style="list-style-type: none"> • Provide evidence of how they will be secured and implemented and by whom; • Provide evidence of the degree of confidence in their likely success; and • Provide a timescale, relative to the project or plan, when they will be implemented. <p>Where residual impacts remain, further mitigation measures may be required:</p> <ul style="list-style-type: none"> • Evidence should be provided of how mitigation measures will be monitored; • Monitoring should take place immediately down-stream of the Proposed Scheme; and • The applicant should not use any proposed post construction monitoring as mitigation to supplement inadequate information in the assessment. 	<p>Disturbance and Displacement Impacts</p> <p>The Proposed Scheme has been subject to Screening for Appropriate Assessment and the production of a Natura Impact Statement, which accompanies the planning submission.</p> <p>Section 6 Potential Impacts, Zone of Influence and Identifying European Sites at Risk of Effects</p>

4.6 Baseline Surveys

58 This Section describes the methodologies followed for the ecological surveys undertaken to inform the assessment presented in this NIS.

4.6.1 Habitats and Flora

- 59 Habitat surveys were carried out by Scott Cawley Ltd. between June and August 2018 along the Proposed Scheme alignment. Confirmatory surveys were subsequently undertaken on the Proposed Scheme again in August 2020 to check and update the presence and extent of habitats found in the 2018 habitat surveys. Additional habitat surveys were carried out along any new route sections added since 2018. All habitats located within or immediately adjacent to the Proposed Scheme footprint were surveyed and mapped to level three of the Heritage Council's habitat codes, after Fossitt⁷ and in accordance with *Best Practice Guidance for Habitat Survey and Mapping*⁸. The level of field data quality was also recorded. Plant species present that were either representative of a habitat or considered to be of conservation interest (i.e. those listed on the Flora Protection Order or listed in the 'threatened' category or higher on the Red List for vascular plants and bryophytes) were recorded, along with their relative abundances. Non-native invasive plant species listed on the Third Schedule of S.I. No. 477/2011 – European Communities (Birds and Natural Habitats) Regulations 2011 (hereafter referred to as the Birds and Habitats Regulations) were also recorded. The habitat's extent was mapped onto an aerial photograph, with GPS points taken where a habitat's extent could not be clearly identified from the aerial photograph. Vascular plant nomenclature follows that of the *New Flora of the British Isles 4th Edition*⁹.
- 60 A desk study was carried out to identify all hydrological crossing points within the footprint of the Proposed Scheme. There are no proposed route crossings of the Liffey_180 or Liffey_190. There are two proposed route crossings of the Royal Canal by the existing road crossing at R108 Prospect Road at Cross Guns Bridge, and at the new proposed Royal Canal pedestrian / cycle bridge location. There are three proposed route crossings of the River Tolka by the existing road crossings at the R108 St. Mobhi Road, between Glasnevin Hill and Botanic Road, and R135 Finglas Road. The Bachelors Stream runs mostly culverted under the Proposed Scheme along the R135 Finglas Road, approximately from the roundabout of R104 St. Margaret's Road and Tolka Valley Road, whereas the Claremont Stream runs culverted below St. Mobhi Drive. Due to the number of hydrological crossing points and potential connection to the Proposed Scheme, instream aquatic habitat surveys were deemed necessary at the proposed Royal Canal pedestrian / cycle bridge location.
- 61 The desk study identified one hydrological crossing point within the footprint of the Proposed Scheme, proposing construction methodologies which involved instream works, modifications to banks or significant disturbance, which required instream aquatic habitat surveys. This site was located at the proposed Royal Canal pedestrian / cycle bridge crossing point (referred to as CBC0304AR001) and was surveyed by Triturus Environmental Ltd. in October and November 2020. A broad habitat assessment was conducted at each site utilising elements of the methodology given in the Environment Agency's 'River Habitat Survey in Britain and Ireland Field Survey Guidance Manual 2003'¹⁰ and the Irish Heritage Council's 'A Guide to Habitats in Ireland'¹¹. All sites were assessed in terms of:
- Channel width and depth and other physical characteristics;
 - Substrate type, listing substrate fractions in order of dominance (i.e. bedrock, boulder, cobble, gravel, sand, silt etc.);
 - Flow type, listing percentage of riffle, glide and pool in the survey area;
 - Instream macrophyte and aquatic bryophytes occurring and the prominence of each (DAFOR scale); and

⁷ Fossitt, J.A. (2000) *A Guide to Habitats in Ireland*. Heritage Council, Kilkenny.

⁸ 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*.

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

¹⁰ Environment Agency. (2003). River Habitat Survey in Britain and Ireland: Field Survey Guidance Manual: 2003 Version. Forest Research.

¹¹ Fossitt, J.A. (2000) *A Guide to Habitats in Ireland*. Heritage Council, Kilkenny.

- General riparian vegetation composition.

4.6.2 Fauna Surveys

62 Ecological surveys relevant to the Proposed Scheme include habitat surveys; surveys for the presence or signs of terrestrial, mobile Annex II species (i.e. otter *Lutra lutra*); and, surveys for SCI bird species. Additional fisheries surveys were undertaken by Triturus Environmental Ltd., in areas where water bodies may be subject to significant disturbance as a result of the Proposed Scheme (i.e. the proposed Royal Canal pedestrian / cycle bridge crossing point). However, the results of these surveys are not directly relevant to this assessment as the Proposed Scheme is not hydrologically connected to any European site designated for Annex II fish species or white-clawed crayfish *Austropotambius pallipes*. The nearest known European site designated for Atlantic salmon *Salmo salar*, river lamprey *Lampetra fluviatilis* and brook lamprey *Lampetra planeri* is the River Boyne and River Blackwater SAC, located approximately 35km north of the Proposed Scheme in the Boyne river catchment. The nearest known European site designated for white-clawed crayfish is the River Barrow and River Nore SAC, which is located approximately 51km south-west of the Proposed Scheme in the River Barrow catchment, River Nore catchment and River Ballyteigue-Bannow river catchment. There is no hydrological connectivity between the Proposed Scheme and these European sites.

4.6.2.1 Otter

- 63 The footprint of the Proposed Scheme and suitable lands (e.g. greenfield sites) immediately adjacent were surveyed for otter activity as part of the multidisciplinary walkover surveys, undertaken between June and August 2018, in October 2020 and May 2022. The presence / absence of these species was surveyed through the detection of field signs such as tracks, markings, feeding signs, and droppings as well as by direct observation. In addition, the study area was surveyed for the presence of otter holts. Where present, any evidence of use was recorded. Signs of otter were also noted during aquatic surveys carried out by Triturus Environmental Ltd. in October and November 2020.
- 64 A desk study was carried out to identify all hydrological crossing points within the footprint of the Proposed Scheme. Construction methodologies which involved instream works, modifications to banks or significant disturbance, require otter surveys. The desk study identified one site where water bodies may be subject to significant disturbance as a consequence of the Proposed Scheme. The site is located at the proposed Royal Canal pedestrian / cycle bridge crossing point. A corridor of approximately 150m upstream and downstream was surveyed to identify the presence of otter holts in October 2020.

4.6.2.2 Kingfisher

- 65 A desk study was carried out to identify all hydrological crossing points within the footprint of the Proposed Scheme. Construction methodologies which involved instream works, modifications to banks or significant disturbance were deemed to require habitat suitability assessments for nesting kingfisher. The desk study identified one site where water bodies may be subject to significant disturbance as a consequence of the Proposed Scheme. This site is located at the proposed Royal Canal pedestrian / cycle bridge crossing point.
- 66 The suitability of water features and associated foraging, roosting, and nesting habitats, located within or directly adjacent to the Proposed Scheme, were assessed for kingfisher potential in October 2020. Where suitable habitat existed, surveys extended approximately 500m upstream and downstream of the proposed crossing point. Evidence of kingfisher activity at any potential nest holes and or incidental sightings were recorded.

4.6.2.3 Other Birds

- 67 The results of the desk study have informed the assessment of potential impacts on breeding bird species arising from the Proposed Scheme.

- 68 A desk study was carried out to identify any potential suitable inland feeding and / or roosting sites for wintering birds located within or directly adjacent to the Proposed Scheme. This included a review of recent aerial photography and known inland feeding sites for the SCI bird species light-bellied Brent goose *Branta bernicla hrota*⁸ (Scott Cawley Ltd. 2017). A habitat suitability assessment was carried out in October 2020 to verify the suitability of potential inland feeding / roosting sites identified during the desk study.
- 69 The desk study identified one site along or adjacent to the Proposed Scheme with potential for wintering birds that would be subject to direct habitat loss. This was located at Home Farm Football Club pitch on R108 St. Mobhi Road (referred to as CBC0304WB001).
- 70 Winter bird field surveys were conducted by Scott Cawley Ltd. The site was surveyed during four visits between the months November 2020 and March 2021. The site was also surveyed over the 2021 / 2022 wintering bird season. Thirteen surveys of the site were conducted between October 2021 and March 2022. The results of the desk study and field surveys have informed the assessment of potential impacts on wintering bird species arising from the Proposed Scheme.
- 71 In general, the approach was a ‘look-see’ methodology (based on Gilbert *et al.* 1998). All birds present within a site were identified with reference to Collins Bird Guide (Svensson 2010) to confirm identification (where necessary), and were recorded using the British Trust for Ornithology (BTO) species codes. The total flock size of birds present, their general location within the site and any activity exhibited were also recorded. Evidence of bird droppings were recorded at pre-defined transect lines. The length of the transect lines varied per site. Transect lines were only completed at sites where no bird species were present, to avoid any potential disturbance.

5 Overview of the Receiving Environment

5.1 European Sites

- 72 The Proposed Scheme does not overlap with any European site. The nearest European site to the Proposed Scheme is South Dublin Bay and River Tolka Estuary SPA, which is located approximately 2.7km from the Proposed Scheme and is also hydrologically connected approximately 6km downstream of the terminus of the Proposed Scheme. This is followed by South Dublin Bay SAC, which is located approximately 4km from the Proposed Scheme, and approximately 6.9km downstream of the Proposed Scheme terminus and North Dublin Bay SAC, which is located 5.7km from the Proposed Scheme.
- 73 There are eight European Sites located in Dublin Bay that are downstream of six watercourses that are hydrologically connected to the Proposed Scheme, (i.e. River Tolka, Claremont Stream, Bachelors Stream, Royal Canal, Liffey Estuary Upper and River Santry). These European sites include North Dublin Bay SAC, South Dublin Bay SAC, North Bull Island SPA, South Dublin Bay and River Tolka SPA, Howth Head SAC, Howth Head Coast SPA, Rockabill to Dalkey Island SAC and Dalkey Island SPA.
- 74 There are 12 SPAs designated for SCI species that are known to forage and / or roost at inland sites across Dublin City and / or utilise Dublin Bay. These include Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, Skerries Islands SPA, North Bull Island SPA, South Dublin Bay and River Tolka SPA, Ireland’s Eye SPA, Lambay Island SPA, Howth Head Coast SPA, Dalkey Islands SPA, Rockabill SPA and The Murrrough SPA.
- 75 In addition, Lambay Island SAC and Rockabill to Dalkey Island SAC are designated for mobile QI species known to utilise Dublin Bay and the Liffey Estuary Lower.
- 76 The European sites present in the vicinity of the Proposed Scheme, along with their QIs / SCIs and proximity to the Proposed Scheme are indicated in Table 3, and shown on Figure 3.

Table 3: European Sites in the Vicinity of the Proposed Scheme

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Scheme (as the crow flies)
Special Area of Conservation (SAC)	
<p>South Dublin Bay SAC [000210] 1140 Mudflats and sandflats not covered by seawater at low tide 1210 Annual vegetation of drift lines 1310 <i>Salicornia</i> and other annuals colonising mud and sand 2110 Embryonic shifting dunes</p> <p>S.I. No. 525/2019 - European Union Habitats (South Dublin Bay Special Area of Conservation 000210) Regulations 2019 NPWS (2013) <i>Conservation Objectives: South Dublin Bay SAC 000210</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 4km from the Proposed Scheme</p>
<p>North Dublin Bay SAC [000206] 1140 Mudflats and sandflats not covered by seawater at low tide 1210 Annual vegetation of drift lines 1310 <i>Salicornia</i> and other annuals colonising mud and sand 1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) 1395 Petalwort <i>Petalophyllum ralfsii</i> 1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>) 2110 Embryonic shifting dunes 2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)* 2190 Humid dune slacks</p> <p>S.I. No. 524/2019 - European Union Habitats (North Dublin Bay Special Area of Conservation 000206) Regulations 2019 NPWS (2013) <i>Conservation Objectives: North Dublin Bay SAC 000206</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 5.7km from the Proposed Scheme</p>
<p>Malahide Estuary SAC [000205] 1140 Mudflats and sandflats not covered by seawater at low tide 1310 <i>Salicornia</i> and other annuals colonising mud and sand 1320 <i>Spartina</i> swards (<i>Spartinion maritimae</i>)¹² 1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) 1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>) 2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)*</p> <p>S.I. No. 91/2019 - European Union Habitats (Malahide Estuary Special Area of Conservation 000205) Regulations 2019</p>	<p>Approximately 7.6km from the Proposed Scheme</p>

¹² 1320 *Spartina* swards (*Spartinion maritimae*) habitat is included within the conservation objectives document for Malahide Estuary SAC, but not within the Statutory Instruments document. NPWS note that *Spartina* swards are now considered non-native species and as such no targets are set in respect of this habitat nor is necessary to assess the likely effects of plans or projects against this Annex I habitat at this site.

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Scheme (as the crow flies)
<p>NPWS (2013) <i>Conservation Objectives: Malahide Estuary SAC 000205</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	
<p>Baldoyle Bay SAC [000199] 1140 Mudflats and sandflats not covered by seawater at low tide 1310 <i>Salicornia</i> and other annuals colonizing mud and sand 1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) 1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>)</p> <p>S.I. No. 472/2021 - European Union Habitats (Baldoyle Bay Special Area of Conservation 000199) Regulations 2021 NPWS (2012) <i>Conservation Objectives: Baldoyle Bay SAC 000199</i>. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht</p>	<p>Approximately 8km from the Proposed Scheme</p>
<p>Howth Head SAC [000202] 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts 4030 European dry heaths</p> <p>S.I. No. 524/2021 - European Union Habitats (Howth Head Special Area of Conservation 000202) Regulations 2021. NPWS (2016) <i>Conservation Objectives: Howth Head SAC 000202</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.</p>	<p>Approximately 11km from the Proposed Scheme</p>
<p>Rogerstown Estuary SAC [000208] 1130 Estuaries 1140 Mudflats and sandflats not covered by seawater at low tide 1310 <i>Salicornia</i> and other annuals colonising mud and sand 1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) 1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>) 2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)*</p> <p>S.I. No. 286/2018 - European Union Habitats (Rogerstown Estuary Special Area of Conservation 000208) Regulations 2018 NPWS (2013) <i>Conservation Objectives: Rogerstown Estuary SAC 000208</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 11.3km from the Proposed Scheme</p>
<p>Glenasmole Valley SAC [001209] 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) 6410 <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>) 7220 Petrifying springs with tufa formation (<i>Cratoneurion</i>)*</p> <p>S.I. No. 345/2021 – European Union Habitats (Glenasmole Valley Special Area of Conservation 001209) Regulations 2021 NPWS (2021) <i>Conservation objectives for Glenasmole Valley SAC [001209]</i>. Version 1.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 11.4km from the Proposed Scheme</p>

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Scheme (as the crow flies)
<p>Rockabill to Dalkey Island SAC [003000] 1170 Reefs 1351 Harbour porpoise <i>Phocoena phocaena</i></p> <p>S.I. No. 94/2019 - European Union Habitats (Rockabill To Dalkey Island Special Area of Conservation 003000) Regulations 2019 NPWS (2013) <i>Conservation Objectives: Rockabill to Dalkey Island SAC 003000</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 11.7km from the Proposed Scheme</p>
<p>Wicklow Mountains 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 <i>Erica tetralix</i> 4030 European dry heaths 4060 Alpine and Boreal heaths 6130 Calaminarian grasslands of the Violetalia calaminiariae 6230 Species-rich <i>Nardus</i> 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 <i>Ilex</i> and <i>Blechnum</i> in the British Isles 1355 <i>Lutra lutra</i> (Otter)</p> <p>NPWS (2017) <i>Conservation Objectives: Wicklow Mountains SAC 002122</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.</p>	<p>Approximately 11.9km from the Proposed Scheme</p>
<p>Rye Water Valley/Carton SAC [001398] 7220 Petrifying springs with tufa formation (Cratoneurion)* 1014 Narrow-mouthed Whorl Snail <i>Vertigo angustior</i> 1016 Desmoulin's Whorl Snail <i>Vertigo moulinsiana</i></p> <p>S.I. No. 494/2018 - European Union Habitats (Rye Water Valley/Carton Special Area of Conservation 001398) Regulations 2018 NPWS (2021) <i>Conservation objectives for Rye Water Valley/Carton SAC [001398]</i>. Version 1.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 12.6km upstream from the Proposed Scheme</p>
<p>Ireland's Eye SAC [002193] 1220 Perennial vegetation of stony banks 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts</p> <p>S.I. No. 501/2017 - European Union Habitats (Ireland's Eye Special Area of Conservation 002193) Regulations 2017</p>	<p>Approximately 12.9km from the Proposed Scheme</p>

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Scheme (as the crow flies)
<p>NPWS (2017) <i>Conservation Objectives: Ireland's Eye SAC 002193</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.</p>	
<p>Lambay Island SAC [000204] 1170 Reefs 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts 1364 Grey seal <i>Halichoerus grypus</i> 1365 Harbour seal <i>Phoca vitulina</i></p> <p>S.I. No. 294/2019 - European Union Habitats (Lambay Island Special Area of Conservation 000204) Regulations 2019 NPWS (2013) <i>Conservation Objectives: Lambay Island SAC 000204</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 17.8km from the Proposed Scheme</p>
Special Protection Area (SPA)	
<p>South Dublin Bay and River Tolka Estuary SPA [004024] A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i> A130 Oystercatcher <i>Haematopus ostralegus</i> A137 Ringed Plover <i>Charadrius hiaticula</i> A141 Grey Plover <i>Pluvialis squatarola</i> A143 Knot <i>Calidris canutus</i> A144 Sanderling <i>Calidris alba</i> A149 Dunlin <i>Calidris alpina</i> A157 Bar-tailed Godwit <i>Limosa lapponica</i> A162 Redshank <i>Tringa totanus</i> A179 Black-headed Gull <i>Chroicocephalus ridibundus</i> A192 Roseate Tern <i>Sterna dougallii</i> A193 Common Tern <i>Sterna hirundo</i> A194 Arctic Tern <i>Sterna paradisaea</i> A999 Wetland and Waterbirds</p> <p>S.I. No. 212/2010 - European Communities (Conservation of Wild Birds (South Dublin Bay and River Tolka Estuary Special Protection Area 004024)) Regulations 2010. NPWS (2015) <i>Conservation Objectives: South Dublin Bay and River Tolka Estuary SPA 004024</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 2.7km from the Proposed Scheme</p>
<p>North Bull Island SPA [004006] A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i> A048 Shelduck <i>Tadorna tadorna</i> A052 Teal <i>Anas crecca</i> A054 Pintail <i>Anas acuta</i> A056 Shoveler <i>Anas clypeata</i> A130 Oystercatcher <i>Haematopus ostralegus</i></p>	<p>Approximately 5.7km from the Proposed Scheme</p>

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Scheme (as the crow flies)
<p>A140 Golden Plover <i>Pluvialis apricaria</i> A141 Grey Plover <i>Pluvialis squatarola</i> A143 Knot <i>Calidris canutus</i> A144 Sanderling <i>Calidris alba</i> A149 Dunlin <i>Calidris alpina</i> A156 Black-tailed Godwit <i>Limosa limosa</i> A157 Bar-tailed Godwit <i>Limosa lapponica</i> A160 Curlew <i>Numenius arquata</i> A162 Redshank <i>Tringa totanus</i> A169 Turnstone <i>Arenaria interpres</i> A179 Black-headed Gull <i>Chroicocephalus ridibundus</i> A999 Wetlands & Waterbirds</p> <p>S.I. No. 211/2010 - European Communities (Conservation of Wild Birds (North Bull Island Special Protection Area 004006)) Regulations 2010. NPWS (2015) <i>Conservation Objectives: North Bull Island SPA 004006</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	
<p>Malahide Estuary SPA [004025] A005 Great Crested Grebe <i>Podiceps cristatus</i> A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i> A048 Shelduck <i>Tadorna tadorna</i> A054 Pintail <i>Anas acuta</i> A067 Goldeneye <i>Bucephala clangula</i> A069 Red-breasted Merganser <i>Mergus serrator</i> A130 Oystercatcher <i>Haematopus ostralegus</i> A140 Golden Plover <i>Pluvialis apricaria</i> A141 Grey Plover <i>Pluvialis squatarola</i> A143 Knot <i>Calidris canutus</i> A149 Dunlin <i>Calidris alpina</i> A156 Black-tailed Godwit <i>Limosa limosa</i> A157 Bar-tailed Godwit <i>Limosa lapponica</i> A162 Redshank <i>Tringa totanus</i> A999 Wetland and Waterbirds</p> <p>S.I. No. 285/2011 - European Communities (Conservation of Wild Birds (Malahide Estuary Special Protection Area 004025)) Regulations 2011. NPWS (2013) <i>Conservation Objectives: Malahide Estuary SPA 004025</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 7.7km from the Proposed Scheme</p>
<p>Baldoye Bay SPA [004016] A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i> A048 Shelduck <i>Tadorna tadorna</i> A137 Ringed Plover <i>Charadrius hiaticula</i> A140 Golden Plover <i>Pluvialis apricaria</i> A141 Grey Plover <i>Pluvialis squatarola</i> A157 Bar-tailed Godwit <i>Limosa lapponica</i></p>	<p>Approximately 8.2km from the Proposed Scheme</p>

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Scheme (as the crow flies)
<p>A999 Wetland and Waterbirds</p> <p>S.I. No. 275/2010 - European Communities (Conservation of Wild Birds (Baldoyle Bay Special Protection Area 004016)) Regulations 2010.</p> <p>NPWS (2013) <i>Conservation Objectives: Baldoyle Bay SPA 004016. Version 1.</i> National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	
<p>Rogerstown Estuary SPA [004015]</p> <p>A043 Greylag Goose <i>Anser anser</i></p> <p>A046 Brent Goose <i>Branta bernicla hrota</i></p> <p>A048 Shelduck <i>Tadorna tadorna</i></p> <p>A056 Shoveler <i>Anas clypeata</i></p> <p>A130 Oystercatcher <i>Haematopus ostralegus</i></p> <p>A137 Ringed Plover <i>Charadrius hiaticula</i></p> <p>A141 Grey Plover <i>Pluvialis squatarola</i></p> <p>A143 Knot <i>Calidris canutus</i></p> <p>A149 Dunlin <i>Calidris alpina alpina</i></p> <p>A156 Black-tailed Godwit <i>Limosa limosa</i></p> <p>A162 Redshank <i>Tringa totanus</i></p> <p>A999 Wetlands</p> <p>S.I. No. 271/2010 - European Communities (Conservation of Wild Birds (Rogerstown Estuary Special Protection Area 004015)) Regulations 2010.</p> <p>NPWS (2013) <i>Conservation Objectives: Rogerstown Estuary SPA 004015. Version 1.</i> National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 11.7km from the Proposed Scheme</p>
<p>Wicklow Mountains SPA [004040]</p> <p>A098 Merlin <i>Falco columbarius</i></p> <p>A103 Peregrine <i>Falco peregrinus</i></p> <p>S.I. No. 586/2012 - European Communities (Conservation of Wild Birds (Wicklow Mountains Special Protection Area 004040)) Regulations 2012.</p> <p>NPWS (2022) <i>Conservation objectives for Wicklow Mountains SPA [004040].</i> Generic Version 8.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 12km from the Proposed Scheme</p>
<p>Ireland's Eye SPA [004117]</p> <p>A017 Cormorant <i>Phalacrocorax carbo</i></p> <p>A184 Herring Gull <i>Larus argentatus</i></p> <p>A188 Kittiwake <i>Rissa tridactyla</i></p> <p>A199 Guillemot <i>Uria aalge</i></p> <p>A200 Razorbill <i>Alca torda</i></p> <p>S.I. No. 240/2010 - European Communities (Conservation of Wild Birds (Ireland's Eye Special Protection Area 004117)) Regulations 2010.</p> <p>NPWS (2022) <i>Conservation objectives for Ireland's Eye SPA [004117].</i> Generic Version 8.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 12.6km from the Proposed Scheme</p>

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Scheme (as the crow flies)
<p>Howth Head Coast SPA [004113] A188 Kittiwake <i>Rissa tridactyla</i></p> <p>S.I. No. 185/2012 - European Communities (Conservation of Wild Birds (Howth Head Coast Special Protection Area 004113)) Regulations 2012. NPWS (2022) <i>Conservation objectives for Howth Head Coast SPA [004113]</i>. Generic Version 8.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 13.8km from the Proposed Scheme</p>
<p>Dalkey Islands SPA [004172] A192 Roseate Tern <i>Sterna dougallii</i> A193 Common Tern <i>Sterna hirundo</i> A194 Arctic Tern <i>Sterna paradisaea</i></p> <p>S.I. No. 238/2010 - European Communities (Conservation of Wild Birds (Dalkey Islands Special Protection Area 004172)) Regulations 2010 NPWS (2022) <i>Conservation objectives for Dalkey Islands SPA [004172]</i>. Generic Version 8.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 13.9km from the Proposed Scheme</p>
<p>Lambay Island SPA [004069] A009 Fulmar <i>Fulmarus glacialis</i> A017 Cormorant <i>Phalacrocorax carbo</i> A018 Shag <i>Phalacrocorax aristotelis</i> A043 Greylag Goose <i>Anser anser</i> A183 Lesser Black-backed Gull <i>Larus fuscus</i> A184 Herring Gull <i>Larus argentatus</i> A188 Kittiwake <i>Rissa tridactyla</i> A199 Guillemot <i>Uria aalge</i> A200 Razorbill <i>Alca torda</i> A204 Puffin <i>Fratercula arctica</i></p> <p>S.I. No. 242/2010 - European Communities (Conservation of Wild Birds (Lambay Island Special Protection Area 004069)) Regulations 2010. NPWS (2022) <i>Conservation objectives for Lambay Island SPA [004069]</i>. Generic Version 8.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 17.8km from the Proposed Scheme</p>
<p>Skerries Islands SPA [004122] A017 Cormorant <i>Phalacrocorax carbo</i> A018 Shag <i>Phalacrocorax aristotelis</i> A046 Brent Goose <i>Branta bernicla hrota</i> A148 Purple Sandpiper <i>Calidris maritima</i> A169 Turnstone <i>Arenaria interpres</i> A184 Herring Gull <i>Larus argentatus</i></p> <p>S.I. No. 245/2010 - European Communities (Conservation of Wild Birds (Skerries Islands Special Protection Area 004122)) Regulations 2010. NPWS (2022) <i>Conservation objectives for Skerries Islands SPA [004122]</i>. Generic Version 8.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 21.5km from the Proposed Scheme</p>

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Scheme (as the crow flies)
<p>Rockabill SPA [004014] A148 Purple Sandpiper <i>Calidris maritima</i> A192 Roseate Tern <i>Sterna dougallii</i> A193 Common Tern <i>Sterna hirundo</i> A194 Arctic Tern <i>Sterna paradisaea</i></p> <p>S.I. No. 94/2012 - European Communities (Conservation of Wild Birds (Rockabill Special Protection Area 004014)) Regulations 2012. NPWS (2013) Conservation Objectives: Rockabill SPA [004014]. Version 1. Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 22.4km from the Proposed Scheme</p>
<p>The Murrough SPA [004186] A001 Red-throated Diver <i>Gavia stellata</i> A043 Greylag Goose <i>Anser anser</i> A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i> A050 Wigeon <i>Anas penelope</i> A052 Teal <i>Anas crecca</i> A179 Black-headed Gull <i>Chroicocephalus ridibundus</i> A184 Herring Gull <i>Larus argentatus</i> A195 Little Tern <i>Sterna albifrons</i></p> <p>S.I. No. 298/2011 - European Communities (Conservation of Wild Birds (The Murrough Special Protection Area 004186)) Regulations 2011. NPWS (2022) Conservation objectives for The Murrough SPA [004186]. Generic Version 8.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 30.7km from the Proposed Scheme</p>

5.1.1 Habitats

77 The Proposed Scheme is located in a highly urbanised environment. Habitats present in the footprint of the Proposed Scheme include the following:

- Flower beds and borders (BC4);
- Buildings and artificial surfaces (BL3);
- Tidal rivers (CW2);
- Exposed sand, gravel or till (ED1);
- Spoil and bare ground (ED2);
- Recolonising bare ground (ED3);
- Refuse and other waste (ED5);
- Other artificial lakes and ponds (FL8);
- Reed and large sedge swamps (FS1);
- Depositing/ lowland rivers (FW2);
- Canals (FW3);
- Drainage ditches (FW4);
- Amenity Grassland (Improved) (GA2);
- Dry meadows & grassy verges (GS2);
- Residential (comprised of areas of residential properties and gardens);

- (Mixed) broadleaved woodland (WD1);
- Scattered trees and parkland (WD5);
- Hedgerows (WL1);
- Treelines (WL2);
- Scrub (WS1); and
- Ornamental/ non-native shrub (WS3).

78 The habitat type Tidal rivers (CW2) corresponds with the Annex I habitat Estuaries [1130] and is present in the Liffey Estuary Upper, located adjacent to the terminus of the Proposed Scheme at Arran Quay. None of the remaining habitats within the Proposed Scheme correspond to Annex I habitats.

5.1.2 Flora and Fauna Species

5.1.2.1 Flora

- 79 No records of any Annex II plant species were recorded within the footprint of the Proposed Scheme during field surveys.
- 80 There were five areas of non-native invasive plant species listed on the Third Schedule of the Birds and Habitats Regulations identified along or adjacent to the Proposed Scheme. These locations are summarised below in Table 4.
- 81 The desk study returned records of a total of five species listed on the Third Schedule of the Birds and Habitats Regulations, across the wider study area (i.e. Grid Squares O13 and O14). Records within close proximity to the Proposed Scheme include giant hogweed *Heracleum mantegazzianum*, Japanese knotweed *Reynoutria japonica* and Himalayan balsam *Impatiens glandulifera* scattered along the banks of the Tolka across the Proposed Scheme, while Nuttall's waterweed *Elodea nuttallii*, and Canadian waterweed *E. canadensis* were recorded in the Royal Canal in the vicinity of the proposed pedestrian-cycleway bridge. Several records of Brazilian giant-rhubarb *Gunnera manicata*, New Zealand pigmyweed *Crassula helmsii*, three-cornered garlic *Allium triquetrum*, Nuttall's waterweed, and water fern *Azolla filiculoides* were recorded within the grounds of the National Botanic Gardens adjacent the Proposed Scheme.

Table 4: Non-Native Invasive Plant Species Listed in the Third Schedule of the Birds and Habitats Regulations Recorded Along or Adjacent to the Proposed Scheme

Reference	Species	Location
CBC0304IAPS001	Giant hogweed <i>Heracleum mantegazzianum</i>	Stand in inaccessible woodland on the Finglas Road R135, opposite the Bellevue Industrial Estate.
CBC0304IAPS002	Himalayan balsam <i>Impatiens glandulifera</i>	Scattered along the banks of the River Tolka, adjacent to the Finglas Road R135, north-west of Tolka Bridge.
CBC0304IAPS003	Japanese knotweed <i>Reynoutria japonica</i>	Small stand within planted hedgerow on the Finglas Road, south of the River Tolka.
CBC0304IAPS004	Japanese knotweed <i>Reynoutria japonica</i>	Small stand on Glasnevin Hill, opposite the entrance to the Bon Secours Consultants Clinic
CBC0304IAPS005	Nuttall's waterweed <i>Elodea nuttallii</i> (and Canadian waterweed <i>E. canadensis</i>)	A species recorded in the Royal Canal in the vicinity of the proposed pedestrian-cycleway bridge, during aquatic surveys carried out by Triturus Environmental Ltd.

- 82 Giant hogweed, Himalayan balsam and Japanese knotweed were recorded during the surveys carried out by Scott Cawley Ltd. in August 2020. Giant hogweed was recorded in the woodland adjacent to Glasnevin

Downs housing estate; Himalayan balsam along the banks of the River Tolka, to the north-east of the Glasnevin Woods housing estate; and Japanese knotweed, in a hedgerow along R135 Finglas Road and along Glasnevin Hill. The records for Giant hogweed, Himalayan balsam and the record of Japanese knotweed along the R135 Finglas Road are all located outside the Proposed Scheme, however, the Japanese knotweed recorded along Glasnevin Hill is located directly on the boundary of the Proposed Scheme. This stand of Japanese knotweed was being treated at the time of the surveys.

- 83 Triturus Environmental Ltd. recorded Nuttall's and Canadian waterweed at the proposed Royal Canal pedestrian / cycle bridge crossing during their surveys in October and November 2020.

5.1.3 Fauna

5.1.3.1 Otter

- 84 A desk study found that otter are known to occur within 1km of the Proposed Scheme along the River Tolka, the Royal Canal and the River Liffey¹³.
- 85 No signs of otter, an Annex II species, were recorded during surveys within the footprint of the Proposed Scheme. Otter scat was recorded at one location during the 2022 surveys along the River Tolka at the R135 Finglas Road / Ballyboggan Road Junction, immediately adjacent to the Proposed Scheme. No signs of otter were recorded within 150m upstream and downstream of the proposed Royal Canal pedestrian / cycle bridge crossing point. Signs of otter were recorded further upstream and downstream of the Proposed Scheme along the River Tolka, but not along the Royal Canal at the crossing point for the proposed Royal Canal pedestrian / cycle bridge, during the surveys carried out by Triturus Environmental Ltd. in October and November 2020.
- 86 The nearest European site for which this species is designated is the Wicklow Mountains SAC, which is located approximately 11.9km south (as the crow flies) of the Proposed Scheme. The Wicklow Mountains SAC is located in a different sub-catchment to that of the Proposed Scheme. As such, populations of otter within the footprint of the Proposed Scheme are not connected to the SAC population.

5.1.3.2 Marine Mammals

- 87 The Proposed Scheme will terminate at R148 Arran Quay at the Liffey Estuary Upper.
- 88 Harbour seal, grey seal, and harbour porpoise are known to be present in Dublin Bay. These species are all listed on Annex II of the Habitats Directive while harbour porpoise is also listed on Annex IV of the Habitats Directive. The nearest European site for which harbour seal and grey seal have been designated is Lambay Island SAC located approximately 17.8km from the Proposed Scheme. The nearest European site for which harbour porpoise has been designated is Rockabill to Dalkey Island SAC located approximately 11.7km from the Proposed Scheme.

5.1.3.3 Kingfisher

- 89 The desk study (Appendix II) found that kingfisher *Alcedo atthis*, an Annex I species, are known to occur within 1km of the Proposed Scheme and across the wider study area. In particular, a population of kingfisher are reported to be present along the River Tolka in the vicinity of Tolka Valley Park. There are no records of kingfisher on the Royal Canal, in the vicinity of the Proposed Scheme.
- 90 Habitat suitability assessment surveys carried out in October 2020 recorded no suitable habitat for nesting kingfisher within 500m upstream or downstream of the proposed Royal Canal pedestrian / cycle bridge

¹³ 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.*

crossing point. No kingfisher were recorded within the footprint of the Proposed Scheme, during the multi-disciplinary or habitat suitability assessment surveys.

- 91 The nearest European site for which this species is designated is River Boyne and River Blackwater SPA, which is located approximately 35km north of the Proposed Scheme. Kingfisher populations within close proximity to the Proposed Scheme are not considered to be associated with this SPAs SCI population.

5.1.3.4 Other Birds

- 92 The desk study returned records of three breeding gull species within 300m of the Proposed Scheme which may use inland amenity grassland feeding sites including black-headed gull *Chroicocephalus ridibundus*, herring gull *Larus argentatus*, and lesser black-backed gull *Larus fuscus*.
- 93 The desk study returned records of a total of 50 wintering bird species in the wider study area (i.e. Grid Squares O13 and O14). Records included 13 species listed under Annex I of the Birds Directive and 42 SCI species. The majority of wintering birds identified in the desk study are typically found in coastal, estuarine and intertidal habitats including the Liffey Estuary and Dublin Bay. A desk study of lands within 300m of the Proposed Scheme returned records of seven SCI wintering bird species which may use inland amenity grassland feeding sites, including light-bellied Brent goose, oystercatcher, curlew, black-headed gull, herring gull, lesser black-backed gull and lapwing.
- 94 A review of a study into light-bellied brent goose inland feeding sites⁶ has identified no known inland wintering bird feeding sites in the footprint of the Proposed Scheme. There are six known inland wintering bird feeding sites within approximately 300m of the Proposed Scheme (i.e. the disturbance ZoI). The known inland wintering feeding sites, along with their relative level of importance to the Brent goose population (as assessed in 2017) and distances from the Proposed Scheme are as follows:
- Glasnevin / St. Vincent's Primary School (major Importance), approximately 82m from the Proposed Scheme;
 - Finglas / Erin's Isle GAA (major Importance), approximately 85m from the Proposed Scheme;
 - Glasnevin / DCU Sports Grounds (major Importance), approximately 170m from the Proposed Scheme;
 - Finglas / Dunsink Road (high Importance), approximately 207m from the Proposed Scheme;
 - Tolka Valley Park (moderate Importance), approximately 262m from the Proposed Scheme; and
 - Finglas / Farnham Drive Park (high Importance), approximately 269m from the Proposed Scheme.
- 95 Wintering bird surveys were carried out for the Proposed Scheme at one location, Home Farm Football Club pitch on R108 St. Mobhi Road (referred to as CBC0304WB001) (See Figure 2), between November 2020 and March 2021, and again between October 2021 and March 2022. Species recorded during the survey were: black-headed gull, herring gull and grey heron *Ardea cinerea* (see Table 5 and Table 6, and survey results are shown in Figure 4).

Table 5: Wintering Birds of Conservation Concern Recorded during the Winter Bird Transect Surveys

Common Name / Scientific Name / BTO Code	Activity and Distribution in the Study Area	Conservation Importance			Surveyor Observations outside of transect
		BoCCI (B – Breeding / W - Wintering)	Annex I	Nearest SPA Designated for SCI Species	
Black-headed gull <i>Chroicocephalus ridibundus</i> (BH)	One bird feeding on football pitch within transect CBC0304WB001 (28/01/2021)	Amber (B/W)	-	South Dublin Bay and River Tolka Estuary SPA (approximately 2.7km)	-
Grey heron <i>Ardea cinerea</i> (H.)	One bird on ground on football pitch within transect CBC0304WB001 (01/12/2020 & 10/02/2021)	Green (B/W)	-	Wexford Harbour and Slobs SPA approximately 106.9km	-
Herring gull <i>Larus argentatus</i> (HG)	One bird loafing on ground on football pitch (26/10/21)	Amber (B/W)	-	The Murrough SPA (approximately 30.8km)	-

96 Transect CBC0304WB001 is characterised by a private recreational green space adjacent to R108 St. Mobhi Road. The ground is maintained through regular cutting by Home Farm Football Club. Grass cover was high across the survey period with a low sward height. No disturbance was observed on the site as it was fenced off from public use, utilised solely by the Football Club. Heron was the only bird that was frequently observed on the football pitch and neighbouring treeline. Black-headed gull was only observed once using the football pitch (see Table 6). The records of wintering birds returned from the survey was not high. The lands through which the transect covered will not be directly impacted by the Proposed Scheme. In addition there are large areas of suitable foraging and / or roosting habitat available for these wintering bird species both adjacent to, and in the wider locality of the Proposed Scheme (i.e. beyond the 300m ZoI) including:

- Parks and greenspaces such as Glasnevin / St. Vincent's Primary School pitches, Claremount Lawns green area, green spaces along the Finglas Bypass, Tolka Valley Park, Finglas / Erin's Isle GAA pitches, Na Fianna GAA and Home Farm Football Club pitches at Glasnevin, Albert College Park, Glasnevin / DCU Sports Grounds, Setanta GAA pitches, green spaces adjacent to Naul Road and St. Margaret's Road; and
- Wetland habitat associated with South Dublin Bay and River Tolka Estuary SPA, and North Dublin Bay SPA.

97 It is very likely that these wintering bird species currently use other suitable lands in the wider area to a greater intensity. Notwithstanding this fact, a number of SPAs have on a precautionary basis been included for assessment as it cannot with certainty be concluded that their SCI species do not use areas in the vicinity of the Proposed Scheme as *ex-situ* habitat.

Table 6: Wintering Bird Species Recorded during Winter Bird Surveys in Comparison to the Threshold of its International and National Populations

SCI Bird Species Recorded	Associated European Sites within the Zol	Peak Count Recorded at Site – Date Recorded	Threshold of International Population	Threshold of National Population
Black-headed Gull	South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA, The Murrough SPA	1 (28/01/2021)	31,000	n/a
Grey Heron	Wexford Harbour and Slobbs SPA	1 (01/12/2020 & 10/02/2021)	5,000	25

5.1.4 Hydrology

- 98 The Proposed Scheme will cross a total of four watercourses: the River Tolka, the Royal Canal, the Claremont Stream and the Bachelors Stream. In the northern section, the Proposed Scheme will terminate at St. Margaret’s Road, in close proximity to the River Santry. In the southern section, the Proposed Scheme will terminate at R148 Arran Quay, adjacent to the Liffey Estuary Upper.
- 99 The drainage system for the Proposed Scheme will discharge to two main surface water receptors, the Tolka_050 and Tolka_060, and Ringsend WwTP (which ultimately discharges to Liffey Estuary Lower, Dublin Bay, post-treatment). All drainage outfall discharges to surface waters represent point discharges.
- 100 Details on the water quality of each watercourse, as sourced from the EPA, and the distances from the proposed crossing point to downstream waterbodies are also provided in Table 7, and shown in Figure 5.

Table 7: Water Quality of Watercourses / Water Bodies in the Vicinity of the Proposed Scheme

Watercourse	Location in Relation to the Proposed Scheme	EPA Q-Values (Monitoring Station) and Water Framework Directive Water Quality Status / Risk Score	Name of and Distance to Downstream Water Bodies along with their associated Water Quality
River Tolka (Tolka_050 & Tolka_060)	Three existing crossing points of the River Tolka: on R135 Finglas Road at Tolka Valley Park; R108 Ballymun Road at the National Botanic Gardens; and, R108 St. Mobhi Road, south of Home Farm Football Club	Q3 (Violet Hill Drive Finglas) Poor 'At risk'	It flows for approximately 3.3km, from the crossing point at St. Mobhi Road, until it reaches the Tolka Estuary transitional waterbody (classified as “Potentially Eutrophic”), which ultimately drains to Dublin Bay coastal waterbody (classified as “Unpolluted”).
Claremont Stream (Non designated watercourse that feeds into the River Tolka)	The Claremont Stream is culverted under R108 St. Mobhi Drive	No water quality data available 'At risk' The Claremont Stream is a tributary of the River Tolka	It flows for approximately 20m from the crossing point at Saint Mobhi Drive, until it reaches the River Tolka (See above for details)
Bachelors Stream (Non designated watercourse)	The Bachelors Stream is culverted under R135 Finglas Road	No water quality data available	It flows for approximately 2.5km along the Finglas Road R135, until it reaches

Watercourse	Location in Relation to the Proposed Scheme	EPA Q-Values (Monitoring Station) and Water Framework Directive Water Quality Status / Risk Score	Name of and Distance to Downstream Water Bodies along with their associated Water Quality
that feeds into the River Tolka)		'At risk' The Bachelors Stream is a tributary of the River Tolka	the River Tolka (See above for details)
Royal Canal	One existing crossing point at Cross Guns Bridge Proposed new pedestrian / cycle bridge over the Royal Canal at Royal Canal Bank	Not applicable	It flows for approximately 3km, from the proposed crossing point, until it reaches the Liffey Estuary Lower transitional waterbody (classified as "Unpolluted") at North Wall Quay, which ultimately drains to Dublin Bay coastal waterbody (classified as "Unpolluted").
River Santry (Santry_010)_	Located approximately 195m north of the Proposed Scheme terminus at the Naul Road	Q2-3 (Clonshaugh Road Bridge) Poor 'At risk'	It flows for approximately 8km, from the proposed crossing point, until it reaches the North Bull Island transitional waterbody (classified as "Potentially Eutrophic") near Watermill Road, which ultimately drains to Dublin Bay (classified as "Unpolluted").
Liffey Estuary Upper	Located approximately 50m south of the Proposed Scheme terminus at R148 Arran Quay	Not applicable 'At risk'	It flows for approximately 1.4km until it reaches the Liffey Estuary Lower transitional waterbody (classified as "Unpolluted"), which ultimately drains to Dublin Bay coastal waterbody (classified as "Unpolluted").
Liffey Estuary Lower	Hydrologically connected to the Proposed Scheme via Ringsend WwTP.	Q-Value Score not applicable Good 'At risk'	The Liffey Estuary Lower transitional waterbody (classified as "Unpolluted") at Grand Canal Dock, which ultimately drains to Dublin Bay coastal waterbody (classified as "Unpolluted").
Dublin Bay	Hydrologically connected to the Proposed Scheme via the River Tolka, Royal Canal, Liffey Estuary Upper, and the Liffey Estuary Lower and the Ringsend WwTP	Q-Value Score not applicable Good 'Not at risk'	The Dublin Bay coastal waterbody is classified as "Unpolluted".

5.1.5 Hydrogeology

- 101 Geological Survey of Ireland (GSI) data indicates that the bedrock formation 1:500k in the Proposed Scheme is 'Dark-grey argillaceous & cherty limestone and shale (Calp)'. The region is predominantly underlain by Carboniferous Limestones. The majority of the Dublin City area was a deep marine basin known as the Dublin Basin where these sedimentary rocks were deposited.
- 102 The Proposed Scheme transverses one groundwater body. Environmental data sourced from the EPA for each of these groundwater bodies is presented below:

Dublin Groundwater Body

- For the majority of this area, it is considered to be of 'Good' Groundwater body WFD Status (2013 to 2018) and 'not at risk' of failing to meet the WFD groundwater quality objectives for the majority of its area; and
 - The aquifers located within this groundwater body and where the Proposed Scheme transverses are classified as 'locally important aquifer - moderately productive only in local zones'.
- 103 The vulnerability of the Dublin groundwater body to human activities ranges from 'Rock at or Near Surface', 'Extreme', 'High', 'Moderate' to 'Low' within the footprint of the Proposed Scheme.

5.1.6 Soils and Geology

- 104 The 1:1000 GSI bedrock geology map of the area indicates that the underlying bedrock along the Proposed Scheme comprises the Lucan Formation: (Calp) dark limestone and shale around central Dublin; Rush Conglomerate Formation- conglomerate, shale, limestone near the N2 National Road; and Boston Hill Formation- nodular and muddy limestone and shale at Finglas. The GSI Quaternary subsoils map shows the footprint of the Proposed Scheme is predominantly underlain by till derived from limestone along with areas of gravels derived from limestone, alluvial deposits and bedrock subcrop / outcrop. Urban fill is recorded in Dublin City and outskirts.

6 Potential Impacts, Zone of Influence and Identifying European Sites at Risk of Effects

- 105 Based on the baseline and receiving ecological environment and the nature and characteristics of the Proposed Scheme, the following potential impacts have been identified:
- Habitat loss and fragmentation during construction;
 - Habitat degradation / effects on QI / SCI species as a result of hydrological impacts;
 - Habitat degradation as a result of hydrogeological impacts during construction and operation;
 - Habitat degradation as a result of introducing / spreading non-native invasive species during construction and operation;
 - Habitat degradation as a result of air quality impacts during construction and operation; and
 - Disturbance and displacement impacts during construction and operation.

6.1 Habitat Loss and Fragmentation

- 106 The Proposed Scheme does not overlap with any European sites and the nearest European site is South Dublin Bay and River Tolka Estuary SPA which is located approximately 2.7km from the Proposed Scheme. Therefore, there is no potential for direct habitat loss and fragmentation to occur. Habitat loss may occur indirectly as a consequence of severe habitat degradation arising from a reduction in water quality and / or a change to the hydrological regime, as described in the section below.

SCI species for which SPAs in the vicinity of the Proposed Scheme have been designated are known to utilise *ex situ* feeding sites in the Dublin area (i.e. Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary

SPA, North Bull Island SPA, South Dublin Bay and River Tolka SPA, Skerries Islands SPA, Ireland's Eye SPA, Lambay Island SPA, Rockabill SPA and The Murrough SPA). The Proposed Scheme will not result in the loss of sites suitable to support breeding gull and wintering bird species (i.e. Home Farm Football Club on R108 St. Mobhi Road). Therefore, there is no potential for impacts on SCI species associated with SPAs to occur as a result of habitat loss / fragmentation.

6.2 Habitat Degradation / Effects on QI / SCI Species as a Result of Hydrological Impacts

- 107 The Proposed Scheme is hydrologically connected to Dublin Bay as a result of surface waters from the footprint of the Proposed Scheme via the River Tolka, the Royal Canal, the Clarendon Stream (potentially the River Santry) and the Bachelors Stream and the public sewer which will be treated at the Ringsend WwTP prior to subsequent discharge to Dublin Bay via the Liffey Estuary Lower. The release of contaminated surface water runoff and / or an accidental spillage or pollution event into any surface water features during construction, or operation, has the potential to affect water quality in the receiving aquatic environment. Such a pollution event may include: the release of sediment into receiving waters and the subsequent increase in mobilised suspended solids; and, the accidental spillage and / or leaks of contaminants (e.g., fuel, oils, chemicals and concrete washings) into receiving waters.
- 108 The associated effects of a reduction of surface water quality could potentially extend for a considerable distance downstream of the location of the accidental pollution event or the discharge point and therefore impact downstream waterbodies (i.e., Dublin Bay, within which the following European sites are located: North Dublin Bay SAC, South Dublin Bay SAC, Howth Head SAC, Rockabill to Dalkey Island SAC, North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA and Dalkey Islands SPA). This reduction in water quality (either alone or in combination with other pressures on water quality) could result in the degradation of sensitive habitats present within these European sites, which in turn would negatively affect the SCI bird species and QI marine mammal species that rely upon these habitats as foraging and / or roosting habitat. It could also negatively affect the quantity and quality of prey available to SCI bird and QI marine mammal species. These potential impacts could occur to such a degree that the conservation objectives of the North Dublin Bay SAC, South Dublin Bay SAC, Howth Head SAC, Rockabill to Dalkey Island SAC, Lambay Island SAC, North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA, Howth Head Coast SPA, Dalkey Islands SPA, Baldoyle Bay SPA, Malahide Estuary SPA, Lambay Island SPA, Ireland's Eye SPA, Rogerstown Estuary SPA, Skerries Islands SPA, Rockabill SPA and The Murrough SPA are undermined.
- 109 In a worst-case scenario these potential hydrological impacts could occur to such a degree that the conservation objectives of the Skerries Islands SPA, Rockabill SPA, Lambay Island SPA, Ireland's Eye SPA, North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA, Baldoyle Bay SPA, Malahide Estuary SPA, Rogerstown SPA, Dalkey Islands SPA, Murrough SPA, Howth Head Coast SPA, North Dublin Bay SAC, South Dublin Bay SAC, Howth Head SAC, Rockabill to Dalkey Island SAC and Lambay Island SAC are undermined.
- 110 As the Proposed Scheme has the potential to result in habitat degradation of the QI / SCI species of European sites as the result of hydrological impacts, there is also the potential for in combination effects to occur in association with other activities / plans / projects.

6.3 Habitat Degradation as a Result of Hydrogeological Impacts

- 111 Groundwater effects could arise as a consequence of an accidental pollution event potentially causing a reduction in groundwater quality and / or dewatering activity potentially causing a reduction in groundwater levels in the locality. Long-term discharge of surface water runoff to groundwater during operation of the Proposed Scheme may result in a reduction in groundwater quality and / or quantity in the receiving environment, also resulting in the degradation of groundwater dependent terrestrial ecosystem and any species that they may support.
- 112 The potential for hydrogeological impacts is highly variable depending on the nature of the proposed works at specific locations and the receiving environment ground conditions. The unmitigated hydrogeological Zol of the Proposed Scheme is not considered to extend to any groundwater dependent terrestrial

ecosystems linked to European sites. This Zol follows the professional judgement of the BusConnects Infrastructure team hydrogeology specialists.

- 113 As the Proposed Scheme does not have the potential to result in habitat degradation of the QI / SCI species of any European site as the result of hydrogeological impacts, there is no potential for in combination effects to occur in that regard.

6.4 Habitat Degradation as a Result of Introducing / Spreading Non-Native Invasive Species

- 114 Five areas of four non-native invasive plant species listed on the Third Schedule of the Birds and Habitats Regulations were recorded as being present within, or in close proximity to, the Proposed Scheme. Three of these were terrestrial species and one aquatic species. In the absence of mitigation, there is potential for terrestrial species (Giant hogweed, Himalayan balsam and Japanese knotweed) to spread or be introduced, during construction and / or routine maintenance / management works, to terrestrial habitat areas in European sites downstream in Dublin Bay. (i.e. North Dublin Bay SAC, South Dublin Bay SAC, North Bull Island SPA and South Dublin Bay and River Tolka Estuary SPA). These in turn may result in the degradation of the existing habitats and therefore undermine the conservation objectives of these European sites.

- 115 A further third schedule aquatic species (Triturus Environmental Ltd 2020), recorded in the Royal Canal (Nuttall's waterweed and the delisted Canadian waterweed) are freshwater species, it is not considered likely that they could spread or be introduced to European sites located downstream in Dublin Bay.

- 116 It is not considered likely that terrestrial invasive species could spread to European sites which are located a significant distance from the outfall locations of the Royal Canal, River Tolka, River Santry and Liffey Estuary Upper (i.e. Howth Head SAC, Howth Head Coast SPA, Rockabill to Dalkey Island SAC, and Dalkey Islands SPA). As the Proposed Scheme has the potential to result in habitat degradation of the QI / SCI species of European sites as the result of the spread of invasive species, there is the potential for in combination effects to occur in association with the following activities / plans / projects.

6.5 Habitat Degradation as a Result of Air Quality Impacts

- 117 A reduction in air quality within the immediate vicinity of the construction works may occur as a consequence of dust deposition associated with these construction activities. This includes reduction in photosynthesis due to smothering from dust on the plants and chemical changes such as acidity to soils. Furthermore, emissions from car exhausts, and the deposition of particulate matter (PM) and heavy metals (HM) produced by engine, brake and tyre wear, can contribute to increased deposition of pollutants such as oxides of nitrogen (NO_x, NO_s), volatile organic compounds (VOCs), PM, HM and ammonia (NH₄) in the vicinity of a road carriageway. This can affect the ecosystems and vegetation present, influencing plant growth rates and species composition, diversity, and abundance.

- 118 The unmitigated Zol for air quality effects arising from the Proposed Scheme has the potential to extend 50m from the Proposed Scheme boundary, and 500m from Construction Compounds during the Construction Phase, and up to 200m from the Proposed Scheme boundary during the Operational Phase. There are no European sites present within these distances. The nearest European site, South Dublin Bay and River Tolka Estuary SPA, is located approximately 2.7km downstream from the Proposed Scheme and therefore not located within the Zol of this potential impact.

- 119 As the Proposed Scheme does not have the potential to result in habitat degradation of the QI / SCI species of any European site due to air quality impacts, either during the Construction Phase or the Operational Phase, there is no potential for in combination effects to occur in that regard.

6.6 Disturbance and Displacement Impacts

- 120 A temporary and / or permanent increase in noise, vibration and / or human activity levels during the construction and / or operation of the Proposed Scheme could result in the disturbance to and / or displacement of fauna species present within the vicinity of the Proposed Scheme. For mammal species

such as otter, disturbance effects would not be expected to extend beyond 250m¹⁴. For birds, disturbance effects would not be expected to extend beyond a distance of approximately 300m¹⁵, as noise levels associated with general construction activities would attenuate to close to background levels at that distance.

- 121 The only location where signs of otter were recorded during field surveys of the Proposed Scheme was at the proposed Royal Canal cycle / pedestrian bridge. In addition, signs of otter were recorded outside the Proposed Scheme further upstream and downstream along the River Tolka. The River Tolka is known to support otter, an Annex II and IV mammal species. The nearest SAC to the Proposed Scheme site for which otter has been designated is Wicklow Mountains SAC which is located approximately 11.9km south (as the crow flies). Research carried out by Ó Néill *et al.* (2009)¹⁶ on ranging behaviours of otter on river systems in Ireland found that female otter ranges averaged 7.5km while male otter home ranges varied between 7km to 21km. The Proposed Scheme is located within Tolka_SC_020 sub-catchment, therefore it is in a different sub-catchment from that of the Wicklow Mountains SAC (Dodder_SC_010). While the River Tolka is known to support otter, current guidance in respect of the hydrological distance that territorial otters roam suggest a maximum territorial range of 21km for otter along suitable watercourses. Thus, watercourses in proximity to the Proposed Scheme are not considered to be associated with QI populations associated with the Wicklow Mountains SAC, by virtue of differing catchments and distance.
- 122 Although marine mammals associated with European sites may commute and forage within the Liffey Estuary, it is not considered to be likely that there will be any impacts on these species as a result of the Proposed Scheme as the terminus at Arran Quay is located approximately 8.8km upstream of Dublin Bay, in a highly urbanised environment and where water levels can drop diurnally reducing the likelihood of marine mammals venturing this far up-river. In addition to this, the scale of works proposed in the vicinity of the Liffey Estuary are considered to be minor.
- 123 Although no signs of kingfisher were recorded during field surveys of the Proposed Scheme, kingfisher, an Annex I bird species, are known to be present in the wider study area. Any kingfisher populations which are present in the vicinity of the Proposed Scheme are not considered to be associated with the SCI populations of any European site. Kingfisher territories can extend over approximately 3km to 5km of a river catchment¹⁷. The nearest SPA for which kingfisher has been designated is the River Boyne and Blackwater SPA which is located approximately 35km away, therefore kingfisher present in the vicinity of the Proposed Scheme are not associated with an SPA population.
- 124 There are no European sites within the disturbance Zol of the Proposed Scheme however, there are a number of SPAs located in relatively close proximity to the Proposed Scheme which are designated for SCI species that are known to forage and / or roost at inland sites, such as amenity grassland playing pitches (i.e. Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, North Bull Island SPA, South Dublin

¹⁴ 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.

¹⁵ Current understanding of construction related noise disturbance to wintering waterbirds is based on the research presented in Cutts *et al.* (2009) and Wright *et al.* (2010). In terms of construction noise, levels below 50dB would not be expected to result in any response from foraging or roosting birds. Noise levels between 50dB and 70dB would provoke a moderate effect/level of response from birds, i.e. birds becoming alert and some behavioural changes (e.g. reduced feeding activity), but birds would be expected to habituate to noise levels within this range. Noise levels above 70dB would likely result in birds moving out of the affected zone, or leaving the site altogether. At c. 300m, typical noise levels associated with construction activity (BS 5228) are generally below 60dB or, in most cases, are approaching the 50dB threshold.

¹⁶ Ó Néill, L., Veldhuizen, T., de Jongh, A. and Rochford, J. (2009). *Ranging behaviour and socio-biology of Eurasian otters (Lutra lutra) on lowland mesotrophic river systems*. European Journal of Wildlife Research: 55: 363-370.

¹⁷ RSPB. *Kingfisher breeding, feeding and territory webpage*. Available from: <https://www.rspb.org.uk/birds-and-wildlife/wildlife-guides/bird-a-z/kingfisher/breeding-feeding-territory/>

Bay and River Tolka SPA, Ireland’s Eye SPA, Lambay Island SPA, Skerries Islands SPA and The Murrrough SPA). These species include light-bellied Brent goose, curlew, oystercatcher, blacked-headed gull, herring gull and lesser black-backed gull. Suitable inland foraging / roosting sites, which these bird species utilise, are located within the potential Zol of the Proposed Scheme (see Section 5.1.3.4). Therefore, there is potential for the Proposed Scheme to result in disturbance / displacement impacts on SCI populations associated with European sites.

125 As the Proposed Scheme has the potential to result in the disturbance / displacement of the QI / SCI species of any European site, there is the potential for in combination effects to occur in association with the following activities / plans / projects.

6.7 Summary

126 The potential impacts associated with the Proposed Scheme have the potential to affect the receiving environment and, as a result, the conservation objectives supporting the QIs / SCIs of 17 European sites: North Dublin Bay SAC, South Dublin Bay SAC, Howth Head SAC, Howth Head Coast SPA, Rockabill to Dalkey Island SAC, Lambay Island SAC, North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA, Dalkey Islands SPA, Malahide Estuary SPA, Rockabill SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, Skerries Islands SPA, Ireland’s Eye SPA, Lambay Island SPA and the Murrrough SPA. The potential impacts of the Proposed Scheme on the receiving environment, their Zol, and the European sites at risk of likely significant effects are summarised in Table 8.

Table 8: Summary of the potential impacts of the Proposed Scheme on the Receiving Environment, their Potential Zol, and the European Sites within the Zol

Potential Direct, Indirect In Combination Effects and the Zol of the Potential Effects	Are there any European sites within the Zol of the Proposed Scheme?
Habitat loss No European sites are at risk of direct habitat loss impacts. There is potential for loss of <i>ex situ</i> inland feeding sites used by SCI wintering bird species.	No There are no European sites at risk of habitat loss impacts associated with the Proposed Scheme
Habitat degradation / effects on QI / SCI species as a result of hydrological impacts Habitats and species downstream of the Proposed Scheme and the associated surface water drainage discharge points, and downstream of offsite wastewater treatment plants.	Yes There are European sites at risk of hydrological effects associated with the Proposed Scheme North Dublin Bay SAC, South Dublin Bay SAC, Howth Head SAC, Rockabill to Dalkey Island SAC, Lambay Island SAC, South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA, Howth Head Coast SPA, Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, Skerries Islands SPA, Lambay Island SPA, Ireland’s Eye SPA, Dalkey Islands SPA, Rockabill SPA and The Murrrough SPA.
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 Scheme.	No There are no European sites at risk of hydrogeological effects associated with the Proposed Scheme
Habitat degradation as a result of introducing / spreading non-native invasive species Habitat areas within, adjacent to, and potentially downstream of the Proposed Scheme.	Yes There are non-native invasive species present within or adjacent to the Proposed Scheme and, therefore, a risk associated with the Proposed Scheme to downstream European sites from the spread / introduction of non-native invasive species

Potential Direct, Indirect In Combination Effects and the Zol of the Potential Effects	Are there any European sites within the Zol of the Proposed Scheme?
	North Dublin Bay SAC, South Dublin Bay SAC, North Bull Island SPA and South Dublin Bay and River Tolka Estuary SPA.
Air quality impacts Potentially up to 200m from the Proposed Scheme boundary.	No There are no European sites at risk of air quality effects associated with the Proposed Scheme
Disturbance and displacement impacts Potentially up to several hundred metres from the Proposed Scheme, dependent upon the predicted levels of noise, vibration and visual disturbance associated with the Proposed Scheme, taking into account the sensitivity of the qualifying interest species to disturbance effects	Yes There are no European sites within the potential Zol of disturbance effects associated with the construction or operation of the Proposed Scheme. However, there are <i>ex-situ</i> inland feeding sites which are utilised by SCI wintering bird species within the potential disturbance Zol of the Proposed Scheme Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, North Bull Island SPA, South Dublin Bay and River Tolka SPA, Skerries Islands SPA, Ireland's Eye SPA, Lambay Island SPA, and The Murrrough SPA.

7 Assessment of Potential Effects on European Sites

127 This Section of the NIS assesses the direct and indirect impacts of the Proposed Scheme on the European sites which fall within its Zol. For each of these European sites, the assessment below sets out the relevant ecological baseline information, the analysis of the potential impacts, the QIs / SCIs at risk of these potential impacts, in view of the sites' conservation objectives, and the mitigation measures (if required) to avoid / reduce the effects of any potential impacts.

128 European sites have been grouped in the sub-sections below where the impact pathways, European sites' sensitivities, and potential effects are identical.

129 The assessment of the Proposed Scheme in combination with any other plans or projects on European sites is presented in Section 8.

7.1 North Dublin Bay SAC [000206] & South Dublin Bay SAC [000210]

7.1.1 Ecological Baseline Description for North Dublin Bay SAC

130 The Natura 2000 Standard Data Form (NPWS 2020a) lists the SAC as having an excellent diversity of coastal habitats. The dune system is one of the most important systems on the east coast, one of few in Ireland that is actively accreting. Saltmarsh habitat is well represented at the site with particularly good zonation evident. Of note is the occurrence of Petalwort, a QI, its only known location away from the western seaboard. Threats to the site include pollution from Dublin Port, commercial bait digging, recreational activities and water abstraction by golf clubs.

7.1.2 Ecological Baseline Description for South Dublin Bay SAC

131 According to the Natura 2000 standard data form for South Dublin Bay SAC (NPWS 2020b), the European site possesses a fine and fairly extensive example of intertidal flats, mudflats and sandflats not covered by seawater at low tide [1140]. Sediment type is predominantly sand, with muddy sands in the more sheltered areas and a typical macro-invertebrate fauna exists. The largest stand of *Zostera* on the east coast is located at Merrion Gates. The site supports Internationally Important numbers of wintering waterfowl, including light-bellied Brent geese which feed on *Zostera*. South Dublin Bay SAC also supports small areas of annual vegetation of drift lines [1210], *Salicornia* and other annuals colonising mud and sand [1310] and embryonic shifting dunes [2110]. Given Dublin Bay's proximity to a major population centre, recreational activities and

disturbance on land and at sea is an existing pressure on habitats within the European site. Additional pressures and threats include reclamation of land, industrial or commercial areas (e.g. Dublin Port), bait digging, marine water pollution, discharges and disposal of wastes, and accumulation of organic materials.

7.1.3 QIs and Conservation Objectives of North Dublin Bay SAC & South Dublin Bay SAC

132 The QIs of North Dublin Bay SAC and South Dublin Bay SAC, and the overall conservation objectives, are listed in Table 9.

Table 9: QIs and Conservation Objectives of North Dublin Bay SAC and South Dublin Bay SAC

QI(s)	Conservation Objective(s)
<p>North Dublin Bay SAC [000206]</p> <p>1140 Mudflats and sandflats not covered by seawater at low tide</p> <p>1210 Annual vegetation of drift lines</p> <p>1310 <i>Salicornia</i> and other annuals colonising mud and sand</p> <p>1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>)</p> <p>1395 <i>Petalwort Petalophyllum ralfsii</i></p> <p>1410 <i>Mediterranean salt meadows</i> (<i>Juncetalia maritimi</i>)</p> <p>2110 Embryonic shifting dunes</p> <p>2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)</p> <p>2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)*</p> <p>2190 Humid dune slacks</p> <p>S.I. No. 524/2019 - European Union Habitats (North Dublin Bay Special Area of Conservation 000206) Regulations 2019</p> <p>NPWS (2013) <i>Conservation Objectives: North Dublin Bay SAC 000206</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>To maintain or restore the favourable conservation condition of the Annex I habitat(s) and / or the Annex II species for which the SAC has been selected</p>
<p>South Dublin Bay SAC [000210]</p> <p>1140 Mudflats and sandflats not covered by seawater at low tide</p> <p>1210 Annual vegetation of drift lines</p> <p>1310 <i>Salicornia</i> and other annuals colonising mud and sand</p> <p>2110 Embryonic shifting dunes</p> <p>S.I. No. 525/2019 - European Union Habitats (South Dublin Bay Special Area of Conservation 000210) Regulations 2019</p> <p>NPWS (2013) <i>Conservation Objectives: South Dublin Bay SAC 000210</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>To maintain or restore the favourable conservation condition of the Annex I habitat(s) and / or the Annex II species for which the SAC has been selected</p>

133 In conjunction with considering the generic conservation objective for these SACs, 'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and / or the Annex II species for which the SAC has been selected', the site-specific conservation objectives document for North Dublin Bay SAC and South Dublin Bay SAC also informed this assessment.

134 The site-specific conservation objectives document sets out the attributes, measures and targets that define the favourable conservation condition of the QIs within the European site. Affecting the conservation condition of the QIs would constitute an adverse effect on the integrity of a European site. The specific attributes and targets used to define the conservation objectives of the QIs of North Dublin Bay SAC and South Dublin Bay SAC are presented in Section 7.1.4.3.

7.1.4 *Examination and Analysis of Potential Direct and Indirect Impacts*

135 The direct and / or indirect impacts by which the Proposed Scheme could (in the absence of mitigation measures) potentially affect the conservation objective attributes and targets supporting the conservation condition of the qualifying interests of North Dublin Bay SAC and South Dublin Bay SAC, are:

- Habitat degradation / effects on QI / SCI species as a result of hydrological impacts; and
- Habitat degradation as a result of introducing / spreading non-native invasive species.

7.1.4.1 *Habitat Degradation / Effects on QI Species as a Result of Hydrological Impacts*

136 The release of contaminated surface water runoff and / or an accidental spillage or pollution event into any surface water features during construction, or operation, has the potential to affect water quality in the receiving aquatic environment. Such a pollution event may include: the release of sediment into receiving waters and the subsequent increase in mobilised suspended solids; and, the accidental spillage and / or leaks of contaminants (into receiving waters). The associated effects of a reduction of surface water quality could potentially extend for a considerable distance downstream of the location of the accidental pollution event or the discharge. The Proposed Scheme is hydrologically connected to the River Tolka, Royal Canal, Liffey Estuary Upper and River Santry, all of which flow into Dublin Bay. In addition the Proposed Scheme is hydrologically connected to Dublin Bay as a result of surface waters from the footprint of the Proposed Scheme which will join the public sewer and will be treated at the Irish Water Ringsend WwTP prior to subsequent discharge to Dublin Bay via the Liffey Estuary Lower.

137 Therefore, (albeit unlikely) there is potential for the Proposed Scheme to result in significant effects which could have implications for the conservation objectives of North Dublin Bay SAC and South Dublin Bay SAC as a result of hydrological impacts.

7.1.4.2 *Habitat Degradation as a Result of Introducing / Spreading Non-Native Invasive Species*

138 Four non-native invasive plant species listed on the Third Schedule of the Birds and Habitats Regulations were recorded across five areas present within, or in close proximity to, the Proposed Scheme: Giant hogweed, Himalayan balsam, Japanese knotweed and Nuttall's waterweed. Canadian waterweed a species recently delisted from the Third Schedule was also recorded in close proximity to the Proposed Royal Canal Crossing Bridge. During construction and / or routine maintenance / management work, these species could potentially spread or be introduced to terrestrial habitats located within downstream European sites via surface water features. The introduction and / or spread of these invasive species to downstream European sites could potentially result in the degradation of existing habitats present, in particular coastal habitats not permanently or regularly inundated by seawater. These species may outcompete other native species present, negatively impacting the species composition, diversity and abundance and the physical structural integrity of the habitat. This in turn could undermine the conservation objectives of these European sites. The Proposed Scheme is hydrologically connected to the River Tolka, Royal Canal, Liffey Estuary Upper and River Santry, all of which flow into Dublin Bay. Therefore, there is potential for the Proposed Scheme to result in significant effects which could have implications for the conservation objectives of North Dublin Bay SAC and South Dublin Bay SAC as a result of invasive species spread.

7.1.4.3 *Summary*

139 Table 10 presents a summary of the potential impacts and effects of the Proposed Scheme on the QIs and conservation objectives of North Dublin Bay SAC and South Dublin Bay SAC.

Table 10: Potential Impacts / Effects on the Conservation Objectives of North Dublin Bay SAC and South Dublin Bay SAC

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures required?	Residual Impacts?
North Dublin Bay SAC			
Mudflats and sandflats not covered by water at low tide [1140]			
To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / The permanent habitat area is stable or increasing, subject to natural processes	Yes An accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could affect the quality of the intertidal habitats and the fauna communities they support. The introduction and / or spread of invasive species to downstream European sites could potentially result in the degradation of existing habitats present, in particular coastal habitats not permanently or regularly inundated by seawater. These species may outcompete other native species present, negatively impacting the species composition, diversity and abundance and the physical structural integrity of the habitat.	Yes The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme. The mitigation measures described in Section 7.1.5 will prevent the introduction and / or spread of invasive species to downstream European sites during construction and operation of the Proposed Scheme.	No With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the QI habitats of this SAC and therefore there are no residual impacts which could adversely affect the integrity of the SAC
Community extent / Hectares / Maintain the extent of the <i>Mytilus edulis</i> -dominated community, subject to natural processes			
Community structure: <i>Mytilus edulis</i> density / Individuals/m ² / Conserve the high quality of the <i>Mytilus edulis</i> dominated community, subject to natural processes			
Community distribution / Hectares / Conserve the following community types in a natural condition: Fine sand to sandy mud with <i>Pygospio elegans</i> and <i>Crangon crangon</i> community complex; Fine sand with <i>Spio martinensis</i> community complex			
Annual Vegetation of drift lines [1210]			
To restore the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / Area increasing, subject to natural processes, including erosion and succession	Yes An accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay. An accidental pollution event of a	Yes The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will	No With the effective implementation of the mitigation measures
Habitat distribution / Occurrence / No decline, or change in habitat distribution, subject to natural processes			

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures required?	Residual Impacts?
Physical structure: functionality and sediment supply / Presence/ absence of physical barriers / Maintain the natural circulation of sediment and organic matter, without any physical obstructions	<p>sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quality (vegetation structure and composition) and area/distribution of intertidal / coastal habitats.</p> <p>The introduction and / or spread of invasive species to downstream European sites could potentially result in the degradation of existing habitats present, in particular coastal habitats not permanently or regularly inundated by seawater. These species may outcompete other native species present, negatively impacting the species composition, diversity and abundance and the physical structural integrity of the habitat.</p>	<p>ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme.</p> <p>The mitigation measures described in Section 7.1.5 will prevent the introduction and / or spread of invasive species to downstream European sites during construction and operation of the Proposed Scheme.</p>	<p>outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the QI habitats of this SAC and therefore there are no residual impacts which could adversely affect the integrity of the SAC</p>
Vegetation structure: zonation / Occurrence / Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession			
Vegetation composition: typical species and sub-communities / Percentage cover at a representative number of monitoring stops / Maintain the presence of species-poor communities with typical species: sea rocket (<i>Cakile maritima</i>), sea sandwort (<i>Honckenia peploides</i>), prickly saltwort (<i>Salsola kali</i>) and oraches (<i>Atriplex</i> spp.)			
Vegetation composition: negative indicator species / Percentage cover / Negative indicator species (including non-natives) to represent less than 5% cover			
<p>Salicornia and other annuals colonising mud and sand [1310] To restore the favourable conservation condition of the habitat in the SAC, which is defined as follows:</p>			
Habitat area / Hectares / Area stable or increasing, subject to natural processes, including erosion and succession	<p>Yes</p> <p>An accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quality (vegetation structure and composition) and area / distribution of intertidal / coastal habitats.</p> <p>The introduction and/or spread of invasive species to downstream European sites could potentially result in the degradation of existing habitats present, in particular coastal habitats not permanently or regularly inundated by seawater. These species may outcompete other native species present, negatively</p>	<p>Yes</p> <p>The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme.</p> <p>The mitigation measures described in Section 7.1.5 will prevent the introduction and / or spread of invasive species to downstream European sites during construction</p>	<p>No</p> <p>With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the QI habitats of this SAC and therefore there are no residual impacts which</p>
Habitat distribution / Occurrence / No decline, or change in habitat distribution, subject to natural processes			
Physical structure: sediment supply / Presence/ absence of physical barriers Maintain, or where necessary restore, natural circulation of sediments and organic matter, without any physical obstructions			
Physical structure: creeks and pans / Occurrence / Maintain creek and pan structure, subject to natural processes, including erosion and succession			
Physical structure: flooding regime / Hectares flooded; frequency / Maintain natural tidal regime			

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures required?	Residual Impacts?
Vegetation structure: zonation / Occurrence / Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	impacting the species composition, diversity and abundance and the physical structural integrity of the habitat.	and operation of the Proposed Scheme.	could adversely affect the integrity of the SAC
Vegetation structure: vegetation height / Centimetres / Maintain structural variation within sward			
Vegetation structure: vegetation cover / Percentage cover at a representative number of monitoring stops / Maintain more than 90% of area outside creeks vegetated			
Vegetation composition: typical species and subcommunities / Percentage cover / Maintain the presence of species-poor communities listed in SMP (McCorry and Ryle, 2009)			
Vegetation structure: negative indicator species - <i>Spartina anglica</i> / Hectares / No significant expansion of common cordgrass (<i>Spartina anglica</i>), with an annual spread of less than 1%			
Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) [1330]			
To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / Area stable or increasing, subject to natural processes, including erosion and succession	Yes An accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quality (vegetation structure and composition) and area / distribution of intertidal / coastal habitats. The introduction and / or spread of invasive species to downstream European sites could potentially result in the degradation of existing habitats present, in particular coastal habitats not permanently or	Yes The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme. The mitigation measures described in Section 7.1.5 will prevent the introduction and / or spread of invasive species to downstream	No With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the QI habitats of this SAC and therefore there are no residual impacts which
Habitat distribution / Occurrence / No decline, or change in habitat distribution, subject to natural processes			
Physical structure: sediment supply Presence/ absence of physical barriers / Maintain natural circulation of sediments and organic matter, without any physical obstructions			
Physical structure: creeks and pans / Occurrence / Maintain creek and pan structure, subject to natural processes, including erosion and succession			
Physical structure: flooding regime / Hectares flooded; frequency / Maintain natural tidal regime			

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures required?	Residual Impacts?
Vegetation structure: zonation / Occurrence / Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	regularly inundated by seawater. These species may outcompete other native species present, negatively impacting the species composition, diversity and abundance and the physical structural integrity of the habitat.	European sites during construction and operation of the Proposed Scheme.	could adversely affect the integrity of the SAC
Vegetation structure: vegetation height / Centimetres / Maintain structural variation within sward			
Vegetation structure: vegetation cover / Percentage cover at a representative number of monitoring stops / Maintain more than 90% of area outside creeks vegetated			
Vegetation composition: typical species and sub-communities / Percentage cover at a representative number of monitoring stops / Maintain the presence of species-poor communities listed in SMP (McCorry and Ryle, 2009)			
Vegetation structure: negative indicator species - <i>Spartina anglica</i> / Hectares / No significant expansion of common cordgrass (<i>Spartina anglica</i>), with an annual spread of less than 1%			
Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]			
To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / Area stable or increasing, subject to natural processes, including erosion and succession	Yes An accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quality (vegetation structure and composition) and area / distribution of intertidal / coastal habitats. The introduction and / or spread of invasive species to downstream European sites could potentially result in the degradation of existing habitats present, in particular coastal habitats not permanently or	Yes The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme. The mitigation measures described in Section 7.1.5 will prevent the introduction and / or spread of invasive species to downstream	No With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the QI habitats of this SAC and therefore there are no residual impacts which
Habitat distribution / Occurrence / No decline, or change in habitat distribution, subject to natural processes			
Physical structure: sediment supply / Presence/ absence of physical barriers / Maintain natural circulation of sediments and organic matter, without any physical obstructions			
Physical structure: creeks and pans / Occurrence / Maintain creek and pan structure, subject to natural processes, including erosion and succession			
Physical structure: flooding regime / Hectares flooded; frequency / Maintain natural tidal regime			

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures required?	Residual Impacts?
Vegetation structure: zonation / Occurrence / Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	regularly inundated by seawater. These species may outcompete other native species present, negatively impacting the species composition, diversity and abundance and the physical structural integrity of the habitat.	European sites during construction and operation of the Proposed Scheme.	could adversely affect the integrity of the SAC
Vegetation structure: vegetation height / Centimetres / Maintain structural variation within sward			
Vegetation structure: vegetation cover / Percentage cover at a representative number of monitoring stops / Maintain more than 90% of area outside creeks vegetated			
Vegetation composition: typical species and sub-communities / Percentage cover at a representative number of monitoring stops / Maintain the presence of species-poor communities listed in SMP (McCorry and Ryle, 2009)			
Vegetation structure: negative indicator species - <i>Spartina anglica</i> / Hectares / No significant expansion of common cordgrass (<i>Spartina anglica</i>), with an annual spread of less than 1%			
Embryonic shifting dunes [2110]			
To restore the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / Area stable or increasing, subject to natural processes, including erosion and succession.	Yes Terrestrial habitats above the high tide line are not at risk of effects from water pollution in Dublin Bay. The introduction and / or spread of invasive species to downstream European sites could potentially result in the degradation of existing habitats present, in particular coastal habitats not permanently or regularly inundated by seawater. These species may outcompete other native species present, negatively impacting the species composition, diversity and	Yes The mitigation measures described in Section 7.1.5 will prevent the introduction and / or spread of invasive species to downstream European sites during construction and operation of the Proposed Scheme.	No With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of
Habitat distribution / Occurrence / No decline, or change in habitat distribution, subject to natural processes.			
Physical structure: functionality sediment supply / Presence/ absence of physical barriers / Maintain natural circulation of sediments and organic matter, without any physical obstructions			
Vegetation structure: zonation / Occurrence / Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession			

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures required?	Residual Impacts?
Vegetation composition: plant health of foredune grasses / Percentage cover / More than 95% of sand couch (<i>Elytrigia juncea</i>) and/or lyme-grass (<i>Leymus arenarius</i>) should be healthy (i.e. green plant parts above ground and flowering heads present)	abundance and the physical structural integrity of the habitat.		the QI habitats of this SAC and therefore there are no residual impacts which could adversely affect the integrity of the SAC
Vegetation composition: typical species and sub-communities / Percentage cover at a representative number of monitoring stops / Maintain the presence of species-poor communities with typical species: sand couch (<i>Elytrigia juncea</i>) and/or lyme-grass (<i>Leymus arenarius</i>)			
Vegetation composition: negative indicator species / Percentage cover / Negative indicator species (including non-native species) to represent less than 5% cover			
Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120]			
To restore the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / Area stable or increasing, subject to natural processes, including erosion and succession	Yes Terrestrial habitats above the high tide line are not at risk of effects from water pollution in Dublin Bay. The introduction and / or spread of invasive species to downstream European sites could potentially result in the degradation of existing habitats present, in particular coastal habitats not permanently or regularly inundated by seawater. These species may outcompete other native species present, negatively impacting the species composition, diversity and abundance and the physical structural integrity of the habitat.	Yes The mitigation measures described in Section 7.1.5 will prevent the introduction and / or spread of invasive species to downstream European sites during construction and operation of the Proposed Scheme.	No With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the QI habitats of this SAC and therefore there are no residual impacts which could adversely affect the integrity of the SAC
Habitat distribution / Occurrence / No decline, or change in habitat distribution, subject to natural processes			
Physical structure: functionality sediment supply / Presence/ absence of physical barriers / Maintain natural circulation of sediments and organic matter, without any physical obstructions			
Vegetation structure: zonation / Occurrence / Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession			
Vegetation composition: plant health of dune grasses / Percentage cover / 95% of marram grass (<i>Ammophila arenaria</i>) and/or lyme-grass (<i>Leymus arenarius</i>) should be healthy (i.e. green plant parts above ground and flowering heads present)			

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures required?	Residual Impacts?
Vegetation composition: typical species and sub-communities / Percentage cover at a representative number of monitoring stops / Maintain the presence of species-poor communities dominated by marram grass (<i>Ammophila arenaria</i>) and/or lymegrass (<i>Leymus arenarius</i>)			
Vegetation composition: negative indicator species / Percentage cover / Negative indicator species (including non-native species) to represent less than 5% cover			
Fixed coastal dunes with herbaceous vegetation (grey dunes)* [2130]			
To restore the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / Area stable or increasing, subject to natural processes, including erosion and succession	Yes	Yes	No
Habitat distribution / Occurrence / No decline, or change in habitat distribution, subject to natural processes	Terrestrial habitats above the high tide line are not at risk of effects from water pollution in Dublin Bay.	The mitigation measures described in Section 7.1.5 will prevent the introduction and / or spread of invasive species to downstream European sites during construction and operation of the Proposed Scheme.	With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the QI habitats of this SAC and therefore there are no residual impacts which could adversely affect the integrity of the SAC
Physical structure: functionality sediment supply / Presence/ absence of physical barriers / Maintain natural circulation of sediments and organic matter, without any physical obstructions	The introduction and / or spread of invasive species to downstream European sites could potentially result in the degradation of existing habitats present, in particular coastal habitats not permanently or regularly inundated by seawater. These species may outcompete other native species present, negatively impacting the species composition, diversity and abundance and the physical structural integrity of the habitat.		
Vegetation structure: zonation / Occurrence / Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession			
Vegetation structure: bare ground / Percentage cover / Bare ground should not exceed 10% of fixed dune habitat, subject to natural processes			
Vegetation structure: sward height / Centimetres / Maintain structural variation in the sward			
Vegetation composition: typical species and sub-communities / Percentage cover at a representative number of monitoring stops / Maintain range of sub-communities with typical species listed in Delaney <i>et al.</i> (2013)			

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures required?	Residual Impacts?
Vegetation composition: negative indicator species (including <i>Hippophae rhamnoides</i>) / Percentage cover / Negative indicator species (including non-native species) to represent less than 5% cover			
Vegetation composition: scrub/trees / Percentage cover / No more than 5% cover or under control			
Humid dune slacks [2190]			
To restore the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / Area increasing, subject to natural processes, including erosion and succession	<p>Yes</p> <p>Terrestrial habitats above the high tide line are not at risk of effects from water pollution in Dublin Bay.</p> <p>The introduction and / or spread of invasive species to downstream European sites could potentially result in the degradation of existing habitats present, in particular coastal habitats not permanently or regularly inundated by seawater. These species may outcompete other native species present, negatively impacting the species composition, diversity and abundance and the physical structural integrity of the habitat.</p>	<p>Yes</p> <p>The mitigation measures described in Section 7.1.5 will prevent the introduction and / or spread of invasive species to downstream European sites during construction and operation of the Proposed Scheme.</p>	<p>No</p> <p>With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the QI habitats of this SAC and therefore there are no residual impacts which could adversely affect the integrity of the SAC</p>
Habitat distribution / Occurrence / No decline, or change in habitat distribution, subject to natural processes			
Physical structure: functionality sediment supply / Presence/ absence of physical barriers / Maintain natural circulation of sediments and organic matter, without any physical obstructions			
Physical structure: hydrological and flooding regime / Water table levels; groundwater fluctuations (metres) / Maintain natural hydrological regime			
Vegetation structure: zonation / Occurrence / Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession			
Vegetation structure: bare ground / Percentage cover / Bare ground should not exceed 5% of dune slack habitat, with the exception of pioneer slacks which can have up to 20% bare ground			
Vegetation structure: vegetation height / Centimetres / Maintain structural variation within the sward			
Vegetation composition: typical species and sub-communities / Percentage cover at a representative number of monitoring stops / Maintain range of sub-communities with typical species listed in Delaney <i>et al.</i> (2013)			

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures required?	Residual Impacts?
Vegetation composition: cover of <i>Salix repens</i> / Percentage cover; centimetres / Maintain less than 40% cover of creeping willow (<i>Salix repens</i>)			
Vegetation composition: negative indicator species / Percentage cover / Negative indicator species (including non-native species) to represent less than 5% cover			
Vegetation composition: scrub/trees / Percentage cover / No more than 5% cover or under control			
Petalwort <i>Petalophyllum ralfsii</i> [1395]			
To maintain the favourable conservation condition of the species in the SAC, which is defined as follows:			
Distribution of populations / Number and geographical spread of populations / No decline	Yes As a terrestrial flora species of damp calcareous dune slacks, found above the high tide line, it is not at risk of effects from water pollution in Dublin Bay. The introduction and / or spread of invasive species to downstream European sites could potentially result in the degradation of existing habitats present, in particular coastal habitats not permanently or regularly inundated by seawater. These species may outcompete other native species present, negatively impacting the species composition, diversity and abundance and the physical structural integrity of the habitat.	Yes The mitigation measures described in Section 7.1.5 will prevent the introduction and / or spread of invasive species to downstream European sites during construction and operation of the Proposed Scheme.	No With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the QI habitats of this SAC and therefore there are no residual impacts which could adversely affect the integrity of the SAC
Population size / Number of individuals / No decline			
Area of suitable habitat / Hectares / No decline			
Hydrological conditions: soil moisture / Occurrence / Maintain hydrological conditions so that substrate is kept moist and damp throughout the year, but not subject to prolonged inundation by flooding in winter			
Vegetation structure: height and cover / Centimetres and percentage / Maintain open, low vegetation with a high percentage of bryophytes (small acrocarps and liverwort turf) and bare ground			
South Dublin Bay SAC			
Mudflats and sandflats not covered by water at low tide [1140]			
To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / The permanent habitat area is stable or increasing, subject to natural processes	Yes	Yes	No

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures required?	Residual Impacts?
Community extent / Hectares / Maintain the extent of the <i>Zostera</i> dominated community, subject to natural processes	An accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quality (vegetation structure and composition) and area / distribution of intertidal / coastal habitats. The introduction and / or spread of invasive species to downstream European sites could potentially result in the degradation of existing habitats present, in particular coastal habitats not permanently or regularly inundated by seawater. These species may outcompete other native species present, negatively impacting the species composition, diversity and abundance and the physical structural integrity of the habitat.	The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme. The mitigation measures described in Section 7.1.5 will prevent the introduction and / or spread of invasive species to downstream European sites during construction and operation of the Proposed Scheme.	With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the QI habitats of this SAC and therefore there are no residual impacts which could adversely affect the integrity of the SAC
Community structure: <i>Mytilus edulis</i> density / Individuals/m ² / Conserve the high quality of the <i>Zostera</i> dominated community, subject to natural processes			
Community distribution / Hectares / Conserve the following community type in a natural condition: Fine sands with <i>Angulus tenuis</i> community complex			
Annual Vegetation of drift lines [1210]			
To restore the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / Area increasing, subject to natural processes, including erosion and succession	Yes An accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quality (vegetation structure and composition) and area / distribution of intertidal / coastal habitats. The introduction and / or spread of invasive species to downstream European sites could potentially	Yes The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme. The mitigation measures described in	No With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of
Habitat distribution / Occurrence / No decline, or change in habitat distribution, subject to natural processes			
Physical structure: functionality and sediment supply / Presence/ absence of physical barriers / Maintain the natural circulation of sediment and organic matter, without any physical obstructions			
Vegetation structure: zonation / Occurrence / Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession			

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures required?	Residual Impacts?
Vegetation composition: typical species and sub-communities / Percentage cover at a representative number of monitoring stops / Maintain the presence of species-poor communities with typical species: sea rocket (<i>Cakile maritima</i>), sea sandwort (<i>Honckenya peploides</i>), prickly saltwort (<i>Salsola kali</i>) and oraches (<i>Atriplex</i> spp.)	result in the degradation of existing habitats present, in particular coastal habitats not permanently or regularly inundated by seawater. These species may outcompete other native species present, negatively impacting the species composition, diversity and abundance and the physical structural integrity of the habitat.	introduction and / or spread of invasive species to downstream European sites during construction and operation of the Proposed Scheme.	the QI habitats of this SAC and therefore there are no residual impacts which could adversely affect the integrity of the SAC
Vegetation composition: negative indicator species / Percentage cover / Negative indicator species (including non-natives) to represent less than 5% cover			
Salicornia and other annuals colonising mud and sand [1310]			
To restore the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / Area stable or increasing, subject to natural processes, including erosion and succession	<p>Yes</p> <p>An accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quality (vegetation structure and composition) and area / distribution of intertidal / coastal habitats.</p> <p>The introduction and/or spread of invasive species to downstream European sites could potentially result in the degradation of existing habitats present, in particular coastal habitats not permanently or regularly inundated by seawater. These species may outcompete other native species present, negatively impacting the species composition, diversity and abundance and the physical structural integrity of the habitat.</p>	<p>Yes</p> <p>The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme.</p> <p>The mitigation measures described in Section 7.1.5 will prevent the introduction and / or spread of invasive species to downstream European sites during construction and operation of the Proposed Scheme.</p>	<p>No</p> <p>With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the QI habitats of this SAC and therefore there are no residual impacts which could adversely affect the integrity of the SAC</p>
Habitat distribution / Occurrence / No decline, or change in habitat distribution, subject to natural processes			
Physical structure: sediment supply / Presence/ absence of physical barriers. / Maintain, or where necessary restore, natural circulation of sediments and organic matter, without any physical obstructions			
Physical structure: creeks and pans / Occurrence / Maintain creek and pan structure, subject to natural processes, including erosion and succession			
Physical structure: flooding regime / Hectares flooded; frequency / Maintain natural tidal regime			
Vegetation structure: zonation / Occurrence / Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession			
Vegetation structure: vegetation height / Centimetres / Maintain structural variation within sward			
Vegetation structure: vegetation cover / Percentage cover at a representative number of monitoring stops / Maintain more than 90% of area outside creeks vegetated			

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures required?	Residual Impacts?
Vegetation composition: typical species and subcommunities / Percentage cover / Maintain the presence of species-poor communities listed in SMP (McCorry and Ryle, 2009)			
Vegetation structure: negative indicator species - <i>Spartina anglica</i> / Hectares / No significant expansion of common cordgrass (<i>Spartina anglica</i>), with an annual spread of less than 1%			
Embryonic shifting dunes [2110]			
To restore the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / Area stable or increasing, subject to natural processes, including erosion and succession.	Yes	Yes	No
Habitat distribution / Occurrence / No decline, or change in habitat distribution, subject to natural processes.	Terrestrial habitats above the high tide line are not at risk of effects from water pollution in Dublin Bay.	The mitigation measures described in Section 7.1.5 will prevent the introduction and / or spread of invasive species to downstream European sites during construction and operation of the Proposed Scheme.	With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the QI habitats of this SAC and therefore there are no residual impacts which could adversely affect the integrity of the SAC
Physical structure: functionality sediment supply / Presence/ absence of physical barriers / Maintain natural circulation of sediments and organic matter, without any physical obstructions	The introduction and / or spread of invasive species to downstream European sites could potentially result in the degradation of existing habitats present, in particular coastal habitats not permanently or regularly inundated by seawater. These species may outcompete other native species present, negatively impacting the species composition, diversity and abundance and the physical structural integrity of the habitat.		
Vegetation structure: zonation / Occurrence / Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession			
Vegetation composition: plant health of foredune grasses / Percentage cover / More than 95% of sand couch (<i>Elytrigia juncea</i>) and/or lyme-grass (<i>Leymus arenarius</i>) should be healthy (i.e. green plant parts above ground and flowering heads present)			
Vegetation composition: typical species and sub-communities / Percentage cover at a representative number of monitoring stops / Maintain the presence of species-poor communities with typical species: sand couch (<i>Elytrigia juncea</i>) and/or lyme-grass (<i>Leymus arenarius</i>)			
Vegetation composition: negative indicator species / Percentage cover / Negative indicator species (including non-native species) to represent less than 5% cover			

7.1.5 Mitigation Measures

- 140 This Section presents the mitigation measures that will be implemented during construction and operation to avoid or reduce the potential impacts and effects of the Proposed Scheme on North Dublin Bay SAC and South Dublin Bay SAC. All of the mitigation measures will be implemented in full and are best practice, and tried and tested, effective control measures to protect the receiving environment. Mitigation measures and associated Management Plans are included within the Construction Environmental Management Plan (CEMP) provided in Appendix III, all of which shall, at a minimum, be implemented during the Construction Phase of the Proposed Scheme.
- 141 The CEMP summarises the overall environmental management strategy that will be adopted and implemented during the Construction Phase of the Proposed Scheme. The purpose of the CEMP is to demonstrate how the proposed construction works can be delivered in a logical, sensible and safe sequence with the incorporation of specific environmental control measures relevant to construction works of this nature. The CEMP sets out the mechanism by which environmental protection is to be achieved during the Construction Phase of the Proposed Scheme. The CEMP has been prepared in accordance with the following industry best practice guidance:
- TII’s Guidelines for the Creation, Implementation and Maintenance of an Environmental Operating Plan (TII 2007); and
 - Construction Industry Research and Information Association (CIRIA) in the UK, Environmental Good Practice on Site Guide, 4th Edition (CIRIA 2015).
- 142 The CEMP has been prepared in conjunction with the EIAR and NIS, with input from members of the BusConnects Infrastructure team. The CEMP supports the information already provided in the EIAR and the NIS and must be read in conjunction with the information already provided in the NIS. The details relevant to European sites are already provided in the NIS.
- 143 The information included in the CEMP is presented under the following topics:
- Proposed Scheme Details;
 - Planning Consent;
 - Contact Sheets;
 - Roles and Responsibilities;
 - Communication;
 - Environmental Awareness Training;
 - Compliance and Review;
 - Environmental Commitments; and
 - Site Specific Method Statements/Management Plans:
 - Construction Traffic Management Plan (CTMP);
 - Invasive Species Management Plan (ISMP);
 - Surface Water Management Plan (SWMP);
 - Construction and Demolition Resource and Waste Management Plan (CDRWMP); and
 - Environmental Incident Response Plan.
- 144 The CEMP has been prepared and is included as Appendix III of this NIS. The CEMP will be updated by the NTA prior to the commencement of the Construction Phase, so as to include any additional measures required pursuant to conditions attached to any decision to grant approval. The CEMP has regard to the guidance contained in the TII Guidelines for the Creation, Implementation and Maintenance of an Environmental Operating Plan, and the handbook published by the UK, Environmental Good Practice on Site Guide, 4th Edition.

145 A number of sub-plans have also been prepared as part of the CEMP, including a SWMP and a ISMP, as outlined above. For the avoidance of doubt, all of the measures set out in the CEMP and the sub-plans appended to this NIS and the EIAR will be implemented in full by the appointed contractor to the satisfaction of the NTA.

Measures to Protect Surface Water Quality

146 This Section presents the mitigation measures that will be implemented during construction and operation to avoid the potential impacts of the Proposed Scheme on downstream European sites. All of the mitigation measures will be implemented in full. They are in accordance with best practice, and tried and tested, effective control measures to protect the receiving environment.

147 A CEMP, including a SWMP and ISMP, have been submitted with the application documentation to An Bord Pleanála (see Appendix III of this NIS).

148 These measures have been developed in consideration of the following standard best international practice including but not limited to:

- Control of Water Pollution from Construction Sites. Guidance for Consultants and Contractors (C532) (CIRIA 2001);
- Best Practice Guide BPGCS005 – Oil Storage Guidelines (Enterprise Ireland 2003);
- PUB C650 Environmental Good Practice on Site, 2nd Edition (CIRIA 2005);
- Control of Water Pollution from Linear Construction Projects. Technical Guide (C648) (CIRIA 2006a);
- Control of Water Pollution from Linear Construction Projects. Site Guide (C649) (CIRIA 2006b);
- Guidelines for the Crossing of Watercourses During the Construction of National Road Schemes (NRA 2006a);
- S.I. No. 291 of 2013 - Safety, Health and Welfare at Work (Construction) Regulations 2013;
- Design Manual for Roads and Bridges Part 3 DN-DNG-03022 (NRA HD 33/15) (Including Amendment No. 1) (TII 2015a);
- Road Drainage and the Water Environment DN-DNG-03065 (TII 2015b); and
- Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters (Inland Fisheries Ireland 2016).

Measures to Protect Surface Water Quality during Construction

149 The following specific mitigation measures, all of which are set out in the CEMP (Appendix III), shall be implemented to mitigate against the release of hydrocarbons, polluting chemicals, sediment / silt and contaminated waters control:

Control of Sediment

- In order to protect water bodies from potential impacts, such as increased volumes of runoff, silty water and accidental spills, temporary drainage control measures will be installed at the outset, prior to any site clearance works. This will include measures such as construction of cut-off ditches, silt fences erected and the set-up of settlement tanks;
- Clearing and stripping of topsoil or existing roads and footpaths exposing underlying granular layers at each phase of works will be delayed as long as possible, being carried out shortly before construction begins;
- Cut-off ditches, berms or diversion channels will be utilised around working area boundaries, where possible, to limit surface water entering the excavated areas and silty water running off the site into surface water drains or watercourses;

- Silt fences will be installed / erected along the boundary of the Construction Compounds and around surface water drains or watercourses to prevent any silt laden runoff from impermeable surfaces;
- Weather conditions will be taken into account by the appointed contractor when planning construction activities to minimise the risk of silty water runoff from the site;
- Clearing and stripping of topsoil or existing roads and footpaths exposing underlying granular layers at each phase of works will be delayed as long as possible, being carried out shortly before construction begins rather than stripping the whole site many months before construction;
- Where an excavation contains a combination of acceptable and non-acceptable material for reuse, the excavation will be conducted so that the acceptable material is excavated and stockpiled separately without contamination by the unacceptable material;
- Temporary stockpiles will be located away from surface water drains or watercourses at a minimum distance of 10m;
- The topsoil, and upper level of subsoil, will be stripped and stockpiled in identified locations;
- For watercourse crossings, stockpiles will not be located anywhere within the crossing working area;
- No stockpiles will be located within a European or National designated site or within a floodplain area;
- Management of stockpiles to prevent siltation of watercourse systems through runoff during rainstorms will be required with the final measures to be determined by the appointed contractor. These will include the following measures or equivalent measures:
 - Allowing the establishment of vegetation on the exposed soil;
 - Providing silt fences or straw barriers at the toe of the stockpile to mitigate runoff during rain events;
 - Surrounding stockpiles with cut-off ditches to contain runoff;
 - Directing any runoff to the site drainage system or filter drains along the construction working width and to the settlement pond (or other) treatment systems; and
 - Providing bunds or another form of diversion to keep runoff from entering the stockpile area.
- The use and management of concrete in or close to watercourses will be carefully controlled to avoid spillage. Alternate construction methods are encouraged, for example, the use of pre-cast concrete or permanent formwork will reduce the amount of in-situ concreting required;
- Weather conditions will be taken into account when planning construction activities which require the use of wet concrete to minimise the risk of the runoff of concrete 'washout' from site;
- Where concrete batching is proposed by the appointed contractor, this activity will be carried out at least 10m from surface water drains or watercourses. Washout from such mixing plant will be carried out only in a designated contained impermeable area;
- Batching and mixing activities and material storage areas will be located at least 10m (as per CIRIA guidance listed above and in Appendix III) away from surface water drains or watercourses;
- Chute washout will be carried out at designated locations only, at least 10m from surface water drains or watercourses. These locations will be signposted throughout the construction works areas. Chute washout locations will be provided with appropriate designated, contained impermeable areas and treatment facilities including adequately sized settlement tanks;

- The clear water from the settlement tanks shall be pH corrected prior to discharge to any surface water drains or watercourses;
- There will be no hosing of concrete, cement, grout, or similar material spills into surface water drains or watercourses. Such spills shall be contained immediately, and runoff prevented from entering the watercourse;
- Discharge of washout water to wastewater (foul) sewer will only be carried out with the express permission of the sewerage undertaker and will be treated to the standard required, for example, because of its high pH (alkalinity), washout water may need treatment before disposal to the foul sewer;
- Vehicles and plant provided for use on the Proposed Scheme will be in good working order to ensure optimum fuel efficiency, and will be regularly inspected to ensure they are free from leaks and are promptly repaired when not in good working order;
- Spill kits will be carried on all vehicles;
- Vehicles and plant will not park near or over surface water drains or watercourses;
- Refuelling of vehicles and plant will be carried out on hard standing surfaces, using drip trays to ensure no fuel can contaminate the ground outside of the bunded areas;
- For deliveries and dispensing activities, the appointed contractor will ensure that:
 - Site-specific procedures are in place for bulk deliveries;
 - Delivery points and vehicle routes are clearly marked; and
 - Emergency procedures are displayed, and a suitably sized spill kit is available at all delivery points, and staff are trained in these procedures and the use of spill kits.
- The appointed contractor will provide wheel washing facilities, and any other necessary measures to remove mud and organic material from vehicles, at the Construction Compounds, where necessary. These will be located at least 10m away from any surface water drains or watercourses;
- The cleaning of delivery trucks shall be carried out at the Construction Compounds and shall not be undertaken at the works areas;
- The surface runoff from vehicle washing areas will be directed to an on-site treatment system where possible. This will also increase the potential for reusing the water. Such a treatment system would typically include:
 - A settlement lagoon to remove suspended solids such as mud and silt; and
 - Catchpits or silt traps on drains, ensuring that they are in place during cleaning and that they are emptied at regular intervals;
- The use of detergents in the cleaning process will be minimised, where required. Biodegradable and phosphate-free detergents will be used;
- Where detergents are used in the washing process, the wash water will be contained in a containment tank prior to disposal off site using a suitable licensed waste disposal operator, or if a foul or combined sewer is nearby, the surface runoff could be directed to it, with the permission of the sewerage undertaker; and
- To further minimise water used for washing vehicles, trigger-operated spray guns will be used, with an automatic water supply cut-off.

Storage of Materials and Waste

150 The Construction Compounds will operate a 'Just In Time' approach, where practicable, for material deliveries to minimise the amount required to be stored. Where material is required to be stored:

- Storage areas will be at least 10m from surface water drains or watercourses;

- Storage areas for solid materials, including waste soils (where applicable), will be designed and managed to prevent deterioration of the materials and their escape (via surface runoff or wind blow);
- Storage areas will be kept secure to prevent acts of vandalism that could result in leaks or spills; and
- All containers of any size will be correctly labelled indicating their contents and any hazard warning signs.

151 A register of all hazardous substances, which will either be used on-site or expected to be present (in the form of soil and / or groundwater contamination) will be established and maintained. This register will be available at all times and shall include as a minimum:

- Valid Material Safety Data Sheets (MSDS);
- Health and safety and environmental controls to be implemented when storing, handling, using and in the event of spillage of materials;
- Emergency response procedures / precautions for each material; and
- The Personal Protective Equipment (PPE) required when using the material.

152 Waste may be stored at the Construction Compounds for a limited amount of time to help to limit the number of vehicle movements to and from site, as far as possible, to minimise effects on the local roads. Where waste is required to be stored:

- It will be stored in secure designated areas, in enclosures or containers to prevent material being dispersed by the wind;
- Designated areas will be sited at least 10m away from surface water drains or watercourses to limit the risk of escape and contamination of watercourses;
- Waste storage containers will be labelled with their waste type and their List of Waste (LoW) code. Any labelling will be consistent with Industry Best Practice at the time construction commences and reviewed annually;
- Liquid wastes will be stored in containers within bunded zones with secondary containment of at least 110% capacity of the largest container or at least 25% of the total tank capacity inside the bunded zone (whichever is the greatest); and
- Incompatible or hazardous wastes will be stored and handled in accordance S.I. No. 324/2011 - European Communities (Shipments of Hazardous Waste exclusively within Ireland) Regulations 2011.

153 All of the above measures implemented on site will be monitored throughout the duration of construction to ensure that they are working effectively, to implement maintenance measures if required/applicable and to address any potential issues that may arise.

154 Following implementation of the mitigation measures outlined above, the majority of impacts will be not significant. There are a few activities, however that require additional measures to ensure that impacts are Not Significant.

155 Scheme-specific mitigation measures which the appointed contractor will implement in relation to surface water quality at the following two areas namely: Construction Compound B2 at St. Mobhi Drive and the Proposed cycle / pedestrian bridge crossing of the Royal Canal.

Site-Specific Mitigation Measures

156 Following implementation of the mitigation measures in the SWMP within the CEMP (Appendix III) the majority of impacts will be Not Significant. However, one construction activity and one Construction Compound have been highlighted for further mitigation. Construction Compound B2 at St. Mobhi Drive and the proposed new cycle / pedestrian bridge crossing the Royal Canal have been highlighted, as these have the potential to result in an Adverse impacts on the water bodies.

Construction Compound B2 at St Mobhi Drive

157 The following mitigation measures have been identified and will be implemented to minimise and avoid these impacts:

- No connections between the temporary Construction Compound and the existing surface water drainage system in St. Mobhi Drive will be made;
- The existing low wall along the southern boundary of the site will be retained, as far as is practicable, to provide protection to the Tolka_060 from overland flows;
- Fuel storage will be located on the western boundary of the Construction Compound, as far as possible from the surface water drain at the eastern end of St. Mobhi Drive. All fuel will be stored in accordance with the SWMP in Appendix III;
- Construction vehicles will be fuelled using a mobile fuelling bowser system on a temporary stand that is self-contained, such that any spillage is trapped into a small tank for pumping back into the bowser, or by using a flat-bed trailer base with a folding gate to be closed behind the vehicle being fuelled;
- Storage of other materials will be located on the western boundary of the Construction Compound, as far as possible from the surface water drains;
- All storage areas will be covered;
- Any cement and concrete mixing / batching will be located as far as possible from the surface water drain;
- Wheel wash areas will be closed-cycle. There will be no discharge of wheel wash water to surface water drains. Off site disposal of contaminated and silty water and sludge will be required; and
- Wastewater from cabins will be contained. Where discharge to the local sewer is required, consent from the local authority will be obtained (i.e. a temporary permit).

Proposed Cycle / Pedestrian Bridge Crossing of the Royal Canal

158 The following construction methods and mitigation measures have been identified and will be implemented to minimise and avoid the potential identified impacts at this location (full details of the construction methodology are provided in the EIAR (Chapter 5 (Construction)), which accompanies this application):

- In consultation with Waterways Ireland, the appointed contractor will temporarily lower the canal water level over a length of 300m between locks to approximately 0.5m depth (estimated duration two months), to enable the excavation of the foundation strips along the canal banks and completion of the foundation works along the canal banks;
- Thereafter, and to avoid any further unnecessary disturbance of sedimentation or changes to the hydrological regime, sandbags will be used to create a dry working area in the canal. Canal water within this area will be pumped clear via a siltbuster tank, or similar, and back to the canal;
- The ground surface will be prepared, with minor excavations to achieve the piling level. Prefabricated structural elements will be delivered to the works location. Bored pile drilling will be completed. Steel pile casings will be pushed down as the auger bores the hole. Steel cases will be adopted to prevent leakage of concrete in the canal. As the auger withdraws, concrete will be pumped into the hole and finally reinforcement cages pushed into the concrete. The drilling / piling activity will be completed over a period of two weeks, with one to two piles per day;
- In order to construct the ramps, the ground surface will be prepared, and minor excavations will be completed to achieve the foundation level. The precast concrete ramp trough sections will be installed by crane, with masonry wall finish pre-installed. The ramps will be filled with crushed stone, and finally the pavement and parapets will be completed;

- The bridge deck will be completed last. The steel deck will be preassembled off site in different segments, including the arch, ribs, and deck. The segments will be transported to site, and the segments will be erected and assembled by crane, from both sides of the canal, to reduce the required distance for each one and reduce the size of cranes required on both banks. A closure of a short duration (less than three days) of the Royal Canal Bank road (Eglinton Terrace), south of the bridge location, will be required for the erection of the arches, ribs, and deck. The hangers will be positioned and tensioned, and finally the parapets and lighting will be put in place;
- Silt fences will be used along the southern bank to reduce the likelihood of silty water runoff during construction of the cycle ramp;
- Any water collected will be dewatered via siltbusters, or similar, before being discharged back into the canal;
- Prefabricated concrete will be used for the structure, wherever reasonably practicable, or where new concrete is batched at Construction Compounds, it will be cleaned prior to installation; and
- No plant will be refuelled within 10m of the canal.

Measures to Protect Surface Water Quality during Operation

- 159 During operation there will be a net increase of 2,402m² in the impermeable area ultimately discharging to Dublin Bay. This increase in impermeable area will be managed for the Proposed Scheme through a combination of bioretention areas, oversized pipes and permeable paving (a new off street parking area is included as part of the proposals at Claremont Lawns, this parking area is to use permeable paving to allow attenuation and treatment of runoff).
- 160 Given the proposed SUDs, which have been designed in accordance with the Greater Dublin Strategic Drainage Study (Irish Water 2005), will be implemented by the appointed contractor during the Construction Phase, mitigation for the Operational Phase has been built into the design of the Proposed Scheme. Where no new paved areas are proposed, the existing drainage network will be retained and utilised (See Appendix IV for Proposed Surface Water Drainage Works).
- 161 In the Operational Phase the maintenance regime for SUDs will be carried out by the local authorities and will be subject to their management procedures. No additional mitigation is required.

Measures to Prevent the Spread of Non-Native Invasive Species to Downstream European Sites

Confirmatory Pre-Construction Survey

- 162 The NTA will ensure that a confirmatory pre-construction invasive species survey will be undertaken by a suitably qualified specialist to confirm the absence and / or extent of all Third Schedule invasive species within the footprint of the Proposed Scheme. Where an infestation is confirmed / identified within the footprint of the Proposed Scheme, this will require the implementation of a non-native ISMP (refer to the CEMP in Appendix III of this NIS).

Non-Native Invasive Species Management Plan (ISMP)

- 163 Where a pre-construction invasive species re-survey has confirmed the presence of previously identified Third Schedule non-native invasive species, or identifies newly established non-native invasive species within the footprint of the Proposed Scheme, the ISMP produced will provide a detailed description of the infestations (e.g. approximate area of the respective colonies (m²), where feasible; approximate total number of stems, pattern of growth and information on other vegetation present), and where necessary, include calculations of volumes of infested soils to be excavated.
- 164 The ISMP for the Proposed Scheme will be implemented, including the detailed control measures contained within it, as advised by a suitably qualified specialist, in accordance with The Management of Invasive Alien Plant Species on National Roads - Technical Guidance (TII 2020a) and The Management of Invasive Alien

Plant Species on National Roads – Standard (TII 2020b) , and other species-specific guidance documents including those listed in the non-native ISMP, as necessary.

165 The NTA will ensure that all control measures specified in the Proposed Scheme non-native ISMP shall be implemented by a suitably qualified and licenced specialist prior to the construction of the Proposed Scheme to control the spread of newly established non-native invasive species within the footprint of the Proposed Scheme. Furthermore, the appointed contractor will adhere to control measures specified within the non-native ISMP throughout the Construction Phase of the Proposed Scheme.

166 The site will be monitored by the appointed contractor in consultation with the suitably qualified and licensed specialist after the control measures have been implemented. Any re-growth will be subsequently treated as detailed in the Proposed Scheme ISMP. The ISMP is contained within Appendix III to the NIS.

Measures to Prevent the Spread of Non-Native Invasive Species to Downstream European Sites During Operation

167 Once the Proposed Scheme is in operation, the local authorities will implement a maintenance and management regime subject to their management procedures, where any introduction of non-native invasive plant species will be managed. No additional mitigation is required.

7.1.6 Residual Impacts

168 With the effective implementation of appropriate mitigation measures identified in this NIS, the Proposed Scheme poses no risk of affecting the conservation objectives, or the favourable conservation condition, of QI habitats or species of North Dublin Bay SAC and South Dublin Bay SAC, and there are therefore, no residual direct or indirect impacts associated with the Proposed Scheme that could adversely affect the integrity of North Dublin Bay SAC and South Dublin Bay SAC. As is confirmed by the Water Framework Directive Assessment for the Proposed Scheme (refer to Appendix VI), the Proposed Scheme will not cause a deterioration in status in any water body, will not prevent any water body from achieving Good Ecological Status or Good Ecological Potential, and it can be concluded that the Proposed Scheme complies with all requirements of the WFD.

7.1.7 Conclusion of Assessment for North Dublin Bay SAC and South Dublin Bay SAC

169 Following an examination, analysis and evaluation in light of best scientific knowledge, of all relevant information in respect of the QIs of North Dublin Bay SAC and South Dublin Bay SAC, the potential impacts and mitigation measures, and whether or not the predicted impacts would affect the conservation objectives that support the conservation condition of the QIs, it has been concluded that the Proposed Scheme will not adversely affect (either directly or indirectly) the integrity of North Dublin Bay SAC and South Dublin Bay SAC.

7.2 Howth Head SAC [000202], Rockabill to Dalkey Island SAC [003000] and Lambay Island SAC [000204]

7.2.1 Ecological Baseline Description for Howth Head SAC

170 According to the Natura 2000 Standard Data Form (NPWS 2020c), this SAC is a rocky headland situated on the northern side of Dublin Bay. This SAC has been designated for the Annex I habitats: [1230] Vegetated Sea Cliffs and [4030] Dry Heath. The flora within this SAC is very diverse, there are records of several Red data book species and species of very restricted Irish distribution. The dry heath and sea cliff vegetation is extensive and well developed. Major threats to the site include walking, horse-riding and non-motorised vehicles, burning vegetation and mining and quarrying.

7.2.2 Ecological Baseline Description for Rockabill to Dalkey Island SAC

171 According to the Natura 2000 Standard Data Form (NPWS 2020d), this SAC is a marine site that is a rectangle shaped area extending from Rockabill, south to Dalkey Island in south Dublin. The SAC has been

selected for the Annex I habitat: [1170] Reefs. The only species listed as a qualifying interest for the Rockabill to Dalkey Island SAC is the Harbour porpoise *Phocoena phocoena* [1351]. Surveys of the site estimated that there are 211 ±47 Harbour porpoises in the northern part of the site and 138 ±33 in the southern part (Berrow *et al.* 2010). Calves and juveniles have been recorded across the SAC, which suggests the site has value in the reproductive cycle of the species.

7.2.3 Ecological Baseline Description for Lambay Island SAC

172 According to the Natura 2000 Standard Data Form (NPWS 2019), this SAC is Ireland’s largest east coast island, lying 4km off Dublin. The island is surrounded by steep cliffs on the north, east and south sides which hold Internationally Important populations of seabirds. Most of the western third of the island is intensively farmed, while the rest is a mixture of less intensively grazed land, rock outcrops, scrub and bracken. Lambay Island is surrounded by intertidal and subtidal reef habitat. This site provides year-round haul-out habitat for the Annex II seal species grey seal *Halichoerus grypus* and harbour seal *Phoca vitulina*, and includes regionally significant breeding and moulting sites.

173 The QIs of Howth Head SAC, Rockabill to Dalkey Island SAC and Lambay Island SAC and the overall conservation objectives, are listed in Table 11.

Table 11: QIs and Conservation Objectives of Howth Head SAC, Rockabill to Dalkey Island SAC and Lambay Island SAC

QI(s)	Conservation Objective(s)
<p>Howth Head SAC [000202] 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts 4030 European dry heaths</p> <p>NPWS (2016) <i>Conservation Objectives: Howth Head SAC 000202</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.</p>	<p>To maintain the favourable conservation condition of the Annex I habitats for which the SAC has been selected</p>
<p>Rockabill to Dalkey Island SAC [003000] 1170 Reefs 1351 Harbour porpoise <i>Phocoena phocaena</i></p> <p>S.I. No. 94/2019 - European Union Habitats (Rockabill To Dalkey Island Special Area Of Conservation 003000) Regulations 2019 NPWS (2013) <i>Conservation Objectives: Rockabill to Dalkey Island SAC 003000</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>To maintain the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected</p>
<p>Lambay Island SAC [000204] 1170 Reefs 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts 1364 Grey seal <i>Halichoerus grypus</i> 1365 Harbour seal <i>Phoca vitulina</i></p> <p>S.I. No. 294/2019 - European Union Habitats (Lambay Island Special Area Of Conservation 000204) Regulations 2019 NPWS (2013) <i>Conservation Objectives: Lambay Island SAC 000204</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>To maintain the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected</p>

174 In conjunction with considering the generic conservation objective for these SACs, ‘To maintain the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC

has been selected, the site-specific conservation objectives documents for Howth Head SAC, Rockabill to Dalkey Island SAC and Lambay Island SAC also informed this assessment.

175 The site-specific conservation objectives documents set out the attributes, measures and targets that define the favourable conservation condition of the QIs within these European sites. Affecting the conservation condition of the QIs is deemed to constitute an adverse effect on the integrity of a European site. The specific attributes and targets used to define the conservation objectives of the QIs of Howth Head SAC, Rockabill to Dalkey Island SAC, Lambay Island SAC and Ireland's Eye SAC are presented in Section 7.2.5.2.

7.2.4 Examination and Analysis of Potential Direct and Indirect Impacts

176 The direct and / or indirect impacts by which the Proposed Scheme could (in the absence of mitigation measures) potentially affect the conservation objective attributes and targets supporting the conservation condition of the QIs of Howth Head SAC, Rockabill to Dalkey Island SAC and Lambay Island SAC are:

- Habitat degradation as a result of hydrological impacts.

7.2.4.1 Habitat Degradation as a Result of Hydrological Impacts

177 The release of contaminated surface water runoff and/or an accidental spillage or pollution event into any surface water features during construction, or operation, has the potential to affect water quality in the receiving aquatic environment. Such a pollution event may include: the release of sediment into receiving waters and the subsequent increase in mobilised suspended solids; and, the accidental spillage and / or leaks of contaminants into receiving waters. The associated effects of a reduction of surface water quality could potentially extend for a considerable distance downstream of the location of the accidental pollution event or the discharge. The Proposed Scheme is hydrologically connected to the River Tolka, Royal Canal, Liffey Estuary Upper and River Santry, all of which flow into Dublin Bay. In addition the Proposed Scheme is hydrologically connected to Dublin Bay as a result of surface waters from the footprint of the Proposed Scheme which will join the public sewer and will be treated at the Irish Water Ringsend WwTP prior to subsequent discharge to Dublin Bay via the Liffey Estuary Lower. Although unlikely, there is potential for an accidental pollution event associated with the Proposed Scheme to coincide with a storm event. In this eventuality, it is possible that this could result in significant effects which could have implications for the conservation objectives of Rockabill to Dalkey Island SAC and Lambay Island SAC as a result of hydrological impacts.

7.2.4.2 Summary

178 Table 12 presents a summary of the potential impacts and effects of the Proposed Scheme on the QIs and conservation objectives of Howth Head SAC, Rockabill to Dalkey Island SAC and Lambay Island SAC.

Table 12: Potential Impacts / Effects on the Conservation Objectives of Howth Head SAC, Rockabill to Dalkey Island SAC, Lambay Island SAC and Ireland’s Eye SAC

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Howth Head SAC			
Vegetated sea cliffs of the Atlantic and Baltic coasts			
To maintain the favourable conservation condition of Vegetated sea cliffs of the Atlantic and Baltic coasts in Howth Head SAC, which is defined as follows:			
Habitat length / Kilometres / Area stable, subject to natural processes, including erosion	Yes An accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quality (vegetation structure and composition) and area / distribution of intertidal / coastal habitats.	Yes The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme.	No With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the QI habitats of this SAC and therefore there are no residual impacts which could adversely affect the integrity of the SAC
Habitat distribution / Occurrence / No decline, subject to natural processes			
Physical structure: functionality and hydrological regime / Occurrence of artificial barriers / No alteration to natural function of geomorphological and hydrological processes, including groundwater quality, due to artificial structures			
Vegetation structure: zonation / Occurrence / Maintain range of sea cliff habitat zonations including transitional zones, subject to natural processes including erosion and succession			
Vegetation structure: vegetation height / Centimetres/ Maintain structural variation within sward			
Vegetation composition: typical species and sub-communities / Percentage cover at a representative number of monitoring stops / Maintain range of sub-communities with typical species listed in the Irish Sea Cliff Survey (Barron <i>et al.</i> , 2011)			
Vegetation composition: negative indicator species / Percentage / Negative indicator species (including non-natives) to represent less than 5% cover			
Vegetation composition: bracken and woody species / Percentage / Cover of bracken (<i>Pteridium aquilinum</i>) on grassland and /or heath less than 10%. Cover of woody species on grassland and /or heath less than 20%			
European Dry Heaths			
To maintain the favourable conservation condition of European dry heaths in Howth Head SAC, which is defined as follows:			
Habitat area / Hectares / Area stable or increasing, subject to natural processes	No	No	No

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Habitat distribution / Occurrence / No decline, subject to natural processes	Terrestrial habitats above the high tide line are not at risk of effects from water pollution in Dublin Bay.		
Ecosystem function: soil nutrients / Soil pH and appropriate nutrient levels at a representative number of monitoring stops / Maintain soil nutrient status within natural range			
Community diversity / Abundance of variety of vegetation communities / Maintain variety of vegetation communities, subject to natural processes			
Vegetation composition: lichens and bryophytes / Number of species at a representative number of 2m x 2m monitoring stops / Number of bryophyte or non-crustose lichen species present at each monitoring stop is at least three, excluding <i>Campylopus</i> and <i>Polytrichum</i> mosses			
Vegetation composition: number of positive indicator species / Number of species at a representative number of 2m x 2m monitoring stops / Number of positive indicator species present at each monitoring stop is at least two			
Vegetation composition: cover of positive indicator species / Percentage cover at a representative number of 2m x 2m monitoring stops / Cover of positive indicator species at least 50% for siliceous dry heath and 50- 75% for calcareous dry heath			
Vegetation composition: dwarf shrub composition / Percentage cover at a representative number of 2m x 2m monitoring stops / Proportion of dwarf shrub cover composed collectively of bog-myrtle (<i>Myrica gale</i>), creeping willow (<i>Salix repens</i>) and western gorse (<i>Ulex gallii</i>) is less than 50%			
Vegetation composition: negative indicator species / Percentage cover at a representative number of 2m x 2m monitoring stops/ Total cover of negative indicator species less than 1%			
Vegetation composition: non-native species / Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops / Cover of non-native species less than 1%			
Rockabill to Dalkey Island SAC			
Reefs [1170] To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
<p>Habitat area / Hectares / The permanent habitat area is stable or increasing, subject to natural processes</p> <p>Habitat distribution / Occurrence / Distribution is stable or increasing, subject to natural processes</p> <p>Community structure / Biological composition/ Conserve the following community types in a natural condition: Intertidal reef community complex; and Subtidal reef community complex</p>	<p>Yes</p> <p>An accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay.</p> <p>An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quality (vegetation structure and composition) and area / distribution of intertidal/coastal habitats.</p>	<p>Yes</p> <p>The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme.</p>	<p>No</p> <p>With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the QI habitats of this SAC and therefore there are no residual impacts which could adversely affect the integrity of the SAC</p>
<p>Harbour porpoise <i>Phocoena phocoena</i> [1351]</p> <p>To maintain the favourable conservation condition of Harbour porpoise in Rockabill to Dalkey Island SAC, which is defined as follows:</p>			
<p>Access to suitable habitat / Number of artificial barriers / Species range within the site should not be restricted by artificial barriers to site use</p> <p>Disturbance / Level of impact / Human activities should occur at levels that do not adversely affect the harbour porpoise community at the site</p>	<p>Yes</p> <p>An accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay.</p> <p>An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quality of the intertidal / marine habitats which support harbour porpoise and fish prey species.</p>	<p>Yes</p> <p>The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme.</p>	<p>No</p> <p>With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the QI habitats of this SAC and therefore there are no residual impacts which could adversely affect the integrity of the SAC</p>

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Lambay Island SAC			
Reefs [1170]			
To maintain the favourable conservation condition of the habitat in the SAC, which is defined as follows:			
Habitat area / Hectares / The permanent habitat area is stable or increasing, subject to natural processes	No There is no pathway for impacts to occur on any habitats associated with the Lambay Island SAC as it is located a significant distance from the Proposed Scheme, and on the far side of the Howth peninsula, separated by a large marine waterbody.	No	No
Habitat distribution / Occurrence / Distribution is stable or increasing, subject to natural processes			
Community structure / Biological composition / Conserve the following community types in a natural condition: Intertidal reef community complex; <i>Laminaria</i> -dominated community complex			
Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]			
To maintain the favourable conservation condition of Vegetated sea cliffs of the Atlantic and Baltic coasts in Lambay Island SAC, which is defined as follows:			
Habitat length / Kilometres / Area stable, subject to natural processes, including erosion	No There is no pathway for impacts to occur on any habitats associated with the Lambay Island SAC as it is located a significant distance from the Proposed Scheme, and on the far side of the Howth peninsula, separated by a large marine waterbody.	No	No
Habitat distribution / Occurrence / No decline, subject to natural processes			
Physical structure: functionality and hydrological regime / Occurrence of artificial barriers / No alteration to natural functioning of geomorphological and hydrological processes due to artificial structures			
Vegetation structure: zonation / Occurrence / Maintain range of sea cliff habitat zonation including transitional zones, subject to natural processes including erosion and succession			
Vegetation structure: vegetation height / Centimetres / Maintain structural variation within sward			
Vegetation composition: typical species and subcommunities / Percentage cover at a representative sample of monitoring stops / Maintain range of subcommunities with typical species listed in the Irish Sea Cliff Survey			
Vegetation composition: negative indicator species / Percentage / Negative indicator species (including non-natives) to represent less than 5% cover			

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Vegetation composition: bracken and woody species / Percentage Cover of bracken (<i>Pteridium aquilinum</i>) on grassland and/or heath less than 10% / Cover of woody species on grassland and/or heath less than 20%			
Grey Seal <i>Halichoerus grypus</i> [1364]			
To maintain the favourable conservation condition of Grey Seal in Lambay Island SAC, which is defined as follows:			
Access to suitable habitat / Number of artificial barriers / Species range within the site should not be restricted by artificial barriers to site use	Yes An accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quality of the intertidal/marine habitats which support grey seal.	Yes The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme.	No With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the QI habitats of this SAC and therefore there are no residual impacts which could adversely affect the integrity of the SAC
Breeding behaviour / Breeding sites / The breeding sites should be maintained in a natural condition			
Moulting behaviour / Moulting haul-out sites / The moulting haul-out sites should be maintained in a natural condition			
Resting behaviour / Resting haul-out sites / The resting haul-out sites should be maintained in a natural condition			
Disturbance / Level of impact / Human activities should occur at levels that do not adversely affect the grey seal population at the site			
Harbour Seal <i>Phoca vitulina</i> [1365]			
To maintain the favourable conservation condition of Harbour Seal in Lambay Island SAC, which is defined			
Access to suitable habitat / Number of artificial barriers Species range within the site should not be restricted by artificial barriers to site use	Yes An accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the	Yes The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme.	No With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives,
Breeding behaviour / Breeding sites / The breeding sites should be maintained in a natural condition			
Moulting behaviour / Moulting haul-out sites / The moulting haul-out sites should be maintained in a natural condition			
Resting behaviour / Resting haul-out sites / The resting haul-out sites should be maintained in a natural condition			

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are mitigation measures required?	Residual Impacts?
Disturbance / Level of impact / Human activities should occur at levels that do not adversely affect the harbour seal population at the site	quality of the intertidal/marine habitats which support harbour seal.		or favourable conservation condition of the QI habitats of this SAC and therefore there are no residual impacts which could adversely affect the integrity of the SAC

7.2.5 Mitigation Measures

179 This Section presents the mitigation measures that will be implemented during construction and operation to avoid or reduce the potential impacts of the Proposed Scheme on Howth Head SAC, Rockabill to Dalkey Island SAC and Lambay Island SAC. All of the mitigation measures will be implemented in full and are best practice, and tried and tested, effective control measures to protect the receiving environment.

Measures to Protect Surface Water Quality during Construction

180 The mitigation measures presented in Section 7.1.5 will protect surface water quality during construction of the Proposed Scheme.

Measures to Protect Surface Water Quality during Operation

181 The mitigation measures presented in Section 7.1.5 will protect surface water quality during operation of the Proposed Scheme.

7.2.6 Residual Impacts

182 With the effective implementation of appropriate mitigation measures identified in this NIS, the Proposed Scheme poses no risk of affecting the conservation objectives, or the favourable conservation condition, of the QIs of Howth Head SAC, Rockabill to Dalkey Island SAC and Lambay Island SAC and there are therefore, no residual direct or indirect impacts associated with the Proposed Scheme that could adversely affect the integrity of Howth Head SAC, Rockabill to Dalkey Island SAC and Lambay Island SAC. As is confirmed by the Water Framework Directive Assessment for the Proposed Scheme (refer to Appendix VI), the Proposed Scheme will not cause a deterioration in status in any water body, will not prevent any water body from achieving Good Ecological Status or Good Ecological Potential, and it can be concluded that the Proposed Scheme complies with all requirements of the WFD.

7.2.7 Conclusion of Assessment for Howth Head SAC, Rockabill to Dalkey Island SAC and Lambay Island SAC

183 Following an examination, analysis and evaluation in light of best scientific knowledge, of all relevant information in respect of the QIs of Howth Head SAC, Rockabill to Dalkey Island SAC and Lambay Island SAC, the potential impacts, and whether or not the predicted impacts would affect the conservation objectives that support the conservation condition of the QIs, it has been concluded that the Proposed Scheme does not pose a risk of adversely affecting (either directly or indirectly) the integrity of Howth Head SAC, Rockabill to Dalkey Island SAC and Lambay Island SAC.

7.3 Howth Head Coast SPA [004113], Dalkey Islands SPA [004172] and Rockabill SPA [004014]

7.3.1 Ecological Baseline Description for Howth Head Coast SPA

184 The Natura 2000 Standard Data Form (NPWS 2020e) lists the SPA as a rocky headland on the northern side of Dublin Bay. The site comprises approximately 3km of sea cliff, varying between 60m and 90m in height. Howth Head SPA is of importance to breeding seabirds. This SPA is designated for its population of breeding kittiwake *Rissa tridactyla*. There are also Nationally Important populations of breeding razorbill *Alca torda* and black guillemot *Cepphus grylle*, and a Regionally Important population of common guillemot *Uria aalge*. The cliffs also support a breeding pair of peregrine falcon *Falco peregrinus*, a species listed on Annex I of the EU Birds Directive. Threats to the site include walking, horse-riding and non-motorised vehicles as well as fire and fire suppression.

7.3.2 Ecological Baseline Description for Dalkey Islands SPA

185 The Natura 2000 Standard Data Form (NPWS 2020f) lists the site as an important site for both breeding and staging terns. This SPA is designated for breeding terns and there is a well-established colony of

common tern *Sterna hirundo* and smaller numbers of Arctic tern *Sterna paradisaea* and roseate tern *Sterna dougallii*. The site along with other parts of south Dublin Bay are used by the three tern species as a major post-breeding / pre-migration autumn roost area. The site also has breeding great black-backed gull *Larus marinus*, shelduck *Tadorna tadorna* and oystercatcher *Haematopus ostralegus*. The site is known to be frequented in winter by significant numbers of turnstone *Arenaria interpres* and purple sandpiper *Calidris maritima*. Threats to the site include urbanisation and human habitation, human intrusions and disturbances, and agriculture.

7.3.3 Ecological Baseline Description for Rockabill SPA

186 The Natura 2000 Standard Data Form (NPWS 2020g) lists the site as an Internationally Important tern colony. It supports the largest population of roseate tern *Sterna dougallii* in north-western Europe and the largest colony of *Sterna hirundo* in the country, as well as a significant colony of Arctic tern *Sterna paradisaea*. With management for the benefit of terns, numbers of all three species have been steadily increasing since 1989. Rockabill also supports a Nationally Important population of black guillemot *Cephus grille* and a small colony of kittiwake *Rissa tridactyla*.

7.3.4 SCIs and Conservation Objectives of Howth Head Coast SPA, Dalkey Islands SPA and Rockabill SPA

187 The SCIs of Howth Head Coast SPA, Dalkey Islands SPA, and Rockabill SPA, and the overall conservation objective, are listed in Table 13.

Table 13: SCIs and Conservation Objectives of Howth Head Coast SPA, Dalkey Islands SPA and Rockabill SPA

SCI(s)	Conservation Objective(s)
<p>Howth Head Coast SPA [004113] A188 Kittiwake <i>Rissa tridactyla</i></p> <p><i>S.I. No. 185/2012 - European Communities (Conservation of Wild Birds (Howth Head Coast Special Protection Area 004113)) Regulations 2012.</i></p> <p>NPWS (2020) <i>Conservation objectives for Howth Head Coast SPA [004113]</i>. Generic Version 7.0. Department of Culture, Heritage and the Gaeltacht.</p>	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.
<p>Dalkey Islands SPA [004172] A192 Roseate Tern <i>Sterna dougallii</i> A193 Common Tern <i>Sterna hirundo</i> A194 Arctic Tern <i>Sterna paradisaea</i></p> <p><i>S.I. No. 238/2010 - European Communities (Conservation of Wild Birds (Dalkey Islands Special Protection Area 004172)) Regulations 2010</i></p> <p>NPWS (2020) <i>Conservation objectives for Dalkey Islands SPA [004172]</i>. Generic Version 7.0. Department of Culture, Heritage and the Gaeltacht.</p>	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.
<p>Rockabill SPA [004014] A148 Purple Sandpiper <i>Calidris maritima</i> A192 Roseate Tern <i>Sterna dougallii</i> A193 Common Tern <i>Sterna hirundo</i> A194 Arctic Tern <i>Sterna paradisaea</i></p>	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.

SCI(s)	Conservation Objective(s)
S.I. No. 94/2012 - European Communities (Conservation of Wild Birds (Rockabill Special Protection Area 004014)) Regulations 2012. NPWS (2013) <i>Conservation Objectives: Rockabill SPA 004014</i> . Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.	

188 In conjunction with considering the generic conservation objective for these SPAs, ‘To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA’, the site-specific conservation objectives document for Howth Head Coast SPA, Dalkey Islands SPA and Rockabill SPA also informed this assessment.

189 The site-specific conservation objectives document sets out the attributes, measures and targets that define the favourable conservation condition of the SCIs within these European sites. Affecting the conservation condition of the SCIs would constitute an adverse effect on the integrity of a European site. The specific attributes and targets used to define the conservation objectives of the QIs of Howth Head Coast SPA, Dalkey Islands SPA and Rockabill SPA are presented in Section 7.3.5.2.

7.3.5 Examination and Analysis of Potential Direct and Indirect Impacts

190 The direct and / or indirect impacts by which the Proposed Scheme could (in the absence of mitigation measures) potentially affect the conservation objective attributes and targets supporting the conservation condition of the SCIs of Howth Head Coast SPA, Dalkey Islands SPA and Rockabill SPA are:

- Habitat degradation / effects on SCI species as a result of hydrological impacts.

7.3.5.1 Habitat Degradation / Effects on SCI Species as a Result of Hydrological Impacts

191 The release of contaminated surface water runoff and / or an accidental spillage or pollution event into any surface water features during construction, or operation, has the potential to affect water quality in the receiving aquatic environment. Such a pollution event may include: the release of sediment into receiving waters and the subsequent increase in mobilised suspended solids; and, the accidental spillage and / or leaks of contaminants into receiving waters. The associated effects of a reduction of surface water quality could potentially extend for a considerable distance downstream of the location of the accidental pollution event or the discharge. The Proposed Scheme is hydrologically connected to the River Tolka, Royal Canal, Liffey Estuary Upper and River Santry, all of which flow into Dublin Bay. In addition the Proposed Scheme is hydrologically connected to Dublin Bay as a result of surface waters from the footprint of the Proposed Scheme which will join the public sewer and will be treated at the Irish Water Ringsend WwTP prior to subsequent discharge to Dublin Bay via the Liffey Estuary Lower. Therefore, (albeit unlikely) this reduction in water quality (either alone or in combination with other pressures on water quality) could result in the degradation of sensitive habitats present within these European sites, which in turn would negatively affect the SCIs that utilise these habitats as foraging and / or roosting habitat. It could also negatively affect the quantity and quality of prey available to SCIs. These potential impacts could occur to such a degree that they result in significant effects which could have implications for the conservation objectives of Howth Head Coast SPA, Dalkey Island SPA and Rockabill SPA.

7.3.5.2 Summary

192 Table 14 presents a summary of the potential impacts and effects of the Proposed Scheme on the SCIs and conservation objectives of Howth Head Coast SPA, Dalkey Islands SPA and Rockabill SPA.

Table 14: Potential Impacts / Effects on the Conservation Objectives of Howth Head Coast SPA, Dalkey Islands SPA and Rockabill SPA

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures Required?	Residual Impacts?
Howth Head Coast SPA			
Kittiwake [A188]			
There is no site-specific conservation objectives document available for this SPA. Therefore, the attributes, measures and targets below have been developed based on the specific conservation objectives available for kittiwake in the Saltee Islands SPA [004002] (NPWS, 2011)			
Breeding population abundance: apparently occupied nests (AONs) / Number / No significant decline	Yes An accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quantity and quality of prey fish species and the quality of the of intertidal/coastal habitats that support the special conservation interest bird species of the SPA. This could potentially affect the use of habitat areas by birds and have long-term effects on the SPA populations.	Yes The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme.	No With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the SCI species of this SPA and therefore there are no residual impacts which could adversely affect the integrity of the SPA
Productivity rate / Mean number / No significant decline			
Distribution: breeding colonies / Number; location; area (hectares) / No significant decline			
Prey biomass available / Kilogrammes / No significant decline			
Barriers to connectivity / Number; location; shape; area (hectares) / No significant increase			
Disturbance at the breeding site / Level of impact / No significant increase			
Dalkey Islands SPA			
Roseate Tern (<i>Sterna dougallii</i>) [A192]			
There is no site-specific conservation objectives document available for this SPA. Therefore, the attributes, measures and targets below have been developed based on the specific conservation objectives available for roseate tern in the South Dublin Bay and River Tolka Estuary SPA [004024].:			
Passage population: individuals / Number / No significant decline	Yes An accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay. An accidental pollution event of a sufficient	Yes The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in	No With the effective implementation of the mitigation measures outlined in Section 7.1.5
Distribution: roosting areas / Number; location; area (hectares) / No significant decline			
Prey biomass available / Kilogrammes / No significant decline			

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures Required?	Residual Impacts?
Barriers to connectivity / Number; location; shape; area (hectares) / No significant increase	magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quantity and quality of prey fish species and the quality and suitability of roosting sites within the SPA.	Dublin Bay is protected during construction and operation of the Proposed Scheme.	the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the SCI species of this SPA and therefore there are no residual impacts which could adversely affect the integrity of the SPA
Disturbance at roosting site / Level of impact / Human activities should occur at levels that do not adversely affect the numbers of roseate tern among the post-breeding aggregation of terns			
Common Tern (<i>Sterna hirundo</i>) [A193]			
There is no site-specific conservation objectives document available for this SPA. Therefore, the attributes, measures and targets below have been developed based on the specific conservation objectives available for common tern in the South Dublin Bay and River Tolka Estuary SPA [004024].			
Breeding population abundance: apparently occupied nests (AONs) / Number / No significant decline	Yes An accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quantity and quality of prey fish species and the quality and suitability of roosting sites within the SPA.	Yes The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme.	No With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the SCI species of this SPA and therefore there are no residual impacts which could adversely affect the integrity of the SPA
Productivity rate: fledged young per breeding pair / Mean number / No significant decline			
Passage population: individuals / Number / No significant decline			
Distribution: breeding colonies / Number; location; area (hectares) / No significant decline			
Distribution: roosting areas / Number; location; area (hectares) / No significant decline			
Prey biomass available / Kilogrammes / No significant decline			
Barriers to connectivity / Number; location; shape; area (hectares) / No significant increase			
Disturbance at breeding site / Level of impact / Human activities should occur at levels that do not adversely affect the breeding common tern population			

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures Required?	Residual Impacts?
Disturbance at roosting site / Level of impact / Human activities should occur at levels that do not adversely affect the numbers of common tern among the post-breeding aggregation of terns			
Arctic Tern (<i>Sterna paradisaea</i>) [A194]			
There is no site-specific conservation objectives document available for this SPA. Therefore, the attributes, measures and targets below have been developed based on the specific conservation objectives available for arctic tern in the South Dublin Bay and River Tolka Estuary SPA [004024].			
Passage population / Number of individuals / No significant decline	Yes An accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quantity and quality of prey fish species and the quality and suitability of roosting sites within the SPA.	Yes The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme.	No With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the SCI species of this SPA and therefore there are no residual impacts which could adversely affect the integrity of the SPA
Distribution: roosting areas / Number; location; area (hectares) / No significant decline			
Prey biomass available / Kilogrammes / No significant decline			
Barriers to connectivity / Number; location; shape; area (hectares) / No significant increase			
Disturbance at roosting site / Level of impact / Human activities should occur at levels that do not adversely affect the numbers of Arctic tern among the post-breeding aggregation of terns			
Rockabill SPA			
Purple Sandpiper (<i>Calidris maritima</i>) [A148]			
To maintain the favourable conservation condition of Purple Sandpiper in Rockabill SPA, which is defined as follows:			
Population trend / Percentage change / Long term population trend stable or increasing	No There is no pathway for impacts to occur on this SCI species as it is located a significant distance from the Proposed Scheme, and on the far side of the Howth peninsula, separated by a large marine waterbody.	No	No
Distribution / Range, timing and intensity of use of areas / No significant decrease in the range, timing or intensity of use of areas by purple sandpiper other than that occurring from natural patterns of variation			

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures Required?	Residual Impacts?
Roseate Tern (<i>Sterna dougallii</i>) [A192]			
To maintain the favourable conservation condition of Roseate Tern in Rockabill SPA, which is defined as follows:			
Breeding population abundance: apparently occupied nests (AONs) / Number / No significant decline	Yes An accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect this SCI species through direct contact with pollutants and / or a decline in the quantity and quality of prey fish species.	Yes The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme.	No With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the SCI species of this SPA and therefore there are no residual impacts which could adversely affect the integrity of the SPA
Productivity rate: fledged young per breeding pair / Mean number / No significant decline			
Distribution: breeding colonies / Number; location; area (hectares) / No significant decline			
Prey biomass available / Kilogrammes / No significant decline			
Barriers to connectivity / Number; location; shape; area (hectares) / No significant increase			
Disturbance at breeding site / Level of impact / Human activities should occur at levels that do not adversely affect the breeding roseate tern population			
Common Tern (<i>Sterna hirundo</i>) [A193]			
To maintain the favourable conservation condition of Common Tern in Rockabill SPA, which is defined as follows:			
Breeding population abundance: apparently occupied nests (AONs) / Number / No significant decline	Yes An accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect this SCI species through direct contact with pollutants and / or a decline in the quantity and quality of prey fish species.	Yes The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme.	No With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the SCI species of this SPA and therefore
Productivity rate: fledged young per breeding pair / Mean number / No significant decline			
Distribution: breeding colonies / Number; location; area (hectares) / No significant decline			
Prey biomass available / Kilogrammes / No significant decline			
Barriers to connectivity / Number; location; shape; area (hectares) / No significant increase			

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures Required?	Residual Impacts?
Disturbance at breeding site / Level of impact / Human activities should occur at levels that do not adversely affect the breeding common tern population			there are no residual impacts which could adversely affect the integrity of the SPA
Arctic Tern (<i>Sterna paradisaea</i>) [A194]			
To maintain the favourable conservation condition of Arctic Tern in Rockabill SPA, which is defined as follows:			
Breeding population abundance: apparently occupied nests (AONs) / Number / No significant decline	Yes An accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect this SCI species through direct contact with pollutants and / or a decline in the quantity and quality of prey fish species.	Yes The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme.	No With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the SCI species of this SPA and therefore there are no residual impacts which could adversely affect the integrity of the SPA
Productivity rate: fledged young per breeding pair / Mean number / No significant decline			
Distribution: breeding colonies / Number; location; area (hectares) / No significant decline			
Prey biomass available / Kilogrammes / No significant decline			
Barriers to connectivity/ Number; location; shape; area (hectares) / No significant increase			
Disturbance at breeding site / Level of impact / Human activities should occur at levels that do not adversely affect the breeding common tern population			

7.3.6 Mitigation Measures

193 This Section presents the mitigation measures that will be implemented during construction and operation to avoid or reduce the potential impacts of the Proposed Scheme on Howth Head Coast SPA, Dalkey Islands SPA, and Rockabill SPA. All of the mitigation measures will be implemented in full and are best practice, and tried and tested, effective control measures to protect the receiving environment.

Measures to Protect Surface Water Quality during Construction

194 The mitigation measures presented in Section 7.1.5 will protect surface water quality during construction of the Proposed Scheme.

Measures to Protect Surface Water Quality during Operation

195 The mitigation measures presented in Section 7.1.5 will protect surface water quality during operation of the Proposed Scheme.

7.3.7 Residual Impacts

196 With the effective implementation of appropriate mitigation measures identified in this NIS, the Proposed Scheme poses no risk of affecting the conservation objectives, or the favourable conservation condition, of the SCIs habitats of Howth Head Coast SPA, Dalkey Islands SPA and Rockabill SPA, and there are therefore, no residual direct or indirect impacts associated with the Proposed Scheme that could adversely affect the integrity of Howth Head Coast SPA, Dalkey Islands SPA and Rockabill SPA. As is confirmed by the Water Framework Directive Assessment for the Proposed Scheme (refer to Appendix VI), the Proposed Scheme will not cause a deterioration in status in any water body, will not prevent any water body from achieving Good Ecological Status or Good Ecological Potential, and it can be concluded that the Proposed Scheme complies with all requirements of the WFD.

7.3.8 Conclusion of Assessment for Howth Head Coast SPA, Dalkey Islands SPA and Rockabill SPA

197 Following an examination, analysis and evaluation in light of best scientific knowledge, of all relevant information in respect of the SCIs of Howth Head Coast SPA, Dalkey Islands SPA and Rockabill SPA, the potential impacts, and whether or not the predicted impacts would affect the conservation objectives that support the conservation condition of the SCIs, it has been concluded that the Proposed Scheme does not pose a risk of adversely affecting (either directly or indirectly) the integrity of Howth Head Coast SPA, Dalkey Islands SPA and Rockabill SPA.

7.4 North Bull Island SPA [004006]

7.4.1 Ecological Baseline Description for North Bull Island SPA

198 The Natura 2000 Standard Data Form (NPWS 2020f) lists the SPA as one of the top ten sites in the country for wintering waterfowl. It provides important feeding and roosting habitat for bird species listed as SCIs for the site and supports Internationally Important populations of light-bellied Brent goose and bar-tailed godwit. The quality of the estuarine habitats in the SPA are considered to be very good, part of which are designated as North Dublin Bay SAC. There are no serious imminent threats to the wintering birds. Threats to the site include oil pollution from Dublin Port along with localised commercial bait digging, disturbance from activities such as sailing, walkers and dogs.

7.4.2 SCIs and Conservation Objectives of North Bull Island SPA

199 The SCIs of North Bull Island SPA, and the overall conservation objective, are listed in Table 15.

Table 15: SCIs and Conservation Objectives of North Bull Island SPA

SCI(s)	Conservation Objective(s)
<p>North Bull Island SPA [004006]</p> <p>A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i></p> <p>A048 Shelduck <i>Tadorna tadorna</i></p> <p>A052 Teal <i>Anas crecca</i></p> <p>A054 Pintail <i>Anas acuta</i></p> <p>A056 Shoveler <i>Anas clypeata</i></p> <p>A130 Oystercatcher <i>Haematopus ostralegus</i></p> <p>A140 Golden Plover <i>Pluvialis apricaria</i></p> <p>A141 Grey Plover <i>Pluvialis squatarola</i></p> <p>A143 Knot <i>Calidris canutus</i></p> <p>A144 Sanderling <i>Calidris alba</i></p> <p>A149 Dunlin <i>Calidris alpina</i></p> <p>A156 Black-tailed Godwit <i>Limosa limosa</i></p> <p>A157 Bar-tailed Godwit <i>Limosa lapponica</i></p> <p>A160 Curlew <i>Numenius arquata</i></p> <p>A162 Redshank <i>Tringa totanus</i></p> <p>A169 Turnstone <i>Arenaria interpres</i></p> <p>A179 Black-headed Gull <i>Chroicocephalus ridibundus</i></p> <p>A999 Wetlands & Waterbirds</p> <p>S.I. No. 211/2010 - European Communities (Conservation of Wild Birds (North Bull Island Special Protection Area 004006)) Regulations 2010.</p> <p>NPWS (2015) <i>Conservation Objectives: North Bull Island SPA 004006</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA</p>

200 In conjunction with considering the generic conservation objective for this SPA, 'To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA', the site-specific conservation objectives document for North Bull Island SPA also informed this assessment.

201 The site-specific conservation objectives document sets out the attributes, measures and targets that define the favourable conservation condition of the SCIs within the European site. Affecting the conservation condition of the SCIs would constitute an adverse effect on the integrity of a European site. The specific attributes and targets used to define the conservation objectives of the QIs of North Bull Island SPA are presented in Section 7.4.3.4.

7.4.3 Examination and Analysis of Potential Direct and Indirect Impacts

202 The direct and / or indirect impacts by which the Proposed Scheme could (in the absence of mitigation measures) potentially affect the conservation objective attributes and targets supporting the conservation condition of the SCIs of North Bull Island SPA, are:

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

7.4.3.1 Habitat Degradation / Effects on SCI Species as a Result of Hydrological Impacts

- 203 The release of contaminated surface water runoff and / or an accidental spillage or pollution event into any surface water features during construction, or operation, has the potential to affect water quality in the receiving aquatic environment. Such a pollution event may include: the release of sediment into receiving waters and the subsequent increase in mobilised suspended solids; and, the accidental spillage and / or leaks of contaminants into receiving waters. The associated effects of a reduction of surface water quality could potentially extend for a considerable distance downstream of the location of the accidental pollution event or the discharge. The Proposed Scheme is hydrologically connected to the River Tolka, Royal Canal, Liffey Estuary Upper and River Santry, all of which flow into Dublin Bay. In addition the Proposed Scheme is hydrologically connected to Dublin Bay as a result of surface waters from the footprint of the Proposed Scheme which will join the public sewer and will be treated at the Irish Water Ringsend WWTP prior to subsequent discharge to Dublin Bay via the Liffey Estuary Lower.
- 204 During the Operational Phase, the Proposed Scheme will involve the overall net increase in impermeable area for the road corridor will be 2,402m². It is proposed that an increase in impermeable area will be managed for the Proposed Scheme through a combination of bioretention areas, oversized pipes and permeable paving. In the absence of this mitigation, reduction in water quality (either alone or in combination with other pressures on water quality) could occur.
- 205 Therefore, (albeit unlikely) this reduction in water quality (either alone or in combination with other pressures on water quality) could result in the degradation of sensitive habitats present within these European sites, which in turn would negatively affect the SCI bird species that rely upon these habitats as foraging and/or roosting habitat. It could also negatively affect the quantity and quality of prey available to SCI bird species. These potential impacts could occur to such a degree that they result in significant effects which could have implications for the conservation objectives of South Dublin Bay and River Tolka Estuary SPA.

7.4.3.2 Habitat Degradation as a Result of Introducing / Spreading Non-Native Invasive Species

- 206 Five areas of four non-native invasive plant species listed on the Third Schedule of the Birds and Habitats Regulations were present within, or in close proximity to, the Proposed Scheme: Giant hogweed, Himalayan balsam, Japanese knotweed (x2) and Nuttall's waterweed *elodea nuttallii*. During construction and / or routine maintenance / management work, these species could potentially spread or be introduced to terrestrial habitats located within downstream European sites via surface water features. The introduction and / or spread of these invasive species to downstream European sites could potentially result in the degradation of existing habitats present, in particular coastal habitats not permanently or regularly inundated by seawater. These species may outcompete other native species present, negatively impacting the species composition, diversity and abundance and the physical structural integrity of the habitat. This in turn could undermine the conservation objectives of these European sites. The Proposed Scheme is hydrologically connected to the River Tolka, Royal Canal, Liffey Estuary Upper and River Santry, all of which flow into Dublin Bay. Therefore, there is potential for the Proposed Scheme to undermine the conservation objectives of North Bull Island SPA as a result of invasive species spread.

7.4.3.3 Disturbance and Displacement Impacts

- 207 A temporary and / or permanent increase in noise, vibration and / or human activity levels during the construction and / or operation of the Proposed Scheme could result in the disturbance to and / or displacement of SCI bird species present within the footprint and / or the vicinity of the Proposed Scheme. Such disturbance effects would not be expected to extend beyond a distance of approximately 300m, as noise levels associated with general construction activities would attenuate to close to background levels at that distance and beyond.
- 208 Noise levels between 50dB and 70dB would provoke a moderate effect / level of response from birds (i.e. birds becoming alert and some behavioural changes (e.g. reduced feeding activity)), but birds would be expected to habituate to noise levels within this range. Noise levels above 70dB would likely result in birds

moving out of the affected zone, or leaving the site altogether. This is supported by the findings of Wright *et al.* (2010) which found that noise levels above 60dB resulted in behavioural responses, with birds abandoning the site in response to noise levels above 70dB.

209 The North Bull Island SPA is designated for wintering SCIs that are known to forage and / or roost at inland sites across Dublin, such as amenity grassland playing pitches. These species include light-bellied Brent goose, golden plover, oystercatcher, curlew, black-headed gull, and black-tailed godwit. There are no areas of suitable foraging, and / or roosting habitat for these species within the footprint of the Proposed Scheme, however the following known inland Brent geese feeding sites located adjacent to the Proposed Scheme (i.e. within the disturbance ZoI), have been returned from the desk study (Scott Cawley Ltd. 2017):

- Glasnevin / St. Vincent's Primary School (major importance), approximately 82m from the Proposed Scheme;
- Finglas / Erin's Isle GAA (major importance), approximately 85m from the Proposed Scheme;
- Glasnevin / DCU Sports Grounds (major importance), approximately 170m from the Proposed Scheme;
- Finglas / Dunsink Road (high importance) approximately, 207m from the Proposed Scheme;
- Tolka Valley Park (moderate importance) approximately, 262m from the Proposed Scheme; and
- Finglas / Farnham Drive Park (high importance), approximately 269m from the Proposed Scheme.

210 As records of SCI bird species associated with the North Bull Island SPA have been returned from the desk study in the vicinity of the Proposed Scheme (i.e. light-bellied Brent goose, oystercatcher, curlew, black-headed gull), it is very likely that these species currently utilise these and other suitable lands in the wider area. However, no significant effects will occur on any SCI bird species population of North Bull Island SPA, in light of their conservation objectives, as a consequence of the disturbance and / or displacement from inland feeding / roosting sites due to increased levels of disturbance due to the following reasons:

- The availability of large areas of suitable foraging and / or roosting habitat for these SCI bird species in the wider locality of the Proposed Scheme, including those in closer proximity to nearby SPAs. These include other similar public amenity grassland parks and sports pitches such as Beneavin de la Salle, Gael Scoil Uí Earcáin, St. Patrick's College, Johnstown Park and St. Patrick's College, Drumcondra; and
- Impacts associated with increased levels of disturbance will likely result in the temporary displacement of these SCI species to other suitable available lands in the locality, for a maximum of 12 months during construction works (representing a maximum of one winter season). Following the completion of construction, disturbance levels will return to baseline conditions and as a result these lands will become available again as foraging and / or roosting habitat for these SCI species.

7.4.3.4 Summary

211 Table 16 presents a summary of the potential impacts and effects of the Proposed Scheme on the SCIs and conservation objectives of North Bull Island SPA.

Table 16: Potential Impacts / Effects on the Conservation Objectives of North Bull Island SPA

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures Required?	Residual Impacts?
North Bull Island SPA			
<p>Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046], Shelduck (<i>Tadorna tadorna</i>) [A048], Teal (<i>Anas crecca</i>) [A052], Pintail (<i>Anas acuta</i>) [A054], Shoveler (<i>Anas clypeata</i>) [A056], Oystercatcher (<i>Haematopus ostralegus</i>) [A130], Golden Plover (<i>Pluvialis apricaria</i>) [A140], Grey Plover (<i>Pluvialis squatarola</i>) [A141], Knot (<i>Calidris canutus</i>) [A143], Sanderling (<i>Calidris alba</i>) [A144], Dunlin (<i>Calidris alpina alpina</i>) [A149], Black-tailed Godwit (<i>Limosa limosa</i>) [A156], Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157], Curlew (<i>Numenius arquata</i>) [A160], Redshank (<i>Tringa totanus</i>) [A162], Turnstone (<i>Arenaria interpres</i>) [A169], Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179]</p> <p>To restore the favourable conservation condition of the special conservation interests of the SPA, which is defined as follows:</p>			
Population trend / Percentage change / Long term population trend stable or increasing	Yes	Yes	No
Distribution / Range, timing and intensity of use of areas / No significant decrease in the range, timing and intensity of use of areas by all of the above named species, other than that occurring from natural patterns of variation	<p>An accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quality the of intertidal / coastal habitats that support the special conservation interest bird species of the SPA. This could potentially affect the use of habitat areas by birds and have long-term effects on the SPA populations.</p> <p>The introduction and / or spread of invasive species to downstream European sites could potentially result in the degradation of existing habitats present, in particular coastal habitats not permanently or regularly inundated by seawater. This in turn could affect the use of habitat areas by birds and have long-term effects on the SPA populations.</p>	<p>The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme.</p> <p>The mitigation measures described in Section 7.1.5 will prevent the introduction and / or spread of invasive species to downstream European sites during construction and operation of the Proposed Scheme.</p>	<p>With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the SCI species of this SPA and therefore there are no residual impacts which could adversely affect the integrity of the SPA</p>
Wetlands [A999]			
<p>To maintain the favourable conservation condition of wetland habitats within the SPA, which is defined as follows:</p>			

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures Required?	Residual Impacts?
<p>Habitat area / Hectares / The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 1,713ha, other than that occurring from natural patterns of variation</p>	<p>Yes</p> <p>An accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quality the of intertidal / coastal habitats that support the special conservation interest bird species of the SPA. This could potentially affect the use of habitat areas by birds and have long-term effects on the SPA populations.</p> <p>The introduction and / or spread of invasive species to downstream European sites could potentially result in the degradation of existing habitats present, in particular coastal habitats not permanently or regularly inundated by seawater. This in turn could affect the use of habitat areas by birds and have long-term effects on the SPA populations.</p>	<p>Yes</p> <p>The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme.</p> <p>The mitigation measures described in Section 7.1.5 will prevent the introduction and / or spread of invasive species to downstream European sites during construction and operation of the Proposed Scheme.</p>	<p>No</p> <p>With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the SCI species of this SPA and therefore there are no residual impacts which could adversely affect the integrity of the SPA</p>

7.4.4 Mitigation Measures

212 This Section presents the mitigation measures that will be implemented during construction and operation to avoid or reduce the potential impacts of the Proposed Scheme on North Bull Island SPA. All of the mitigation measures will be implemented in full and are best practice, and tried and tested, effective control measures to protect the receiving environment.

Measures to Protect Surface Water Quality during Construction

213 The mitigation measures presented in Section 7.1.5 will protect surface water quality during construction of the Proposed Scheme.

Measures to Protect Surface Water Quality during Operation

214 The mitigation measures presented in Section 7.1.5 will protect surface water quality during operation of the Proposed Scheme.

Measures to Prevent the Spread of Non-native Invasive Species to Downstream European Sites

215 The mitigation measures presented above in Section 7.1.5 will prevent the spread of non-native invasive species to downstream European sites.

7.4.5 Residual Impacts

216 With the effective implementation of appropriate mitigation measures identified in this NIS, the Proposed Scheme poses no risk of affecting the conservation objectives, or the favourable conservation condition, of the SCIs of North Bull Island SPA, and there are therefore, no residual direct or indirect impacts associated with the Proposed Scheme on North Bull Island SPA. As is confirmed by the Water Framework Directive Assessment for the Proposed Scheme (refer to Appendix VI), the Proposed Scheme will not cause a deterioration in status in any water body, will not prevent any water body from achieving Good Ecological Status or Good Ecological Potential, and it can be concluded that the Proposed Scheme complies with all requirements of the WFD.

7.4.6 Conclusion of Assessment for North Bull Island SPA

217 Following an examination, analysis and evaluation in light of best scientific knowledge, of all relevant information in respect of the SCIs of North Bull Island SPA, the potential impacts and mitigation measures, and whether or not the predicted impacts would affect the conservation objectives that support the conservation condition of the SCIs, it has been concluded that the Proposed Scheme does not pose a risk of adversely affecting (either directly or indirectly) the integrity of North Bull Island SPA, and there is no reasonable scientific doubt about this conclusion.

7.5 South Dublin Bay and River Tolka Estuary SPA [004024]

7.5.1 Ecological Baseline Description for South Dublin Bay and River Tolka Estuary SPA

218 The Natura 2000 Standard Data Form (NPWS 2020i) states that the SPA possesses extensive intertidal flats, part of which are designated as South Dublin Bay SAC, and which supports wintering waterfowl as part of the wider Dublin Bay population. The site also supports an Internationally Important population of light-bellied Brent geese, feeding on the stands of *Zostera*. It hosts Nationally Important numbers of six species, is an important site for wintering gulls and is an autumn roosting site for a significant number of terns. The main threat to the site is land reclamation, with other threats including oil pollution from Dublin Port, commercial bait digging and disturbance by walkers and dogs.

7.5.2 SCIs and Conservation Objectives of South Dublin Bay and River Tolka Estuary SPA

219 The SCIs of South Dublin Bay and River Tolka Estuary SPA, and the overall conservation objective, are listed in Table 17.

Table 17: SCIs and Conservation Objectives of South Dublin Bay and River Tolka Estuary SPA

SCI(s)	Conservation Objective(s)
<p>South Dublin Bay and River Tolka Estuary SPA [004024] A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i> A130 Oystercatcher <i>Haematopus ostralegus</i> A137 Ringed Plover <i>Charadrius hiaticula</i> A141 Grey Plover <i>Pluvialis squatarola</i> A143 Knot <i>Calidris canutus</i> A144 Sanderling <i>Calidris alba</i> A149 Dunlin <i>Calidris alpina</i> A157 Bar-tailed Godwit <i>Limosa lapponica</i> A162 Redshank <i>Tringa totanus</i> A179 Black-headed Gull <i>Chroicocephalus ridibundus</i> A192 Roseate Tern <i>Sterna dougallii</i> A193 Common Tern <i>Sterna hirundo</i> A194 Arctic Tern <i>Sterna paradisaea</i> A999 Wetland and Waterbirds</p> <p>S.I. No. 212/2010 - European Communities (Conservation of Wild Birds (South Dublin Bay and River Tolka Estuary Special Protection Area 004024)) Regulations 2010. NPWS (2015) <i>Conservation Objectives: South Dublin Bay and River Tolka Estuary SPA 004024</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>To maintain or restore the favourable conservation condition of the bird species listed as SCIs for this SPA</p>

220 In conjunction with considering the generic conservation objective for this SPA, 'To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA', the site-specific conservation objectives document for South Dublin Bay and River Tolka Estuary SPA also informed this assessment.

221 The site-specific conservation objectives document sets out the attributes, measures and targets that define the favourable conservation condition of the SCIs within the European site. Affecting the conservation condition of the QIs / SCIs would constitute an adverse effect on the integrity of a European site. The specific attributes and targets used to define the conservation objectives of the QIs of South Dublin Bay and River Tolka Estuary SPA are presented in Section 7.5.4.

7.5.3 Examination and Analysis of Potential Direct and Indirect Impacts

222 The direct and / or indirect impacts by which the Proposed Scheme could (in the absence of mitigation measures) potentially affect the conservation objective attributes and targets supporting the conservation condition of the SCIs of South Dublin Bay and River Tolka Estuary SPA, are:

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

7.5.3.1 Habitat Degradation / Effects on SCI Species as a Result of Hydrological Impacts

- 223 The release of contaminated surface water runoff and / or an accidental spillage or pollution event into any surface water features during construction, or operation, has the potential to affect water quality in the receiving aquatic environment. Such a pollution event may include: the release of sediment into receiving waters and the subsequent increase in mobilised suspended solids; and, the accidental spillage and / or leaks of contaminants into receiving waters. The associated effects of a reduction of surface water quality could potentially extend for a considerable distance downstream of the location of the accidental pollution event or the discharge. The Proposed Scheme is hydrologically connected to the River Tolka, Royal Canal, Liffey Estuary Upper and River Santry , all of which flow into Dublin Bay. In addition the Proposed Scheme is hydrologically connected to Dublin Bay as a result of surface waters from the footprint of the Proposed Scheme which will join the public sewer and will be treated at the Irish Water Ringsend WWTP prior to subsequent discharge to Dublin Bay via the Liffey Estuary Lower. Therefore, (albeit unlikely) this reduction in water quality (either alone or in combination with other pressures on water quality) could result in the degradation of sensitive habitats present within these European sites, which in turn would negatively affect the SCI bird species that utilise these habitats as foraging and / or roosting habitat. It could also negatively affect the quantity and quality of prey available to SCI bird species. These potential impacts could occur to such a degree that they result in significant effects which could have implications for the conservation objectives of South Dublin Bay and River Tolka Estuary SPA.
- 224 During the Operational Phase, the Proposed Scheme will involve the overall net increase in impermeable area for the road corridor will be 2,402m². It is proposed that an increase in impermeable area will be managed for the Proposed Scheme through a combination of bioretention areas, oversized pipes and permeable paving. In the absence of this mitigation reduction in water quality (either alone or in combination with other pressures on water quality) could occur.
- 225 Therefore, (albeit unlikely) this reduction in water quality (either alone or in combination with other pressures on water quality) could result in the degradation of sensitive habitats present within these European sites, which in turn would negatively affect the SCI bird species that rely upon these habitats as foraging and / or roosting habitat. It could also negatively affect the quantity and quality of prey available to SCI bird species. These potential impacts could occur to such a degree that they result in significant effects which could have implications for the conservation objectives of South Dublin Bay and River Tolka Estuary SPA.

7.5.3.2 Habitat Degradation as a Result of Introducing / Spreading Non-Native Invasive Species

- 226 Five areas of four non-native invasive plant species listed on the Third Schedule of the Birds and Habitats Regulations, were present within, or in close proximity to, the Proposed Scheme: Giant hogweed, Himalayan balsam, Japanese knotweed and Nuttall's waterweed. During construction and / or routine maintenance / management work, these species could potentially spread or be introduced to terrestrial habitats located within downstream European sites via surface water features. The introduction and/or spread of these invasive species to downstream European sites could potentially result in the degradation of existing habitats present, in particular coastal habitats not permanently or regularly inundated by seawater. These species may outcompete other native species present, negatively impacting the species composition, diversity and abundance and the physical structural integrity of the habitat. This in turn could undermine the conservation objectives of these European sites. The Proposed Scheme is hydrologically connected to the River Tolka, Royal Canal, Liffey Estuary Upper and River Santry , all of which flow into Dublin Bay. Therefore, there is potential for the Proposed Scheme to undermine the conservation objectives of South Dublin Bay and River Tolka Estuary SPA as a result of invasive species spread.

7.5.3.3 Disturbance and Displacement Impacts

- 227 A temporary and / or permanent increase in noise, vibration and / or human activity levels during the construction and / or operation of the Proposed Scheme could result in the disturbance to and / or displacement of SCI bird species present within the footprint and / or the vicinity of the Proposed Scheme.

Such disturbance effects would not be expected to extend beyond a distance of approximately 300m, as noise levels associated with general construction activities would attenuate to close to background levels at that distance and beyond.

- 228 Noise levels between 50dB and 70dB would provoke a moderate effect / level of response from birds (i.e. birds becoming alert and some behavioural changes (e.g. reduced feeding activity), but birds would be expected to habituate to noise levels within this range. Noise levels above 70dB would likely result in birds moving out of the affected zone, or leaving the site altogether. This is supported by the findings of Wright *et al.* (2010) which found that noise levels above 60dB resulted in behavioural responses, with birds abandoning the site in response to noise levels above 70dB.
- 229 The South Dublin Bay and River Tolka Estuary SPA is designated for wintering SCI species that are known to forage and / or roost at inland sites across Dublin, such as amenity grassland playing pitches. These species include light-bellied Brent goose, oystercatcher and black-headed gull. There are no areas of suitable foraging, and / or roosting habitat for these species within the footprint of the Proposed Scheme. However, the following known inland Brent geese feeding sites are located adjacent to the Proposed Scheme (i.e. within the disturbance ZoI), have been returned from the desk study (Scott Cawley Ltd. 2017):
- Glasnevin / St. Vincent's Primary School (major importance), approximately 82m from the Proposed Scheme;
 - Finglas / Erin's Isle GAA (major importance), approximately 85m from the Proposed Scheme;
 - Glasnevin / DCU Sports Grounds (major importance), approximately 170m from the Proposed Scheme;
 - Finglas / Dunsink Road (high importance), approximately 207m from the Proposed Scheme;
 - Tolka Valley Park (moderate importance), approximately 262m from the Proposed Scheme; and
 - Finglas / Farnham Drive Park (high importance), approximately 269m from the Proposed Scheme.
- 230 As records of SCI bird species associated with the South Dublin Bay and River Tolka Estuary SPA have been returned from the desk study in the vicinity of the Proposed Scheme (i.e. light-bellied Brent goose, oystercatcher, curlew, black-headed gull), it is very likely that SCI bird species associated with the South Dublin Bay and River Tolka Estuary SPA currently utilise these and other suitable lands in the wider area. However, no significant effects will occur on any SCI bird species population of South Dublin Bay and River Tolka Estuary, in light of their conservation objectives, as a consequence of the disturbance and / or displacement from inland feeding / roosting sites due to increased levels of disturbance due to the following reasons:
- The availability of large areas of suitable foraging and / or roosting habitat for these SCI bird species in the wider locality of the Proposed Scheme, including those in closer proximity to nearby SPAs. These include other similar public amenity grassland parks and sports pitches such as Beneavin de la Salle, Gael Scoil Uí Earcáin, St. Patrick's College, Johnstown Park and St. Patrick's College, Drumcondra; and
 - Impacts associated with increased levels of disturbance will likely result in the temporary displacement of these SCI species to other suitable available lands in the locality, for a maximum of 12 months (representing a maximum of one winter season) during construction works. Following the completion of construction, disturbance levels will return to baseline conditions and as a result these lands will become available again as foraging and / or roosting habitat for these SCI species.

7.5.3.4 Summary

- 231 Table 18 presents a summary of the potential impacts and effects of the Proposed Scheme on the SCIs and conservation objectives of South Dublin Bay and River Tolka Estuary SPA.

Table 18: Potential Impacts / Effects on the Conservation Objectives of South Dublin Bay and River Tolka Estuary SPA

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures Required?	Residual Impacts?
South Dublin Bay and River Tolka Estuary SPA			
<p>Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046], Oystercatcher (<i>Haematopus ostralegus</i>) [A130], Ringed Plover (<i>Charadrius hiaticula</i>) [A137], Knot (<i>Calidris canutus</i>) [A143], Sanderling (<i>Calidris alba</i>) [A144], Dunlin (<i>Calidris alpina alpina</i>) [A149], Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157], Redshank (<i>Tringa totanus</i>) [A162], Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179]</p> <p>Note: Grey Plover (<i>Pluvialis squatarola</i>) [A141] is proposed for removal from the list of SCI's for the site so no site-specific conservation objective is included for the species</p> <p>To maintain the favourable conservation condition of the special conservation interests of the SPA, which is defined as follows:</p>			
Population trend / Percentage change / Long term population trend stable or increasing	Yes	Yes	No
Distribution / Range, timing and intensity of use of areas / No significant decrease in the range, timing and intensity of use of areas by all of the above named species, other than that occurring from natural patterns of variation	<p>An accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quality of intertidal / coastal habitats that support the special conservation interest bird species of the SPA. This could potentially affect the use of habitat areas by birds and have long-term effects on the SPA populations.</p> <p>The introduction and / or spread of invasive species to downstream European sites could potentially result in the degradation of existing habitats present, in particular coastal habitats not permanently or regularly inundated by seawater. This in turn could affect the use of habitat areas by birds and have long-term effects on the SPA populations.</p>	<p>The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme.</p> <p>The mitigation measures described in Section 7.1.5 will prevent the introduction and / or spread of invasive species to downstream European sites during construction and operation of the Proposed Scheme.</p>	<p>With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the SCI species of this SPA and therefore there are no residual impacts which could adversely affect the integrity of the SPA</p>
Roseate Tern (<i>Sterna dougallii</i>) [A192]			
To maintain the favourable conservation condition of the special conservation interests of the SPA, which is defined as follows:			
Passage population: individuals / Number / No significant decline	Yes	Yes	No

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures Required?	Residual Impacts?
Distribution: roosting areas / Number; location; area (hectares) / No significant decline	<p>An accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quantity and quality of prey fish species and the quality the of intertidal / coastal habitats that support the special conservation interest bird species of the SPA. This could potentially affect the use of habitat areas by birds and have long-term effects on the SPA populations.</p> <p>The introduction and / or spread of invasive species to downstream European sites could potentially result in the degradation of existing habitats present, in particular coastal habitats not permanently or regularly inundated by seawater. This in turn could affect the use of habitat areas by birds and have long-term effects on the SPA populations.</p>	<p>The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme.</p> <p>The mitigation measures described in Section 7.1.5 will prevent the introduction and / or spread of invasive species to downstream European sites during construction and operation of the Proposed Scheme.</p>	<p>With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the SCI species of this SPA and therefore there are no residual impacts which could adversely affect the integrity of the SPA</p>
Prey biomass available / Kilogrammes / No significant decline			
Barriers to connectivity / Number; location; shape; area (hectares) / No significant increase			
Disturbance at roosting site / Level of impact / Human activities should occur at levels that do not adversely affect the numbers of roseate tern among the post-breeding aggregation of terns			
<p>Common Tern (<i>Sterna hirundo</i>) [A193]</p> <p>To maintain the favourable conservation condition of the special conservation interests of the SPA, which is defined as follows:</p>			
Breeding population abundance: apparently occupied nests (AONs) / Number / No significant decline	<p>Yes</p> <p>An accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quantity and quality of prey fish species and the quality the of intertidal / coastal habitats that support the special conservation interest bird species of the SPA. This could potentially affect the use of habitat areas by birds and have long-term effects on the SPA populations.</p> <p>The introduction and / or spread of invasive species to downstream European sites could potentially result in the</p>	<p>Yes</p> <p>The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme.</p> <p>The mitigation measures described in Section 7.1.5 will prevent the introduction and / or spread of invasive species to downstream European sites</p>	<p>No</p> <p>With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the SCI species of this SPA and therefore there are no residual impacts which</p>
Productivity rate: fledged young per breeding pair / Mean number / No significant decline			
Passage population: individuals / Number / No significant decline			
Distribution: breeding colonies / Number; location; area (Hectares) / No significant decline			
Distribution: roosting areas / Number; location; area (Hectares) / No significant decline			
Prey biomass available / Kilogrammes / No significant decline			

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures Required?	Residual Impacts?
Barriers to connectivity / Number; location; shape; area (hectares) / No significant increase	degradation of existing habitats present, in particular coastal habitats not permanently or regularly inundated by seawater. This in turn could affect the use of habitat areas by birds and have long-term effects on the SPA populations.	during construction and operation of the Proposed Scheme.	could adversely affect the integrity of the SPA
Disturbance at breeding site / Level of impact / Human activities should occur at levels that do not adversely affect the breeding common tern population			
Disturbance at roosting site / Level of impact / Human activities should occur at levels that do not adversely affect the numbers of common tern among the post-breeding aggregation of terns			
Arctic Tern (<i>Sterna paradisaea</i>) [A194]			
To maintain the favourable conservation condition of the special conservation interests of the SPA, which is defined as follows:			
Passage population / Number of individuals / No significant decline	<p>Yes</p> <p>An accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quantity and quality of prey fish species and the quality of intertidal / coastal habitats that support the special conservation interest bird species of the SPA. This could potentially affect the use of habitat areas by birds and have long-term effects on the SPA populations.</p> <p>The introduction and / or spread of invasive species to downstream European sites could potentially result in the degradation of existing habitats present, in particular coastal habitats not permanently or regularly inundated by seawater. This in turn could affect the use of habitat areas by birds and have long-term effects on the SPA populations.</p>	<p>Yes</p> <p>The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme.</p> <p>The mitigation measures described in Section 7.1.5 will prevent the introduction and / or spread of invasive species to downstream European sites during construction and operation of the Proposed Scheme.</p>	<p>No</p> <p>With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the SCI species of this SPA and therefore there are no residual impacts which could adversely affect the integrity of the SPA</p>
Distribution: roosting areas / Number; location; area (hectares) / No significant decline			
Prey biomass available / Kilogrammes / No significant decline			
Barriers to connectivity / Number; location; shape; area (hectares) / No significant increase			
Disturbance at roosting site / Level of impact / Human activities should occur at levels that do not adversely affect the numbers of Arctic tern among the post-breeding aggregation of terns			

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures Required?	Residual Impacts?
<p>Wetlands [A999] To maintain the favourable conservation condition of wetland habitats within the SPA, which is defined as follows:</p>			
<p>Habitat area / Hectares / The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 2,192ha, other than that occurring from natural patterns of variation</p>	<p>Yes</p> <p>An accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quality the of intertidal / coastal habitats that support the special conservation interest bird species of the SPA. This could potentially affect the use of habitat areas by birds and have long-term effects on the SPA populations.</p> <p>The introduction and / or spread of invasive species to downstream European sites could potentially result in the degradation of existing habitats present, in particular coastal habitats not permanently or regularly inundated by seawater. This in turn could affect the use of habitat areas by birds and have long-term effects on the SPA populations.</p>	<p>Yes</p> <p>The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme.</p> <p>The mitigation measures described in Section 7.1.5 will prevent the introduction and / or spread of invasive species to downstream European sites during construction and operation of the Proposed Scheme.</p>	<p>No</p> <p>With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the SCI habitat of this SPA and therefore there are no residual impacts which could adversely affect the integrity of the SPA</p>

7.5.4 Mitigation Measures

232 This Section presents the mitigation measures that will be implemented during construction and operation to avoid or reduce the potential impacts of the Proposed Scheme on South Dublin Bay and River Tolka Estuary SPA. All of the mitigation measures will be implemented in full and are best practice, and tried and tested, effective control measures to protect the receiving environment.

Measures to Protect Surface Water Quality during Construction

233 The mitigation measures presented in Section 7.1.5 will protect surface water quality during construction of the Proposed Scheme.

Measures to Protect Surface Water Quality during Operation

234 The mitigation measures presented in Section 7.1.5 will protect surface water quality during operation of the Proposed Scheme.

Measures to Prevent the Spread of Invasive Species to Downstream European Sites

235 The mitigation measures presented above in Section 7.1.5 will prevent the spread of invasive species to downstream European sites during operation of the Proposed Scheme.

7.5.5 Residual Impacts

236 With the effective implementation of appropriate mitigation measures identified in this NIS, the Proposed Scheme poses no risk of affecting the conservation objectives, or the favourable conservation condition, of the SCIs of South Dublin Bay and River Tolka Estuary SPA, and there are therefore, no residual direct or indirect impacts associated with the Proposed on South Dublin Bay and River Tolka Estuary SPA. As is confirmed by the Water Framework Directive Assessment for the Proposed Scheme (refer to Appendix VI), the Proposed Scheme will not cause a deterioration in status in any water body, will not prevent any water body from achieving Good Ecological Status or Good Ecological Potential, and it can be concluded that the Proposed Scheme complies with all requirements of the WFD.

7.5.6 Conclusion of Assessment for South Dublin Bay and River Tolka Estuary SPA

237 Following an examination, analysis and evaluation in light of best scientific knowledge, of all relevant information in respect of the SCIs of South Dublin Bay and River Tolka Estuary SPA, the potential impacts and mitigation measures, and whether or not the predicted impacts would affect the conservation objectives that support the conservation condition of the SCIs, it has been concluded that the Proposed Scheme does not pose a risk of adversely affecting (either directly or indirectly) the integrity of South Dublin Bay and River Tolka Estuary SPA, and there is no reasonable scientific doubt about this conclusion

7.6 Malahide Estuary SPA [004025]

7.6.1 Ecological Baseline Description for Malahide Estuary SPA

238 Malahide Estuary SPA comprises the estuary of the River Broadmeadow. According to the Natura 2000 Standard Data Form for the site (NPWS 2020j), the estuary comprises saltmarsh habitats and extensive intertidal flats. This site is of high importance for wintering waterfowl and supports a particularly good diversity of species. It provides both feeding and roosting areas for a range of wintering waterfowl. It supports an Internationally Important population of light-bellied Brent geese and Nationally Important populations of a further 12 species. The site is also an important and regular site for a range of autumn passage migrants.

7.6.2 SCIs and Conservation Objectives of Malahide Estuary SPA

239 The SCIs of Malahide Estuary SPA, and the overall conservation objective, are listed in Table 19.

Table 19: SCIs and Conservation Objectives of Malahide Estuary SPA

SCI(s)	Conservation Objective(s)
<p>Malahide Estuary SPA [004025]</p> <p>A005 Great Crested Grebe <i>Podiceps cristatus</i></p> <p>A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i></p> <p>A048 Shelduck <i>Tadorna tadorna</i></p> <p>A054 Pintail <i>Anas acuta</i></p> <p>A067 Goldeneye <i>Bucephala clangula</i></p> <p>A069 Red-breasted Merganser <i>Mergus serrator</i></p> <p>A130 Oystercatcher <i>Haematopus ostralegus</i></p> <p>A140 Golden Plover <i>Pluvialis apricaria</i></p> <p>A141 Grey Plover <i>Pluvialis squatarola</i></p> <p>A143 Knot <i>Calidris canutus</i></p> <p>A149 Dunlin <i>Calidris alpina</i></p> <p>A156 Black-tailed Godwit <i>Limosa limosa</i></p> <p>A157 Bar-tailed Godwit <i>Limosa lapponica</i></p> <p>A162 Redshank <i>Tringa totanus</i></p> <p>A999 Wetland and Waterbirds</p> <p>S.I. No. 285/2011 - European Communities (Conservation of Wild Birds (Malahide Estuary Special Protection Area 004025)) Regulations 2011.</p> <p>NPWS (2013) <i>Conservation Objectives: Malahide Estuary SPA 004025</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>To maintain or restore the favourable conservation condition of the bird species listed as SCIs for this SPA</p>

240 In conjunction with considering the generic conservation objective for this SPA, 'To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA', the site-specific conservation objectives document for Malahide Estuary SPA also informed this assessment.

241 The site-specific conservation objectives document sets out the attributes, measures and targets that define the favourable conservation condition of the SCIs within the European site. Affecting the conservation condition of the SCIs would constitute an adverse effect on the integrity of a European site. The specific attributes and targets used to define the conservation objectives of the SCIs of Malahide Estuary SPA are presented in Section 7.6.3.2.

7.6.3 Examination and Analysis of Potential Direct and Indirect Impacts

242 The direct and / or indirect impacts by which the Proposed Scheme could (in the absence of mitigation measures) potentially affect the conservation objective attributes and targets supporting the conservation condition of the SCIs of Malahide Estuary SPA, are:

- Habitat degradation / effects on QI / SCI species as a result of hydrological impacts; and
- Disturbance and displacement impacts.

7.6.3.1 Habitat Degradation / Effects on QI / SCI Species as a Result of Hydrological Impacts

243 In a worst case scenario, an accidental spillage or pollution event into any surface water features during construction, or operation, has the potential to affect water quality in the receiving aquatic environment of Dublin Bay which SCI birds may utilise outside of their core SPA foraging areas. Such a pollution event may include: the release of sediment into receiving waters and the subsequent increase in mobilised suspended solids; and, the accidental spillage and / or leaks of contaminants into receiving waters. The

associated effects of a reduction of surface water quality could potentially extend for a considerable distance downstream of the location of the accidental pollution event or the discharge. The Proposed Scheme is hydrologically connected to the River Tolka, the Royal Canal, and the Liffey Estuary Upper, all of which flow into Dublin Bay.

- 244 During the Operational Phase, the Proposed Scheme will involve the overall net increase in impermeable area for the road corridor will be 2,402m². It is proposed that an increase in impermeable area will be managed for the Proposed Scheme through a combination of bioretention areas, oversized pipes and permeable paving. In the absence of this mitigation, reduction in water quality (either alone or in combination with other pressures on water quality) could occur.
- 245 Therefore, (albeit unlikely) this reduction in water quality (either alone or in combination with other pressures on water quality) could result in the degradation of sensitive habitats present within these European sites, which in turn would negatively affect the SCI bird species that rely upon these habitats as foraging and / or roosting habitat. It could also negatively affect the quantity and quality of prey available to SCI bird species. These potential impacts could occur to such a degree that they result in significant effects which could have implications for the conservation objectives of Malahide Estuary SPA.

7.6.3.2 Disturbance and Displacement Impacts

- 246 A temporary and / or permanent increase in noise, vibration and / or human activity levels during the construction and / or operation of the Proposed Scheme could result in the disturbance to and / or displacement of SCI bird species present within the footprint and / or the vicinity of the Proposed Scheme. Such disturbance effects would not be expected to extend beyond a distance of approximately 300m, as noise levels associated with general construction activities would attenuate to close to background levels at that distance and beyond.
- 247 Noise levels between 50dB and 70dB would provoke a moderate effect / level of response from birds (i.e. birds becoming alert and some behavioural changes (e.g. reduced feeding activity)), but birds would be expected to habituate to noise levels within this range. Noise levels above 70dB would likely result in birds moving out of the affected zone, or leaving the site altogether. This is supported by the findings of Wright *et al.* (2010) which found that noise levels above 60dB resulted in behavioural responses, with birds abandoning the site in response to noise levels above 70dB.
- 248 Malahide Estuary SPA is designated for wintering SCI species that are known to forage and / or roost at inland sites across Dublin, such as amenity grassland playing pitches. These species include light-bellied Brent goose, oystercatcher, golden plover, and black-tailed godwit. There are areas of suitable foraging, and / or roosting habitat for these species within the footprint of and adjacent to the Proposed Scheme (i.e. within the disturbance ZOI), including the following sites, which have been returned from the desk study (Scott Cawley Ltd. 2017):
- Glasnevin / St. Vincent's Primary School (major importance), approximately 82m from the Proposed Scheme;
 - Finglas / Erin's Isle GAA (major importance), approximately 85m from the Proposed Scheme;
 - Glasnevin / DCU Sports Grounds (major importance), approximately 170m from the Proposed Scheme;
 - Finglas / Dunsink Road (high importance), approximately 207m from the Proposed Scheme;
 - Tolka Valley Park (moderate importance), approximately 262m from the Proposed Scheme; and
 - Finglas / Farnham Drive Park (high importance) approximately 269m from the Proposed Scheme.
- 249 It is possible that SCI bird species associated with the Malahide Estuary SPA currently utilise these and other suitable lands in the wider area. However, no significant effects will occur on any SCI bird species population of Malahide Estuary SPA, in light of their conservation objectives, as a consequence of the

disturbance and / or displacement from inland feeding / roosting sites due to increased levels of disturbance, due to the following reasons:

- The availability of large areas of suitable foraging and / or roosting habitat for these SCI bird species in the wider locality of the Proposed Scheme, including those in closer proximity to Malahide Estuary SPA. These include other similar public amenity grassland parks and sports pitches such as Beneavin de la Salle, Gael Scoil Uí Earcáin, St. Patrick's College, Johnstown Park and St. Patrick's College, Drumcondra; and
- Impacts associated with increased levels of disturbance will likely result in the temporary displacement of these SCI species to other suitable available lands in the locality, for a maximum of 12 months (representing a maximum of one winter season) during construction works. Following the completion of construction, disturbance levels will return to baseline conditions and as a result these lands will become available again as foraging and / or roosting habitat for these SCI species.

7.6.3.3 Summary

250 Table 20 presents a summary of the potential impacts and effects of the Proposed Scheme on the SCIs and conservation objectives of Malahide Estuary SPA.

Table 20: Potential Impacts / Effects on the Conservation Objectives of Malahide Estuary SPA

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures Required?	Residual Impacts?
Malahide Estuary SPA			
Great Crested Grebe (<i>Podiceps cristatus</i>) [A005], Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046], Shelduck (<i>Tadorna tadorna</i>) [A048], Pintail (<i>Anas acuta</i>) [A054], Goldeneye (<i>Bucephala clangula</i>) [A067], Red-breasted Merganser (<i>Mergus serrator</i>) [A069], Oystercatcher (<i>Haematopus ostralegus</i>) [A130], Golden Plover (<i>Pluvialis apricaria</i>) [A140], Grey Plover (<i>Pluvialis squatarola</i>) [A141], Knot (<i>Calidris canutus</i>) [A143], Dunlin (<i>Calidris alpina alpina</i>) [A149], Black-tailed Godwit (<i>Limosa limosa</i>) [A156], Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157], Redshank (<i>Tringa totanus</i>) [A162]			
To restore the favourable conservation condition of the special conservation interests of the SPA, which is defined as follows:			
Population trend / Percentage change / Long term population trend stable or increasing	Yes	Yes	No
Distribution / Range, timing and intensity of use of areas / No significant decrease in the range, timing and intensity of use of areas by all of the above named species, other than that occurring from natural patterns of variation	In a worst case scenario, an accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay, which SCI birds may utilise outside of their core SPA foraging areas. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quantity and quality of prey fish species and the quality the of intertidal / coastal habitats that support the special conservation interest bird species of the SPA. This could potentially affect the use of habitat areas by birds and have long-term effects on the SPA populations.	The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme.	With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the SCI species of this SPA and therefore there are no residual impacts which could adversely affect the integrity of the SPA
Wetlands [A999]			
To maintain the favourable conservation condition of wetland habitats within the SPA, which is defined as follows:			
Habitat area / Hectares / The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 765ha, other than that occurring from natural patterns of variation	No	No	No
	There is no pathway for impacts to occur on any habitats associated with the Malahide Estuary SPA as the Proposed Scheme is not hydrologically connected to the Malahide Estuary.		

7.6.4 Mitigation Measures

251 This Section presents the mitigation measures that will be implemented during construction and operation to avoid or reduce the potential impacts of the Proposed Scheme on Malahide Estuary SPA. All of the mitigation measures will be implemented in full and are best practice, and tried and tested, effective control measures to protect the receiving environment.

Measures to Protect Surface Water Quality during Construction

252 The mitigation measures presented in Section 7.1.5 will protect surface water quality during construction of the Proposed Scheme.

Measures to Protect Surface Water Quality during Operation

253 The mitigation measures presented in Section 7.1.5 will protect surface water quality during operation of the Proposed Scheme.

7.6.5 Residual Impacts

254 With the effective implementation of appropriate mitigation measures identified in this NIS, the Proposed Scheme poses no risk of affecting the conservation objectives, or the favourable conservation condition, of SCIs of Malahide Estuary SPA, and there are therefore, no residual direct or indirect impacts associated with the Proposed Scheme on Malahide Estuary SPA. As is confirmed by the Water Framework Directive Assessment for the Proposed Scheme (refer to Appendix VI), the Proposed Scheme will not cause a deterioration in status in any water body, will not prevent any water body from achieving Good Ecological Status or Good Ecological Potential, and it can be concluded that the Proposed Scheme complies with all requirements of the WFD.

7.6.6 Conclusion of Assessment for Malahide Estuary SPA

255 Following an examination, analysis and evaluation in light of best scientific knowledge, of all relevant information in respect of the SCIs for Malahide Estuary SPA, the potential impacts and mitigation measures, and whether or not the predicted impacts would affect the conservation objectives that support the conservation condition of the SCIs, it has been concluded that the Proposed Scheme does not pose a risk of adversely affecting (either directly or indirectly) the integrity of Malahide Estuary SPA, and there is no reasonable scientific doubt about this conclusion

7.7 Baldoye Bay SPA [004016]

7.7.1 Ecological Baseline Description for Baldoye Bay SPA

256 The Natura 2000 Standard Data Form (NPWS 2020k) lists the SPA as an estuarine and bay system with habitats of variable but generally good quality. It has extensive mud and sand flats, often with a high organic content and salt marsh habitat. It has good salt marsh fringes where birds roost. The site supports wintering waterfowl, most notably an Internationally Important population of light-bellied brent goose. It also supports Nationally Important populations of shelduck, pintail, ringed plover, golden plover, grey plover and bar-tailed godwit. At high tide, the shallow waters attract species such as great-crested grebe and red-breasted merganser. Threats to the site include hunting, eutrophication, bait-digging and human habitation / urbanisation.

7.7.2 SCIs and Conservation Objectives of Baldoye Bay SPA

257 The SCIs of Baldoye Bay SPA, and the overall conservation objective, are listed in Table 21.

Table 21: SCIs and Conservation Objectives of Baldoyle Bay SPA

SCI(s)	Conservation Objective(s)
<p>Baldoyle Bay SPA [004016]</p> <p>A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i></p> <p>A048 Shelduck <i>Tadorna tadorna</i></p> <p>A137 Ringed Plover <i>Charadrius hiaticula</i></p> <p>A140 Golden Plover <i>Pluvialis apricaria</i></p> <p>A141 Grey Plover <i>Pluvialis squatarola</i></p> <p>A157 Bar-tailed Godwit <i>Limosa lapponica</i></p> <p>A999 Wetland and Waterbirds</p> <p>S.I. No. 275/2010 - European Communities (Conservation of Wild Birds (Baldoyle Bay Special Protection Area 004016)) Regulations 2010.</p> <p>NPWS (2013) <i>Conservation Objectives: Baldoyle Bay SPA 004016. Version 1.</i> National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>To maintain or restore the favourable conservation condition of the bird species listed as SCIs for this SPA</p>

258 In conjunction with considering the generic conservation objective for this SPA, 'To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA', the site-specific conservation objectives document for Baldoyle Bay SPA also informed this assessment.

259 The site-specific conservation objectives document sets out the attributes, measures and targets that define the favourable conservation condition of the SCIs within the European site. Affecting the conservation condition of the SCIs is deemed to constitute an adverse effect on the integrity of a European site. The specific attributes and targets used to define the conservation objectives of the SCIs of Baldoyle Bay SPA are presented in Section 7.7.3.3.

7.7.3 Examination and Analysis of Potential Direct and Indirect Impacts

260 The direct and / or indirect impacts by which the Proposed Scheme could (in the absence of mitigation measures) potentially affect the conservation objective attributes and targets supporting the conservation condition of the SCIs of Baldoyle Bay SPA, are:

- Habitat degradation / effects on SCI species as a result of hydrological impacts; and
- Disturbance and displacement impacts.

7.7.3.1 Habitat Degradation / Effects on SCI Species as a Result of Hydrological Impacts

261 In a worst case scenario, an accidental spillage or pollution event into any surface water features during construction, or operation, has the potential to affect water quality in the receiving aquatic environment of Dublin Bay which SCI birds may utilise outside of their core SPA foraging areas. Such a pollution event may include: the release of sediment into receiving waters and the subsequent increase in mobilised suspended solids; and, the accidental spillage and / or leaks of contaminants into receiving waters. The associated effects of a reduction of surface water quality could potentially extend for a considerable distance downstream of the location of the accidental pollution event or the discharge. The Proposed Scheme is hydrologically connected to the River Santry, River Tolka, the Royal Canal, and the Liffey Estuary Upper, all of which flow into Dublin Bay. In addition, the Proposed Scheme is hydrologically connected to Dublin Bay as a result of surface waters from the footprint of the Proposed Scheme which will join the public sewer and will be treated at the Irish Water Ringsend WwTP prior to subsequent discharge to Dublin Bay via the Liffey Estuary Lower.

262 During the Operational Phase, the Proposed Scheme will involve the overall net increase in impermeable area for the road corridor will be 2,402m². It is proposed that an increase in impermeable area will be

managed for the Proposed Scheme through a combination of bioretention areas, oversized pipes and permeable paving. In the absence of this mitigation, reduction in water quality (either alone or in combination with other pressures on water quality) could occur.

263 Therefore, (albeit unlikely) this reduction in water quality (either alone or in combination with other pressures on water quality) could result in the degradation of sensitive habitats present within these European sites, which in turn would negatively affect the SCI bird species that utilise these habitats as foraging and / or roosting habitat. It could also negatively affect the quantity and quality of prey available to SCI bird species. These potential impacts could occur to such a degree that they result in significant effects which could have implications for the conservation objectives of Baldoyle Bay SPA.

7.7.3.2 Disturbance and Displacement Impacts

264 A temporary and / or permanent increase in noise, vibration and / or human activity levels during the construction and / or operation of the Proposed Scheme could result in the disturbance to and / or displacement of SCI bird species present within the footprint and / or the vicinity of the Proposed Scheme. Such disturbance effects would not be expected to extend beyond a distance of approximately 300m, as noise levels associated with general construction activities would attenuate to close to background levels at that distance and beyond.

265 Noise levels between 50dB and 70dB would provoke a moderate effect / level of response from birds (i.e. birds becoming alert and some behavioural changes (e.g. reduced feeding activity)), but birds would be expected to habituate to noise levels within this range. Noise levels above 70dB would likely result in birds moving out of the affected zone, or leaving the site altogether. This is supported by the findings of Wright *et al.* (2010) which found that noise levels above 60dB resulted in behavioural responses, with birds abandoning the site in response to noise levels above 70dB.

266 Baldoyle Bay SPA is designated for wintering SCI species that are known to forage and / or roost at inland sites across Dublin, such as amenity grassland playing pitches (e.g. light-bellied Brent goose and golden plover). There are areas of suitable foraging, and / or roosting habitat for these species within the footprint of and adjacent to the Proposed Scheme (i.e. within the disturbance Zol), including the following sites, which have been returned from the desk study (Scott Cawley Ltd. 2017):

- Glasnevin / St. Vincent's Primary School (major importance), approximately 82m from the Proposed Scheme;
- Finglas / Erin's Isle GAA (major importance), approximately 85m from the Proposed Scheme;
- Glasnevin / DCU Sports Grounds (major importance), approximately 170m from the Proposed Scheme;
- Finglas / Dunsink Road (high importance), approximately 207m from the Proposed Scheme;
- Tolka Valley Park (moderate importance), approximately 262m from the Proposed Scheme; and
- Finglas / Farnham Drive Park (high importance) approximately 269m from the Proposed Scheme.

267 As records of light-bellied Brent goose have been returned from the desk study in the vicinity of the Proposed Scheme, it is considered to be possible that light-bellied Brent goose associated with the Baldoyle Bay SPA currently utilise these and other suitable lands in the wider area. However, there are no significant effects which will occur on any SCI bird species population of Baldoyle Bay, in light of their conservation objectives, as a consequence of the disturbance and / or displacement from inland feeding / roosting sites due to increased levels of disturbance due to the following reasons:

- The availability of large areas of suitable foraging and / or roosting habitat for these SCI bird species in the wider locality of the Proposed Scheme, including those in closer proximity to Baldoyle Bay SPA. These include other similar public amenity grassland parks and sports pitches such as the Red Arches, Seagrang Park, the Baldoyle Bird Quiet Zone, Beneavin de

la Salle, Gael Scoil Uí Earcáin, St. Patrick's College, Johnstown Park and St. Patrick's College, Drumcondra; and

- Impacts associated with increased levels of disturbance will likely result in the temporary displacement of these SCI species to other suitable available lands in the locality, for a maximum of 12 months (representing a maximum of one winter season) during construction works. Following the completion of construction, disturbance levels will likely return to baseline conditions and as a result these lands will become available again as foraging and / or roosting habitat for these SCI species.

7.7.3.3 Summary

268 Table 22 presents a summary of the potential impacts and effects of the Proposed Scheme on the SCIs and conservation objectives of Baldoyle Bay SPA.

Table 22: Potential Impacts / Effects on the Conservation Objectives of Baldoyle Bay SPA

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures Required?	Residual Impacts?
Baldoyle Bay SPA			
<p>Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046], Shelduck (<i>Tadorna tadorna</i>) [A048], Ringed Plover (<i>Charadrius hiaticula</i>) [A137], Golden Plover (<i>Pluvialis apricaria</i>) [A140], Grey Plover (<i>Pluvialis squatarola</i>) [A141], Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157]</p> <p>To restore the favourable conservation condition of the special conservation interests of the SPA, which is defined as follows:</p>			
Population trend / Percentage change / Long term population trend stable or increasing	Yes	Yes	No
Distribution / Range, timing and intensity of use of areas / No significant decrease in the range, timing and intensity of use of areas by all of the above named species, other than that occurring from natural patterns of variation	In a worst case scenario, an accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay, which SCI birds may utilise outside of their core SPA foraging areas. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quantity and quality of prey fish species and the quality the of intertidal / coastal habitats that support the special conservation interest bird species of the SPA. This could potentially affect the use of habitat areas by birds and have long-term effects on the SPA populations.	The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme.	With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the SCI species of this SPA and therefore there are no residual impacts which could adversely affect the integrity of the SPA
Wetlands [A999]			
To maintain the favourable conservation condition of wetland habitats within the SPA, which is defined as follows:			
Habitat area / Hectares / The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 263ha, other than that occurring from natural patterns of variation	No	No	No
	There is no pathway for impacts to occur on any habitats associated with the Baldoyle Bay SPA as the Proposed Scheme is not hydrologically connected to the Baldoyle Bay.		

7.7.4 Mitigation Measures

269 This Section presents the mitigation measures that will be implemented during construction and operation to avoid or reduce the potential impacts of the Proposed Scheme on Baldoyle Bay SPA. All of the mitigation measures will be implemented in full and are best practice, and tried and tested, effective control measures to protect the receiving environment.

Measures to Protect Surface Water Quality during Construction

270 The mitigation measures presented in Section 7.1.5 will protect surface water quality during construction of the Proposed Scheme.

Measures to Protect Surface Water Quality during Operation

271 The mitigation measures presented in Section 7.1.5 will protect surface water quality during operation of the Proposed Scheme.

7.7.5 Residual Impacts

272 With the effective implementation of appropriate mitigation measures in this NIS, the Proposed Scheme poses no risk of affecting the conservation objectives, or the favourable conservation condition, SCIs of Baldoyle Bay SPA, and there are therefore, no residual direct or indirect impacts associated with the Proposed Scheme on Baldoyle Bay SPA. As is confirmed by the Water Framework Directive Assessment for the Proposed Scheme (refer to Appendix VI), the Proposed Scheme will not cause a deterioration in status in any water body, will not prevent any water body from achieving Good Ecological Status or Good Ecological Potential, and it can be concluded that the Proposed Scheme complies with all requirements of the WFD.

7.7.6 Conclusion of Assessment for Baldoyle Bay SPA

273 Following an examination, analysis and evaluation in light of best scientific knowledge, of all relevant information in respect of the SCIs for Baldoyle Bay SPA, the potential impacts and mitigation measures, and whether or not the predicted impacts would affect the conservation objectives that support the conservation condition of the SCIs, it has been concluded that the Proposed Scheme does not pose a risk of adversely affecting (either directly or indirectly) the integrity of Baldoyle Bay SPA, and there is no reasonable scientific doubt about this conclusion.

7.8 Rogerstown Estuary SPA [004015]

7.8.1 Ecological Baseline Description for Rogerstown Estuary SPA

274 The Natura Standard Data Form (NPWS 2020I) lists Rogerstown Estuary SPA as a relatively small estuarine system in north County Dublin. It has salt marsh and sand dune habitat as well as agricultural fields which have ornithological and botanical interest. It has extensive sand and mud flats and supports wintering waterfowl. It supports an Internationally Important population of light-bellied Brent goose and Nationally Important populations of a further 15 species. It is an important and regular site for a range of autumn passage migrants. Little tern has bred in Rogerstown Estuary in the past and there are populations of three Red Data Book plant species present. The main threats to the site include disposal of household / recreational facility waste, invasive species, disposal of industrial waste, fertilisation and landfill, land reclamation and drying out.

7.8.2 SCIs and Conservation Objectives of Rogerstown Estuary SPA

275 The SCIs of Rogerstown Estuary SPA, and the overall conservation objective, are listed in Table 23.

Table 23: SCIs and Conservation Objectives of Rogerstown Estuary SPA

SCI(s)	Conservation Objective(s)
<p>Rogerstown Estuary SPA [004015]</p> <p>A043 Greylag Goose <i>Anser anser</i></p> <p>A046 Brent Goose <i>Branta bernicla hrota</i></p> <p>A048 Shelduck <i>Tadorna tadorna</i></p> <p>A056 Shoveler <i>Anas clypeata</i></p> <p>A130 Oystercatcher <i>Haematopus ostralegus</i></p> <p>A137 Ringed Plover <i>Charadrius hiaticula</i></p> <p>A141 Grey Plover <i>Pluvialis squatarola</i></p> <p>A143 Knot <i>Calidris canutus</i></p> <p>A149 Dunlin <i>Calidris alpina alpina</i></p> <p>A156 Black-tailed Godwit <i>Limosa limosa</i></p> <p>A162 Redshank <i>Tringa totanus</i></p> <p>A999 Wetlands</p> <p>S.I. No. 271/2010 - European Communities (Conservation of Wild Birds (Rogerstown Estuary Special Protection Area 004015)) Regulations 2010.</p> <p>NPWS (2013) <i>Conservation Objectives: Rogerstown Estuary SPA 004015</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>To maintain or restore the favourable conservation condition of the bird species listed as SCIs for this SPA</p>

276 In conjunction with considering the generic conservation objective for this SPA, 'To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA', the site-specific conservation objectives document for Rogerstown Estuary SPA also informed this assessment.

277 The site-specific conservation objectives document sets out the attributes, measures and targets that define the favourable conservation condition of the SCIs within the European site. Affecting the conservation condition of the SCIs is deemed to constitute an adverse effect on the integrity of a European site. The specific attributes and targets used to define the conservation objectives of the SCIs of Rogerstown Estuary SPA are presented in Section 7.8.3.3.

7.8.3 Examination and Analysis of Potential Direct and Indirect Impacts

278 The direct and / or indirect impacts by which the Proposed Scheme could (in the absence of mitigation measures) potentially affect the conservation objective attributes and targets supporting the conservation condition of the SCIs of Rogerstown Estuary SPA, are:

- Habitat degradation / effects on SCI species as a result of hydrological impacts; and
- Disturbance and displacement impacts.

7.8.3.1 Habitat Degradation / Effects on SCI Species as a Result of Hydrological Impacts

279 In a worst-case scenario, an accidental spillage or pollution event into any surface water features during construction, or operation, has the potential to affect water quality in the receiving aquatic environment of Dublin Bay which SCI birds may utilise outside of their core SPA foraging areas. Such a pollution event may include: the release of sediment into receiving waters and the subsequent increase in mobilised suspended solids; and, the accidental spillage and / or leaks of contaminants into receiving waters. The associated effects of a reduction of surface water quality could potentially extend for a considerable distance downstream of the location of the accidental pollution event or the discharge. The Proposed Scheme is hydrologically connected to the River Santry, River Tolka, the Royal Canal, and the Liffey Estuary

Upper, all of which flow into Dublin Bay. In addition the Proposed Scheme is hydrologically connected to Dublin Bay as a result of surface waters from the footprint of the Proposed Scheme which will join the public sewer and will be treated at the Irish Water Ringsend WwTP prior to subsequent discharge to Dublin Bay via the Liffey Estuary Lower.

- 280 During the operational phase, the Proposed Scheme will involve the overall net increase in impermeable area for the road corridor will be 2,402m². It is proposed that an increase in impermeable area will be managed for the Proposed Scheme through a combination of bioretention areas, oversized pipes and permeable paving. In the absence of this mitigation, reduction in water quality (either alone or in combination with other pressures on water quality) could occur.
- 281 Therefore, (albeit unlikely) this reduction in water quality (either alone or in combination with other pressures on water quality) could result in the degradation of sensitive habitats present within these European sites, which in turn would negatively affect the SCI bird species that utilise these habitats as foraging and / or roosting habitat. It could also negatively affect the quantity and quality of prey available to SCI bird species. These potential impacts could occur to such a degree that they result in significant effects which could have implications for the conservation objectives of Rogerstown Estuary SPA.

7.8.3.2 Disturbance and Displacement Impacts

- 282 A temporary and / or permanent increase in noise, vibration and / or human activity levels during the construction and / or operation of the Proposed Scheme could result in the disturbance to and / or displacement of SCI bird species present within the footprint and / or the vicinity of the Proposed Scheme. Such disturbance effects would not be expected to extend beyond a distance of approximately 300m, as noise levels associated with general construction activities would attenuate to close to background levels at that distance and beyond.
- 283 Rogerstown Estuary SPA is designated for wintering special conservation interest species that are known to forage and / or roost at inland sites across Dublin, such as amenity grassland playing pitches. These species include light-bellied Brent goose, oystercatcher and black-tailed godwit. There are areas of suitable foraging, and / or roosting habitat for these species within the footprint of and adjacent to the Proposed Scheme (i.e. within the disturbance Zol), including the following sites, which have been returned from the desk study (Scott Cawley Ltd. 2017):
- Glasnevin / St. Vincent's Primary School (major importance), approximately 82m from the Proposed Scheme;
 - Finglas / Erin's Isle GAA (major importance), approximately 85m from the Proposed Scheme;
 - Glasnevin / DCU Sports Grounds (major importance), approximately 170m from the Proposed Scheme;
 - Finglas / Dunsink Road (high importance), approximately 207m from the Proposed Scheme;
 - Tolka Valley Park (moderate importance), approximately 262m from the Proposed Scheme; and
 - Finglas / Farnham Drive Park (high importance), approximately 269m from the Proposed Scheme.
- 284 As records of SCI bird species associated with Rogerstown Estuary SPA have been returned from the desk study in the vicinity of the Proposed Scheme (i.e. light-bellied Brent goose and oystercatcher), it is considered to be possible that SCI species associated with Rogerstown Estuary SPA currently utilise these and other suitable lands in the wider area. However, there is no potential for impacts to occur on any SCI bird species population of Rogerstown Estuary, in light of their conservation objectives, as a consequence of the disturbance and / or displacement from inland feeding / roosting sites due to increased levels of disturbance due to the following reasons:
- The availability of large areas of suitable foraging and / or roosting habitat for these SCI bird species in the wider locality of the Proposed Scheme, including those in closer proximity to

Rogerstown Estuary SPA. These include other similar public amenity grassland parks and sports pitches such as Beneavin de la Salle, Gael Scoil Uí Earcáin, St. Patrick's College, Johnstown Park and St. Patrick's College, Drumcondra; and

- Impacts associated with increased levels of disturbance will likely result in the temporary displacement of these SCI species to other suitable available lands in the locality, for a maximum of 12 months (representing a maximum of one winter season) during construction works. Following the completion of construction, disturbance levels will return to baseline conditions and as a result these lands will become available again as foraging and / or roosting habitat for these SCI species.

7.8.3.3 Summary

285 Table 24 presents a summary of the potential impacts and effects of the Proposed Scheme on SCIs and conservation objectives of Rogerstown Estuary SPA.

Table 24: Potential Impacts / Effects on the Conservation Objectives of Rogerstown Estuary SPA

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures Required?	Residual Impacts?
Rogerstown Estuary SPA			
<p>Greylag Goose [A043], Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046], Shelduck (<i>Tadorna tadorna</i>) [A048], Shoveler (<i>Anas clypeata</i>) [A056], Oystercatcher (<i>Haematopus ostralegus</i>) [A130], Ringed Plover (<i>Charadrius hiaticula</i>) [A137], Grey Plover (<i>Pluvialis squatarola</i>) [A141], Knot (<i>Calidris canutus</i>) [A143], Dunlin (<i>Calidris alpina alpina</i>) [A149], Black-tailed Godwit (<i>Limosa limosa</i>) [A156] and Redshank (<i>Tringa tetanus</i>) [A162]</p> <p>To restore the favourable conservation condition of the special conservation interests of the SPA, which is defined as follows:</p>			
Population trend / Percentage change / Long term population trend stable or increasing	Yes	Yes	No
Distribution / Range, timing and intensity of use of areas / No significant decrease in the range, timing and intensity of use of areas by all of the above named species, other than that occurring from natural patterns of variation	In a worst case scenario, an accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay, which SCI birds may utilise outside of their core SPA foraging areas. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quantity and quality of prey fish species and the quality the of intertidal / coastal habitats that support the special conservation interest bird species of the SPA. This could potentially affect the use of habitat areas by birds and have long-term effects on the SPA populations.	The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme.	With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the SCI species of this SPA and therefore there are no residual impacts which could adversely affect the integrity of the SPA
Wetlands [A999]			
To maintain the favourable conservation condition of wetland habitats within the SPA, which is defined as follows:			
Habitat area / Hectares / The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 646ha, other than that occurring from natural patterns of variation	No	No	No
	There is no pathway for impacts to occur on any habitats associated with the Rogerstown Estuary SPA as the Proposed Scheme is not hydrologically connected to Rogerstown Estuary.		

7.8.4 Mitigation Measures

286 This Section presents the mitigation measures that will be implemented during construction and operation to avoid or reduce the potential impacts of the Proposed Scheme on Rogerstown Estuary SPA. All of the mitigation measures will be implemented in full and are best practice, and tried and tested, effective control measures to protect the receiving environment.

Measures to Protect Surface Water Quality during Construction

287 The mitigation measures presented in Section 7.1.5 will protect surface water quality during construction of the Proposed Scheme.

Measures to Protect Surface Water Quality during Operation

288 The mitigation measures presented in Section 7.1.5 will protect surface water quality during operation of the Proposed Scheme.

7.8.5 Residual Impacts

289 With the effective implementation of appropriate mitigation measures identified in this NIS, the Proposed Scheme poses no risk of affecting the conservation objectives, or the favourable conservation condition, of SCIs of Rogerstown Estuary SPA, and there are therefore, no residual direct or indirect impacts associated with the Proposed Scheme on Rogerstown Estuary SPA. As is confirmed by the Water Framework Directive Assessment for the Proposed Scheme (refer to Appendix VI), the Proposed Scheme will not cause a deterioration in status in any water body, will not prevent any water body from achieving Good Ecological Status or Good Ecological Potential, and it can be concluded that the Proposed Scheme complies with all requirements of the WFD.

7.8.6 Conclusion of Assessment for Rogerstown Estuary SPA

290 Following an examination, analysis and evaluation in light of best scientific knowledge, of all relevant information in respect of the SCIs for Rogerstown Estuary SPA, the potential impacts and mitigation measures, and whether or not the predicted impacts would affect the conservation objectives that support the conservation condition of the SCIs, it has been concluded that the Proposed Scheme does not pose a risk of adversely affecting (either directly or indirectly) the integrity of Rogerstown Estuary SPA, and there is no reasonable scientific doubt about this conclusion.

7.9 Skerries Islands SPA [004122]

7.9.1 Ecological Baseline Description for Skerries Islands SPA

291 The Natura Standard Data Form (NPWS 2020m) lists Skerries Islands SPA as a group of three small, uninhabited islands between approximately 0.5 and 1.5km off the north Dublin coastline. Habitats on the islands include low cliffs, rocky shores, sandflats and a shingle bar. Vegetation of the islands is dominated by rank grasses and brambles. The site has Nationally Important breeding colonies of cormorant, shag, herring gull and greater black-backed gull. In winter, the site is visited by a good diversity of waterfowl. It supports an Internationally Important population of light-bellied Brent goose and Nationally Important populations of cormorant, purple sandpiper and turnstone.

7.9.2 SCIs and Conservation Objectives of Skerries Islands SPA

292 The SCIs of Skerries Islands SPA, and the overall conservation objective, are listed in Table 25.

Table 25: SCIs and Conservation Objectives of Skerries Islands SPA

SCI(s)	Conservation Objective(s)
<p>Skerries Islands SPA [004122]</p> <p>A017 Cormorant <i>Phalacrocorax carbo</i></p> <p>A018 Shag <i>Phalacrocorax aristotelis</i></p> <p>A046 Brent Goose <i>Branta bernicla hrota</i></p> <p>A148 Purple Sandpiper <i>Calidris maritima</i></p> <p>A169 Turnstone <i>Arenaria interpres</i></p> <p>A184 Herring Gull <i>Larus argentatus</i></p> <p>S.I. No. 245/2010 - European Communities (Conservation of Wild Birds (Skerries Islands Special Protection Area 004122)) Regulations 2010.</p> <p>NPWS (2021) <i>Conservation objectives for Skerries Islands SPA [004122]</i>. Generic Version 8.0. Department of Housing, Local Government and Heritage.</p>	<p>To maintain or restore the favourable conservation condition of the bird species listed as SCIs for this SPA</p>

293 In conjunction with considering the generic conservation objective for this SPA, 'To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA', the site-specific conservation objectives document for Skerries Islands SPA also informed this assessment.

294 The site-specific conservation objectives document sets out the attributes, measures and targets that define the favourable conservation condition of the SCIs within the European site. Affecting the conservation condition of the SCIs would constitute an adverse effect on the integrity of a European site. The specific attributes and targets used to define the conservation objectives of the SCIs of Skerries Islands SPA are presented in Section 7.9.3.3.

7.9.3 Examination and Analysis of Potential Direct and Indirect Impacts

295 The direct and / or indirect impacts by which the Proposed Scheme could (in the absence of mitigation measures) potentially affect the conservation objective attributes and targets supporting the conservation condition of the SCIs of Skerries Islands SPA, are:

- Habitat degradation / effects on SCI species as a result of hydrological impacts; and
- Disturbance and displacement impacts.

7.9.3.1 Habitat Degradation / Effects on SCI Species as a Result of Hydrological Impacts

296 In a worst-case scenario, an accidental spillage or pollution event into any surface water features during construction, or operation, has the potential to affect water quality in the receiving aquatic environment of Dublin Bay which SCI birds may utilise outside of their core SPA foraging areas. Such a pollution event may include: the release of sediment into receiving waters and the subsequent increase in mobilised suspended solids; and, the accidental spillage and / or leaks of contaminants (e.g. fuel, oils, chemicals and concrete washings) into receiving waters. The associated effects of a reduction of surface water quality could potentially extend for a considerable distance downstream of the location of the accidental pollution event or the discharge. The Proposed Scheme is hydrologically connected to the River Santry, River Tolka, the Royal Canal, and the Liffey Estuary Upper, all of which flow into Dublin Bay. In addition the Proposed Scheme is hydrologically connected to Dublin Bay as a result of surface waters from the footprint of the Proposed Scheme which will join the public sewer and will be treated at the Irish Water Ringsend WWTP prior to subsequent discharge to Dublin Bay via the Liffey Estuary Lower.

297 During the Operational Phase, the Proposed Scheme will involve the overall net increase in impermeable area for the road corridor will be 2,402m². It is proposed that an increase in impermeable area will be managed for the Proposed Scheme through a combination of bioretention areas, oversized pipes and

permeable paving. In the absence of this mitigation, reduction in water quality (either alone or in combination with other pressures on water quality) could occur.

298 Therefore, (albeit unlikely) this reduction in water quality (either alone or in combination with other pressures on water quality) could result in the degradation of sensitive habitats present within these European sites, which in turn would negatively affect the SCI bird species that utilise these habitats as foraging and / or roosting habitat. It could also negatively affect the quantity and quality of prey available to SCI bird species. These potential impacts could occur to such a degree that they result in significant effects which could have implications for the conservation objectives of Skerries Islands SPA.

7.9.3.2 Disturbance and Displacement Impacts

299 A temporary and / or permanent increase in noise, vibration and / or human activity levels during the construction and / or operation of the Proposed Scheme could result in the disturbance to and / or displacement of SCI bird species present within the footprint and / or the vicinity of the Proposed Scheme. Such disturbance effects would not be expected to extend beyond a distance of approximately 300m, as noise levels associated with general construction activities would attenuate to close to background levels at that distance and beyond.

300 Skerries Islands SPA is designated for wintering SCI species that are known to forage and / or roost at inland sites across Dublin, such as amenity grassland playing pitches. These species include light-bellied Brent goose and herring gull. There are areas of suitable foraging, and / or roosting habitat for these species within the footprint of and adjacent to the Proposed Scheme (i.e. within the disturbance Zol), including the following sites, which have been returned from the desk study (Scott Cawley Ltd. 2017):

- Glasnevin / St. Vincent's Primary School (major importance), approximately 82m from the Proposed Scheme;
- Finglas / Erin's Isle GAA (major importance), approximately 85m from the Proposed Scheme;
- Glasnevin / DCU Sports Grounds (major importance), approximately 170m from the Proposed Scheme;
- Finglas / Dunsink Road (high importance), approximately 207m from the Proposed Scheme;
- Tolka Valley Park (moderate importance), approximately 262m from the Proposed Scheme; and
- Finglas / Farnham Drive Park (high importance), approximately 269m from the Proposed Scheme.

301 As records of SCI bird species associated with Skerries Islands SPA have been returned from the desk study in the vicinity of the Proposed Scheme (i.e. light-bellied Brent goose and herring gull), it is considered to be possible that SCI species associated with Skerries Islands SPA currently utilise these and other suitable lands in the wider area. However, no significant effects will occur on any SCI bird species population of Skerries Islands SPA, in light of their conservation objectives, as a consequence of the disturbance and / or displacement from inland feeding / roosting sites due to increased levels of disturbance due to the following reasons:

- The availability of large areas of suitable foraging and / or roosting habitat for these SCI bird species in the wider locality of the Proposed Scheme, including those in closer proximity to Rogerstown Estuary SPA. These include other similar public amenity grassland parks and sports pitches such as Beneavin de la Salle, Gael Scoil Uí Earcáin, St. Patrick's College, Johnstown Park and St. Patrick's College, Drumcondra; and
- Impacts associated with increased levels of disturbance will likely result in the temporary displacement of these SCI species to other suitable available lands in the locality, for a maximum of 12 months (representing a maximum of one winter season) during construction works. Following the completion of construction, disturbance levels will return to baseline

conditions and as a result these lands will become available again as foraging and / or roosting habitat for these SCI species.

7.9.3.3 Summary

302 Table 26 presents a summary of the potential impacts and effects of the Proposed Scheme on the SCIs and conservation objectives of Skerries Islands SPA.

Table 26: Potential Impacts / Effects on the Conservation Objectives of Skerries Islands SPA

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures Required?	Residual Impacts?
Skerries Islands SPA			
<p>Cormorant (<i>Phalacrocorax carbo</i>) [A017], Shag <i>Phalacrocorax aristotelis</i> [A018], Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046], Purple Sandpiper (<i>Calidris maritima</i>) [A148], Turnstone (<i>Arenaria interpres</i>) [A169] and Herring Gull (<i>Larus argentatus</i>) [A184]</p> <p>There is no site-specific conservation objectives document available for this SPA. Therefore, the attributes, measures and targets below have been developed based on the specific conservation objectives available for Rogerstown Estuary SPA [004015]</p>			
Population trend / Percentage change / Long term population trend stable or increasing	Yes	Yes	No
Distribution / Range, timing and intensity of use of areas / No significant decrease in the range, timing and intensity of use of areas by all of the above named species, other than that occurring from natural patterns of variation	In a worst case scenario, an accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay, which SCI birds may utilise outside of their core SPA foraging areas. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quantity and quality of prey fish species and the quality the of intertidal / coastal habitats that support the special conservation interest bird species of the SPA. This could potentially affect the use of habitat areas by birds and have long-term effects on the SPA populations.	The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme.	With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the SCI species of this SPA and therefore there are no residual impacts which could adversely affect the integrity of the SPA

7.9.4 Mitigation Measures

303 This Section presents the mitigation measures that will be implemented during construction and operation to avoid or reduce the potential impacts of the Proposed Scheme on Skerries Islands SPA. All of the mitigation measures will be implemented in full and are best practice, and tried and tested, effective control measures to protect the receiving environment.

Measures to Protect Surface Water Quality during Construction

304 The mitigation measures presented in Section 7.1.5 will protect surface water quality during construction of the Proposed Scheme.

Measures to Protect Surface Water Quality during Operation

305 The mitigation measures presented in Section 7.1.5 will protect surface water quality during operation of the Proposed Scheme.

7.9.5 Residual Impacts

306 With the effective implementation of appropriate mitigation measures identified in this NIS, the Proposed Scheme poses no risk of affecting the conservation objectives, or the favourable conservation condition, of the SCIs of Skerries Islands SPA, and there are therefore, no residual direct or indirect impacts associated with the Proposed Scheme on Skerries Islands SPA. As is confirmed by the Water Framework Directive Assessment for the Proposed Scheme (refer to Appendix VI), the Proposed Scheme will not cause a deterioration in status in any water body, will not prevent any water body from achieving Good Ecological Status or Good Ecological Potential, and it can be concluded that the Proposed Scheme complies with all requirements of the WFD.

7.9.6 Conclusion of Assessment for Skerries Islands SPA

307 Following an examination, analysis and evaluation in light of best scientific knowledge, of all relevant information in respect of the SCIs for Skerries Islands SPA, the potential impacts and mitigation measures, and whether or not the predicted impacts would affect the conservation objectives that support the conservation condition of the SCIs, it has been concluded that the Proposed Scheme does not pose a risk of adversely affecting (either directly or indirectly) the integrity of Skerries Islands SPA, and there is no reasonable scientific doubt about this conclusion.

7.10 Ireland's Eye SPA [004117] and Lambay Island SPA [004069]

7.10.1 Ecological Baseline Description for Ireland's Eye SPA

308 According to the Natura 2000 Standard Data Form (NPWS 2020n), this SPA is a small uninhabited island located approximately 1.5km north of Howth Head. The main habitat on the island is a mix of dry grassland and bracken. There are impressive cliff formations along the northern and eastern sides of the island. This SPA has a large seabird colony, with 11 species breeding regularly. It is designated for breeding populations of cormorant, herring gull, kittiwake, guillemot and razorbill. Major threats to the site include walking, horse riding and non-motorised vehicles and leisure fishing.

7.10.2 Ecological Baseline Description for Lambay Island SPA

309 According to the Natura 2000 Standard Data Form (NPWS 2020o), this SPA is an island located approximately 4km off the north Dublin coastline. Habitats present on the island include rocky shorelines, low tide sandflats and fertile grassland. The northern, eastern and southern shorelines consist of steep cliffs. The predominant land use of the island is cattle grazing. This SPA has one of the most important seabird colonies in Ireland, with 12 species breeding regularly. It has been designated for breeding

populations of fulmar, cormorant, shag, greylag goose, lesser black-backed gull, herring gull, kittiwake, guillemot, razorbill and puffin.

7.10.3 SCIs and Conservation Objectives of Ireland’s Eye SPA and Lambay Island SPA

310 The SCIs of Ireland’s Eye SPA and Lambay Island SPA, and the overall conservation objectives, are listed in Table 27.

Table 27: SCIs and Conservation Objectives of Ireland’s Eye SPA and Lambay Island SPA

SCI(s)	Conservation Objective(s)
<p>Ireland’s Eye SPA [004117] A017 Cormorant <i>Phalacrocorax carbo</i> A184 Herring Gull <i>Larus argentatus</i> A188 Kittiwake <i>Rissa tridactyla</i> A199 Guillemot <i>Uria aalge</i> A200 Razorbill <i>Alca torda</i></p> <p>S.I. No. 240/2010 - European Communities (Conservation of Wild Birds (Ireland’s Eye Special Protection Area 004117)) Regulations 2010. NPWS (2021) <i>Conservation objectives for Ireland’s Eye SPA [004117]</i>. Generic Version 8.0. Department of Housing, Local Government and Heritage.</p>	<p>To maintain or restore the favourable conservation condition of the bird species listed as SCIs for this SPA</p>
<p>Lambay Island SPA [004069] A009 Fulmar <i>Fulmarus glacialis</i> A017 Cormorant <i>Phalacrocorax carbo</i> A018 Shag <i>Phalacrocorax aristotelis</i> A043 Greylag Goose <i>Anser anser</i> A183 Lesser Black-backed Gull <i>Larus fuscus</i> A184 Herring Gull <i>Larus argentatus</i> A188 Kittiwake <i>Rissa tridactyla</i> A199 Guillemot <i>Uria aalge</i> A200 Razorbill <i>Alca torda</i> A204 Puffin <i>Fratercula arctica</i></p> <p>S.I. No. 242/2010 - European Communities (Conservation of Wild Birds (Lambay Island Special Protection Area 004069)) Regulations 2010. NPWS (2021) <i>Conservation objectives for Lambay Island SPA [004069]</i>. Generic Version 8.0. Department of Housing, Local Government and Heritage.</p>	<p>To maintain or restore the favourable conservation condition of the bird species listed as SCIs for this SPA</p>

311 In conjunction with considering the generic conservation objective for these SPAs, ‘To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA’, the site-specific conservation objectives documents for Ireland’s Eye SPA and Lambay Island SPA also informed this assessment.

312 The site-specific conservation objectives document sets out the attributes, measures and targets that define the favourable conservation condition of the SCIs within the European site. Affecting the conservation condition of the SCIs would constitute an adverse effect on the integrity of a European site. The specific attributes and targets used to define the conservation objectives of SCIs of Ireland’s Eye SPA and Lambay Island SPA are presented in Section 7.10.4.3.

7.10.4 Examination and Analysis of Potential Direct and Indirect Impacts

313 The direct and / or indirect impacts by which the Proposed Scheme could (in the absence of mitigation measures) potentially affect the conservation objective attributes and targets supporting the conservation condition of the SCIs of Ireland's Eye SPA and Lambay Island SPA, are:

- Habitat degradation / effects on SCI species as a result of hydrological impacts; and
- Disturbance and displacement impacts.

7.10.4.1 Habitat Degradation / Effects on SCI Species as a Result of Hydrological Impacts

314 In a worst-case scenario, an accidental spillage or pollution event into any surface water features during construction, or operation, has the potential to affect water quality in the receiving aquatic environment of Dublin Bay which SCI birds may utilise outside of their core SPA foraging areas. Such a pollution event may include: the release of sediment into receiving waters and the subsequent increase in mobilised suspended solids; and, the accidental spillage and / or leaks of contaminants into receiving waters. The associated effects of a reduction of surface water quality could potentially extend for a considerable distance downstream of the location of the accidental pollution event or the discharge. The Proposed Scheme is hydrologically connected to the River Santry, River Tolka, the Royal Canal, and the Liffey Estuary Upper, all of which flow into Dublin Bay. In addition, the Proposed Scheme is hydrologically connected to Dublin Bay as a result of surface waters from the footprint of the Proposed Scheme which will join the public sewer and will be treated at the Irish Water Ringsend WwTP prior to discharge to Dublin Bay via the Liffey Estuary Lower.

315 During the Operational Phase, the Proposed Scheme will involve the overall net increase in impermeable area for the road corridor will be 2,402m². It is proposed that an increase in impermeable area will be managed for the Proposed Scheme through a combination of bioretention areas, oversized pipes and permeable paving. In the absence of this mitigation, reduction in water quality (either alone or in combination with other pressures on water quality) could occur.

316 Therefore, (albeit unlikely) this reduction in water quality (either alone or in combination with other pressures on water quality) could result in the degradation of sensitive habitats present within these European sites, which in turn would negatively affect the SCI bird species that utilise these habitats as foraging and / or roosting habitat. It could also negatively affect the quantity and quality of prey available to SCI bird species. These potential impacts could occur to such a degree that they result in significant effects which could have implications for the conservation objectives of Ireland's Eye SPA and Lambay Island SPA.

7.10.4.2 Disturbance and Displacement Impacts

317 A temporary and / or permanent increase in noise, vibration and / or human activity levels during the construction and / or operation of the Proposed Scheme could result in the disturbance to and / or displacement of SCI bird species present within the footprint and / or the vicinity of the Proposed Scheme. Such disturbance effects would not be expected to extend beyond a distance of approximately 300m, as noise levels associated with general construction activities would attenuate to close to background levels at that distance and beyond.

318 Ireland's Eye SPA and Lambay Island SPA are designated for breeding SCI gull species that are known to forage and / or roost at inland sites across Dublin, such as amenity grassland playing pitches. These species include black-headed gull, herring gull and lesser black-backed gull. There are several areas of suitable foraging and / or roosting habitat available for these SCI bird species within the footprint of and adjacent to the Proposed Scheme (i.e. within the disturbance ZoI), including the following sites, which have been returned from the desk study (Scott Cawley Ltd. 2017):

- Glasnevin / St. Vincent's Primary School (major importance), approximately 82m from the Proposed Scheme;

- Finglas / Erin's Isle GAA (major importance), approximately 85m from the Proposed Scheme;
- Glasnevin / DCU Sports Grounds (major importance), approximately 170m from the Proposed Scheme;
- Finglas / Dunsink Road (high importance), approximately 207m from the Proposed Scheme;
- Tolka Valley Park (moderate importance), approximately 262m from the Proposed Scheme; and
- Finglas / Farnham Drive Park (high importance), approximately 269m from the Proposed Scheme.

319 As records of SCI bird species associated with Ireland's Eye SPA and Lambay Island SPA have been returned from the desk study in the vicinity of the Proposed Scheme (i.e. herring gull and lesser black-backed gull), it is considered to be possible that these species currently utilise these and other suitable lands in the wider area. However, there is no potential for impacts to occur on any SCI bird species population of Ireland's Eye SPA or Lambay Island SPA, in light of their conservation objectives, as a consequence of the disturbance and / or displacement from inland feeding / roosting sites due to increased levels of disturbance due to the following reasons:

- The availability of large areas of suitable foraging and / or roosting habitat for these SCI bird species in the wider locality of the Proposed Scheme, including those in closer proximity to Ireland's Eye SPA and Lambay Island SPA. These include marine habitats surrounding the islands, golf clubs, agricultural lands and public parks / sports pitches in the North County Dublin area; and
- Impacts associated with increased levels of disturbance will likely result in the temporary displacement of these SCI species to other suitable available lands in the locality, for a maximum of 12 months (representing a maximum of one winter season) during construction works. Following the completion of construction, disturbance levels will return to baseline conditions and as a result these lands will become available again as foraging and / or roosting habitat for these SCI species.

7.10.4.3 Summary

320 Table 28 presents a summary of the potential impacts and effects of the Proposed Scheme on the SCIs and conservation objectives of Ireland's Eye SPA and Lambay Island SPA.

Table 28: Potential Impacts / Effects on the Conservation Objectives of Ireland’s Eye SPA and Lambay Island SPA.

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures Required?	Residual Impacts?
Ireland’s Eye SPA			
Cormorant [A017], Herring Gull [A184], Kittiwake [A188], Guillemot [A199], Razorbill [A200]			
There is no site-specific conservation objectives document available for this SPA. Therefore, the attributes, measures and targets below have been developed based on the specific conservation objectives available for Rogerstown Estuary SPA [004015]			
Population trend / Percentage change / Long term population trend stable or increasing	Yes	Yes	No
Distribution / Range, timing and intensity of use of areas / No significant decrease in the range, timing and intensity of use of areas by all of the above named species, other than that occurring from natural patterns of variation	In a worst case scenario, an accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay, which SCI birds may utilise outside of their core SPA foraging areas. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quantity and quality of prey fish species and the quality the of intertidal / coastal habitats that support the special conservation interest bird species of the SPA. This could potentially affect the use of habitat areas by birds and have long-term effects on the SPA populations.	The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme.	With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the SCI species of this SPA and therefore there are no residual impacts which could adversely affect the integrity of the SPA
Lambay Island SAC			
Fulmar [A009], Cormorant [A017], Shag [A018], Greylag Goose [A043], Lesser Black-backed Gull [A183], Herring Gull [A184], Kittiwake [A188], Guillemot [A199], Razorbill [A200], Puffin [A204]			
Population trend / Percentage change / Long term population trend stable or increasing	Yes	Yes	No

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures Required?	Residual Impacts?
<p>Distribution / Range, timing and intensity of use of areas / No significant decrease in the range, timing and intensity of use of areas by all of the above named species, other than that occurring from natural patterns of variation</p>	<p>In a worst case scenario, an accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay, which SCI birds may utilise outside of their core SPA foraging areas. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quantity and quality of prey fish species and the quality the of intertidal / coastal habitats that support the special conservation interest bird species of the SPA. This could potentially affect the use of habitat areas by birds and have long-term effects on the SPA populations.</p>	<p>The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme.</p>	<p>With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the SCI species of this SPA and therefore there are no residual impacts which could adversely affect the integrity of the SPA</p>

7.10.5 Mitigation Measures

321 This Section presents the mitigation measures that will be implemented during construction and operation to avoid or reduce the potential impacts of the Proposed Scheme on Ireland's Eye SPA and / or Lambay Island SPA. All of the mitigation measures will be implemented in full and are best practice, and tried and tested, effective control measures to protect the receiving environment.

Measures to Protect Surface Water Quality during Construction

322 The mitigation measures presented in Section 7.1.5 will protect surface water quality during construction of the Proposed Scheme.

Measures to Protect Surface Water Quality during Operation

323 The mitigation measures presented in Section 7.1.5 will protect surface water quality during operation of the Proposed Scheme.

7.10.6 Residual Impacts

324 With the effective implementation of appropriate mitigation measures identified in this NIS, the Proposed Scheme poses no risk of affecting the conservation objectives, or the favourable conservation condition, of SCIs of Ireland's Eye SPA or Lambay Island SPA, and there are therefore, no residual direct or indirect impacts associated with the Proposed Scheme on Ireland's Eye SPA or Lambay Island SPA. As is confirmed by the Water Framework Directive Assessment for the Proposed Scheme (refer to Appendix VI), the Proposed Scheme will not cause a deterioration in status in any water body, will not prevent any water body from achieving Good Ecological Status or Good Ecological Potential, and it can be concluded that the Proposed Scheme complies with all requirements of the WFD.

7.10.7 Conclusion of Assessment for Ireland's Eye SPA and Lambay Island SPA

325 Following an examination, analysis and evaluation in light of best scientific knowledge, of all relevant information in respect of the SCIs for Ireland's Eye SPA and Lambay Island SPA, the potential impacts and mitigation measures, and whether or not the predicted impacts would affect the conservation objectives that support the conservation condition of the SCIs, it has been concluded that the Proposed Scheme does not pose a risk of adversely affecting (either directly or indirectly) the integrity of Ireland's Eye SPA and Lambay Island SPA and there is no reasonable scientific doubt about this conclusion.

7.11 The Murrough SPA [004186]

7.11.1 Ecological Baseline Description for The Murrough SPA

326 According to the Natura 2000 Standard Data Form (NPWS 2020p), this SPA comprises a coastal wetland complex stretching for 13km from Kilcoole train station southwards towards Wicklow town. The site extends between the 200m low water mark inland up to 1km in places. In terms of habitat diversity it includes the coastal water, a shingle shore with some sand and cobble. The SPA is bisected by the Dublin / Rosslare railway line which runs along the upper part of the shingle beach. Much of the low-lying land behind the railway is manged for agriculture including reclaimed wetland, although a number of wet and brackish marshes remain including Broad Lough at its southern end and the manged wetland complex associated with Kilcoole reserve. This extensive coastal wetland complex is considered of high importance owing to the numbers and variety of waterfowl species that it holds in winter and on passage. Its shingle beach also supports the country's largest breeding colony of Little Tern. The main threats listed for the site include: the presence of railway lines, fertilisation of agricultural lands and the presence of walkers, horse riders and non-motorised vehicles.

7.11.2 SCIs and Conservation Objectives for The Murrough SPA

The SCIs of The Murrough SPA and the overall conservation objectives are listed in Table 29.

Table 29: SCIs and Conservation Objectives of The Murrough SPA

SCI(s)	Conservation Objective(s)
<p>The Murrough SPA [004186] A001 Red-throated Diver <i>Gavia stellata</i> A043 Greylag Goose <i>Anser anser</i> A046 Light Bellied Brent Goose <i>Branta bernicla hrota</i> A050 Wigeon <i>Anas penelope</i> A052 Teal <i>Anas crecca</i> A179 Black-headed Gull <i>Chroicocephalus ridibundus</i> A162 Herring Gull <i>Larus argentatus</i> A195 Little Tern <i>Sterna albifrons</i> A999 Wetlands</p> <p>S.I. No. 298/2011 - European Communities (Conservation of Wild Birds (The Murrough Special Protection Area 004186)) Regulations 2011.</p> <p>NPWS (2021) <i>Conservation Objectives for the Murrough SPA [004186]. Generic Version 8.0.</i> Department of Housing, Local Government and Heritage.</p>	<p>To maintain or restore the favourable conservation condition of the bird species listed as SCIs for this SPA.</p> <p>To maintain or restore to favourable conservation condition of the wetland habitat at The Murrough SPA as a resource for the regularly occurring migratory waterbirds that utilise it.</p>

327 In conjunction with considering the generic conservation objective for this SPA, 'To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA', the site-specific conservation objectives documents for this SPA.

328 The site-specific conservation objectives document sets out the attributes, measures and targets that define the favourable conservation condition of the SCIs within the European site. Affecting the conservation condition of the SCIs would constitute an adverse effect on the integrity of a European site. The specific attributes and targets used to define the conservation objectives of the SCIs in respect of The Murrough SPA are presented in Section 7.11.3.1.

7.11.3 Examination and Analysis of Potential Direct and Indirect Impacts

329 The direct and / or indirect impacts by which the Proposed Scheme could (in the absence of mitigation measures) potentially affect the conservation objective attributes and targets supporting the conservation condition of the SCIs for The Murrrough SPA are:

- Habitat degradation / effects on SCI species as a result of hydrological impacts; and
- Disturbance and displacement impacts.

7.11.3.1 Habitat Degradation / Effects on SCI Species as a Result of Hydrological Impacts

330 In a worst case scenario, an accidental spillage or pollution event into any surface water features during construction, or operation, has the potential to affect water quality in the receiving aquatic environment of Dublin Bay which SCI birds may utilise outside of their core SPA foraging areas. Such a pollution event may include: the release of sediment into receiving waters and the subsequent increase in mobilised suspended solids; and, the accidental spillage and / or leaks of contaminants (into receiving waters). The associated effects of a reduction of surface water quality could potentially extend for a considerable distance downstream of the location of the accidental pollution event or the discharge. The Proposed Scheme is hydrologically connected to the River Santry, River Tolka, the Royal Canal, and the Liffey Estuary Upper, all of which flow into Dublin Bay. In addition, the Proposed Scheme is hydrologically connected to Dublin Bay as a result of surface waters from the footprint of the Proposed Scheme which will join the public sewer and will be treated at the Irish Water Ringsend WWTP prior to subsequent discharge to Dublin Bay via the Liffey Estuary Lower.

331 During the Operational Phase, the Proposed Scheme will involve the overall net increase in impermeable area for the road corridor will be 2,402m². It is proposed that an increase in impermeable area will be managed for the Proposed Scheme through a combination of bioretention areas, oversized pipes and permeable paving. In the absence of this mitigation, reduction in water quality (either alone or in combination with other pressures on water quality) could occur.

332 Therefore, (albeit unlikely) this reduction in water quality (either alone or in combination with other pressures on water quality) could result in the degradation of sensitive habitats present within this European sites, which in turn would negatively affect the SCI bird species that utilise these habitats as foraging and / or roosting habitat. It could also negatively affect the quantity and quality of prey available to SCI bird species. These potential impacts could occur to such a degree that they result in significant effects which could have implications for the conservation objectives of The Murrrough SPA.

7.11.3.2 Disturbance and Displacement Impacts

333 A temporary and / or permanent increase in noise, vibration and / or human activity levels during the construction and / or operation of the Proposed Scheme could result in the disturbance to and / or displacement of SCI bird species present within the footprint and / or the vicinity of the Proposed Scheme. Such disturbance effects would not be expected to extend beyond a distance of approximately 300m, as noise levels associated with general construction activities would attenuate to close to background levels at that distance and beyond.

334 The Murrrough SPA is designated for wintering SCI species that are known to forage and / or roost at inland sites across Dublin, such as amenity grassland playing pitches. These species include light-bellied Brent goose, black-headed gull and herring gull. There are several areas of suitable foraging and / or roosting habitat available for these SCI bird species within the footprint of and adjacent to the Proposed Scheme (i.e. within the disturbance Zol), including the following sites, which have been returned from the desk study (Scott Cawley Ltd, 2017):

- Glasnevin / St. Vincent's Primary School (major importance), approximately 82m from the Proposed Scheme;
- Finglas / Erin's Isle GAA (major importance), approximately 85m from the Proposed Scheme;

- Glasnevin / DCU Sports Grounds (major importance), approximately 170m from the Proposed Scheme;
- Finglas / Dunsink Road (high importance), approximately 207m from the Proposed Scheme;
- Tolka Valley Park (moderate importance), approximately 262m from the Proposed Scheme; and
- Finglas / Farnham Drive Park (high importance) approximately 269m from the Proposed Scheme.

335 As records of SCI bird species associated with The Murrough SPA have been returned from the desk study in the vicinity of the Proposed Scheme (i.e. light-bellied Brent goose, black-headed gull and herring gull), it is considered to be possible that SCI species associated with The Murrough SPA currently utilise these and other suitable lands in the wider area. However, no significant effects will occur on any SCI bird species population of The Murrough SPA, in light of their conservation objectives, as a consequence of the disturbance and / or displacement from inland feeding / roosting sites due to increased levels of disturbance due to the following reasons:

- The availability of large areas of suitable foraging and / or roosting habitat for these special conservation interest bird species in the wider locality of the Proposed Scheme, including those in closer proximity to The Murrough SPA. These include other similar public amenity grassland parks and sports pitches in Co. Dublin as well as extensive areas of agricultural land and golf courses in Co. Wicklow; and
- Impacts associated with increased levels of disturbance will likely result in the temporary displacement of these SCI species to other suitable available lands in the locality, for a maximum of 12 months (representing a maximum of one winter season) during construction works. Following the completion of construction, disturbance levels will return to baseline conditions and as a result these lands will become available again as foraging and / or roosting habitat for these special conservation interest species.

7.11.3.3 Summary

336 Table 30 presents a summary of the potential impacts and effects of the Proposed Scheme on the SCIs and conservation objectives of The Murrough SPA.

Table 30: Potential Impacts / Effects on the Conservation Objectives of The Murrough SPA

Conservation Objectives Attribute / Measure / Target	Potential Impacts Requiring Mitigation?	Are Mitigation Measures Required?	Residual Impacts?
The Murrough SPA			
Red-throated Diver [A001]; Greylag Goose [A043]; Light-Bellied Brent Goose [A046]; Wigeon [A050]; Teal [A052]; Black-Headed Gull [179]; Herring Gull [184];			
There is no site-specific conservation objectives document available for this SPA. Therefore, the attributes, measures and targets below have been developed based on the specific conservation objectives available for The Raven SPA [004019] (NPWS, 2012a); Rogerstown Estuary SPA [004015] (NPWS, 2013); South Dublin Bay and River Tolka Estuary SPA [004024] (NPWS, 2015); Wexford Harbour and Slobs SPA [004076] (NPWS, 2012b); North Bull Island SPA [004006] (NPWS, 2015); and Boyne Estuary SPA [004080] (NPWS, 2013b)			
Population trend / % change / Long term population trend stable or increasing	Yes In a worst case scenario, an accidental pollution event during construction or operation could affect surface water downstream in Dublin Bay, which SCI birds may utilise outside of their core SPA foraging areas. An accidental pollution event of a sufficient magnitude, either alone or cumulatively with other pollution sources, could potentially affect the quantity and quality of prey fish species and the quality the of intertidal / coastal habitats that support the special conservation interest bird species of the SPA. This could potentially affect the use of habitat areas by birds and have long-term effects on the SPA populations.	Yes The mitigation measures described in Section 7.1.5 to protect water quality in the receiving environment will ensure that surface water quality in Dublin Bay is protected during construction and operation of the Proposed Scheme.	No With the effective implementation of the mitigation measures outlined in Section 7.1.5 the Proposed Scheme will not have any adverse effect on the conservation objectives, or favourable conservation condition of the SCI species of this SPA and therefore there are no residual impacts which could adversely affect the integrity of the SPA
Distribution / Number and range of areas used by waterbirds / There should be no significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation			
Wetlands [A999]			
To maintain the favourable conservation condition of wetland habitats within the SPA, which is defined as follows:			
Habitat area / Hectares / The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 263ha, other than that occurring from natural patterns of variation	No There is no potential for impacts to occur on any habitats associated with The Murrough SPA as the Proposed Scheme is not hydrologically connected to The Murrough SPA in Wicklow.	No	No

7.11.4 Mitigation Measures

337 This Section presents the mitigation measures that will be implemented during construction and operation to avoid or reduce the potential impacts of the Proposed Scheme on The Murrough SPA. All of the mitigation measures will be implemented in full and are best practice, and tried and tested, effective control measures to protect the receiving environment.

Measures to Protect Surface Water Quality during Construction

338 The mitigation measures presented in Section 7.1.5 will protect surface water quality during construction of the Proposed Scheme.

Measures to Protect Surface Water Quality during Operation

339 The mitigation measures presented in Section 7.1.5 will protect surface water quality during operation of the Proposed Scheme.

7.11.1 Residual Impacts

340 With the effective implementation of appropriate mitigation measures identified in this NIS, the Proposed Scheme poses no risk of affecting the conservation objectives, or the favourable conservation condition, of the SCIs of The Murrough SPA, and there are therefore, no residual direct or indirect impacts associated with the Proposed Scheme on The Murrough SPA. As is confirmed by the Water Framework Directive Assessment for the Proposed Scheme (refer to Appendix VI), the Proposed Scheme will not cause a deterioration in status in any water body, will not prevent any water body from achieving Good Ecological Status or Good Ecological Potential, and it can be concluded that the Proposed Scheme complies with all requirements of the WFD.

7.11.2 Conclusion of Assessment for The Murrough SPA

341 Following an examination, analysis and evaluation in light of best scientific knowledge, of all relevant information in respect of the SCIs of The Murrough SPA, the potential impacts and mitigation measures, and whether or not the predicted impacts would affect the conservation objectives that support the conservation condition of the SCIs, it has been concluded that the Proposed Scheme does not pose a risk of adversely affecting (either directly or indirectly) the integrity of The Murrough SPA, and there is no reasonable scientific doubt about this conclusion.

8 Summary of Mitigation Measures and Residual Impacts

8.1 Summary of Mitigation Measures

342 This Section summarises the mitigation measures that will be implemented during the Construction and Operation Phases to avoid or reduce the potential impacts of the Proposed Scheme on the European sites as already set out throughout Section 7. A matrix of mitigation measures is provided in Table 31, identifying the specific mitigation measures required for each relevant European site.

343 All of the mitigation measures will be implemented in full and are best practice, and tried and tested, effective control measures to protect the receiving environment. Mitigation measures and associated Management Plans are included within the CEMP provided in Appendix III, all of which shall, at a minimum, be implemented during the Construction Phase of the Proposed Scheme.

Table 31: Matrix of Mitigation Measures and Residual Impacts

European site	Potential Impacts												Any Adverse Effect on the Integrity of European sites (Post-Mitigation)
	Construction						Operation						
	Habitat Loss and Frag*	Hydrology	Hydro-geology	Invasive Species	Air Quality	Disturbance / Displacement	Habitat Loss and Frag*	Hydrology	Hydro-geology	Invasive Species	Air Quality	Disturbance / Displacement	
<i>North Dublin Bay SAC</i>	X	✓ Section 7.1.5 / Section 5.4 in CEMP	X	✓ Section 7.1.5 / Section 5.3 in CEMP	X	X	X	✓ Section 7.1.5 / Section 5.4 in CEMP	X	✓ Section 7.1.5 / Section 5.3 in CEMP	X	X	No
<i>South Dublin Bay SAC</i>	X	✓ Section 7.1.5 / Section 5.4 in CEMP	X	✓ Section 7.1.5 / Section 5.3 in CEMP	X	X	X	✓ Section 7.1.5 / Section 5.4 in CEMP	X	✓ Section 7.1.5 / Section 5.3 in CEMP	X	X	No
<i>Howth Head SAC</i>	X	✓ Section 7.2.5 / Section 5.4 in CEMP	X	X	X	X	X	✓ Section 7.2.5 / Section 5.4 in CEMP	X	X	X	X	No

European site	Potential Impacts												Any Adverse Effect on the Integrity of European sites (Post-Mitigation)
	Construction						Operation						
	Habitat Loss and Frag*	Hydrology	Hydro-geology	Invasive Species	Air Quality	Disturbance / Displacement	Habitat Loss and Frag*	Hydrology	Hydro-geology	Invasive Species	Air Quality	Disturbance / Displacement	
<i>Rockabill to Dalkey Island SAC</i>	X	✓ Section 7.2.5 / Section 5.4 in CEMP	X	X	X	X	X	✓ Section 7.2.5 / Section 5.4 in CEMP	X	X	X	X	No
<i>Lambay Island SAC</i>	X	✓ Section 7.2.5 / Section 5.4 in CEMP	X	X	X	X	X	✓ Section 7.2.5 / Section 5.4 in CEMP	X	X	X	X	No
<i>Howth Head Coast SPA</i>	X	✓ Section 7.3.6 / Section 5.4 in CEMP	X	X	X	X	X	✓ Section 7.3.6 / Section 5.4 in CEMP	X	X	X	X	No
<i>Dalkey Islands SPA</i>	X	✓ Section 7.3.6 / Section 5.4 in CEMP	X	X	X	X	X	✓ Section 7.3.6 / Section 5.4 in CEMP	X	X	X	X	No

European site	Potential Impacts												Any Adverse Effect on the Integrity of European sites (Post-Mitigation)
	Construction						Operation						
	Habitat Loss and Frag*	Hydrology	Hydro-geology	Invasive Species	Air Quality	Disturbance / Displacement	Habitat Loss and Frag*	Hydrology	Hydro-geology	Invasive Species	Air Quality	Disturbance / Displacement	
Rockabill SPA	X	✓ Section 7.3.6 / Section 5.4 in CEMP	X	X	X	X	X	✓ Section 7.3.6 / Section 5.4 in CEMP	X	X	X	X	No
North Bull Island SPA	X	✓ Section 7.4.4 / Section 5.4 in CEMP	X	✓ Section 7.4.4 / Section 5.3 in CEMP	X	X	X	✓ Section 7.4.4 / Section 5.4 in CEMP	X	✓ Section 7.4.4 / Section 5.3 in CEMP	X	X	No
South Dublin Bay & River Tolka Estuary SPA	X	✓ Section 7.5.4 / Section 5.4 in CEMP	X	✓ Section 7.5.4 / Section 5.3 in CEMP	X	X	X	✓ Section 7.5.4 / Section 5.4 in CEMP	X	✓ Section 7.5.4 / Section 5.3 in CEMP	X	X	No
Malahide Estuary SPA	X	✓ Section 7.6.4 / Section 5.4 in CEMP	X	X	X	X	X	✓ Section 7.6.4 / Section 5.4 in CEMP	X	X	X	X	No

European site	Potential Impacts												Any Adverse Effect on the Integrity of European sites (Post-Mitigation)
	Construction						Operation						
	Habitat Loss and Frag*	Hydrology	Hydro-geology	Invasive Species	Air Quality	Disturbance / Displacement	Habitat Loss and Frag*	Hydrology	Hydro-geology	Invasive Species	Air Quality	Disturbance / Displacement	
<i>Baldoyle Bay SPA</i>	X	✓ Section 7.7.4 / Section 5.4 in CEMP	X	X	X	X	X	✓ Section 7.7.4 / Section 5.4 in CEMP	X	X	X	X	No
<i>Rogerstown Estuary SPA</i>	X	✓ Section 7.8.4 / Section 5.4 in CEMP	X	X	X	X	X	✓ Section 7.8.4 / Section 5.4 in CEMP	X	X	X	X	No
<i>Skerries Islands SPA</i>	X	✓ Section 7.9.4 / Section 5.4 in CEMP	X	X	X	X	X	✓ Section 7.9.4 / Section 5.4 in CEMP	X	X	X	X	No
<i>Ireland's Eye SPA</i>	X	✓ Section 7.10.5 / Section 5.4 in CEMP	X	X	X	X	X	✓ Section 7.10.5 / Section 5.4 in CEMP	X	X	X	X	No

European site	Potential Impacts												Any Adverse Effect on the Integrity of European sites (Post-Mitigation)
	Construction						Operation						
	Habitat Loss and Frag*	Hydrology	Hydro-geology	Invasive Species	Air Quality	Disturbance / Displacement	Habitat Loss and Frag*	Hydrology	Hydro-geology	Invasive Species	Air Quality	Disturbance / Displacement	
<i>Lambay Island SPA</i>	X	✓ Section 7.10.5 / Section 5.4 in CEMP	X	X	X	X	X	✓ Section 7.10.5 / Section 5.4 in CEMP	X	X	X	X	No
<i>The Murrough SPA</i>	X	✓ Section 7.11.4 / Section 5.4 in CEMP	X	X	X	X	X	✓ Section 7.11.4 / Section 5.4 in CEMP	X	X	X	X	No

*Habitat Loss and Fragmentation

8.2 Summary of Residual Impacts

344 With the effective implementation of appropriate mitigation measures identified in this NIS, the Proposed Scheme will not have any adverse effect on the conservation objectives, or the favourable conservation condition, of the QI habitats and species and / or SCI species of the European sites assessed in Section 7. There are, therefore, no residual direct or indirect impacts associated with the Proposed Scheme that could adversely affect the integrity of such European sites. As is confirmed by the Water Framework Directive Assessment for the Proposed Scheme (refer to Appendix VI), the Proposed Scheme will not cause a deterioration in status in any water body, will not prevent any water body from achieving Good Ecological Status or Good Ecological Potential, and it can be concluded that the Proposed Scheme complies with all requirements of the WFD. A matrix identifying those aspects which will be subject to mitigation measures and the residual impacts post mitigation is provided in Table 31 for the relevant European sites.

9 In Combination Assessment

345 This Section of the NIS presents the assessment carried out to examine whether any other plans or projects have the potential to act in combination with the Proposed Scheme to have a significant effect on any of the European sites including those within its Zol.

346 There are 17 European sites within the Zol of the Proposed Scheme, namely:

- North Dublin Bay SAC;
- South Dublin Bay SAC;
- Howth Head SAC;
- Rockabill to Dalkey Islands SAC;
- Lambay Island SAC;
- Howth Head Coast SPA;
- Dalkey Islands SPA;
- Rockabill SPA;
- North Bull Island SPA;
- South Dublin Bay And River Tolka Estuary SPA;
- Ireland's Eye SPA;
- Malahide Estuary SPA;
- Baldoyle Bay SPA;
- Rogerstown Estuary SPA;
- Skerries Islands SPA;
- Lambay Island SPA; and
- The Murrough SPA.

347 All other European sites fall beyond the Zol of the Proposed Scheme. Therefore, there is no potential for any other plans or projects to act in combination with the Proposed Scheme to adversely affect the integrity of any other European sites. The protective policies and objectives from land use plans referred to in this Section are included in Section 8.2.

9.1 Analysis of Potential In Combination Effects

348 The in combination assessment involved identifying those plans and projects which have the potential to impact on those European sites within the Zol of the Proposed Scheme.

349 Those plans or projects with the potential to impact upon these European sites are any national, regional and local land use plans, or any existing or proposed projects that could potentially affect the ecological environment within the Zol of the Proposed Scheme. These are Presented in Table 32.

Table 32: Land Use Plans and Programmes Considered for the In Combination Assessment

National Plans
National Energy & Climate Plan 2021-2030
National Spatial Strategy for Ireland 2002-2020
Project Ireland 2040 – Building Ireland’s Future
National Transport Authority Integrated Implementation Plan 2019-2024
Smarter Travel a Sustainable Transport Future 2009-2020
National Biodiversity Action Plan 2017-2021
River Basin Management Plan 2018-2021
National Air Pollution Control Programme (NAPCP) Draft 2019
National Marine Planning Framework 2018
Water Services Strategic Plan 2015
Regional Plans
Regional Planning Guidelines for the Greater Dublin Area Vol I & II 2010-2022
Regional Spatial & Economic Strategy for the Eastern and Midland Region 2019-2031
Greater Dublin Area Cycle Network Plan 2013
Eastern Catchment Flood Risk Assessment and Management (CFRAM) study 2011-2016
County / Local Plans
Fingal Development Plan 2017-2023
Fingal Biodiversity Action Plan 2010-2015
Fingal County Council Climate Action Plan 2019-2024
<ul style="list-style-type: none"> • Donabate Local Area Plan 2016 • Rivermeade Local Area Plan 2018 • Barnhill Local Area Plan 2019 • Kinsaley Local Area Plan 2019 • Dublin Airport Local Area Plan 2020
Dublin City Development Plan 2016-2022
Dublin City Biodiversity Action Plan 2015-2020
Dublin City Council Climate Action Plan 2019-2024
<ul style="list-style-type: none"> • Clongriffin-Belmayne Local Area Plan 2012-2018 • George’s Quay Local Area Plan 2012-2022 • Ballymun Local Area Plan 2017 • The Liberties Local Area Plan 2009-2020 • Naas Road Local Area Plan 2013-2023 • Park West- Cherry Orchard Local Area Plan 2019
South Dublin County Council Development Plan 2016-2022
Biodiversity Action Plan for South Dublin County (2020-2026)- Draft for public consultation
South Dublin County Council Climate Change Action Plan 2019-2024
<ul style="list-style-type: none"> • Tallaght Town Centre Local Area Plan 2020 • Liffey Valley Town Centre Local Area Plan 2008
Dún Laoghaire- Rathdown Development Plan 2016-2022; Dún Laoghaire- Rathdown Development Plan (2022-2028)- Draft for public consultation
Dún Laoghaire- Rathdown Biodiversity Plan 2009-2013; Dún Laoghaire- Rathdown Biodiversity Plan (current draft under review)
Dún Laoghaire-Rathdown County Council Climate Change Action Plan 2019-2024
<ul style="list-style-type: none"> • Deansgrange Local Area Plan 2010-2020 • Stillorgan Local Area Plan 2018-2024 • Blackrock Local Area Plan 2015-2021 • Woodbrook-Shanganagh Local Area Plan 2017-2024

Wicklow County Development Plan 2016-2022

Wicklow Biodiversity Plan 2010-2015

Wicklow County Council Climate Change Adaptation Strategy 2019

- Bray Municipal District Local Area Plan 2018-2024
- Bray & Environs Transport Study 2019
- Bray Town Development Plan 2011-2017

350 The potential cumulative impacts on those European sites within the ZOI of the Proposed Scheme, from the Proposed Scheme in combination with the plans and projects listed above were identified and assessed. The assessment is presented in Table 33 and Table 34.

Table 33: In Combination Assessment of Plans and Programmes

Plan Description	Are there potential impact pathways by which the Plan / Programme could act in combination with the Proposed Scheme to adversely impact European sites	Will the Plan/Programme act in combination with the Proposed Scheme to adversely affect the integrity of European sites
<p>National Energy & Climate Plan 2021-2030</p> <p>This National Energy and Climate Plan builds on previous national strategies and sets out in detail objectives regarding the five energy dimensions together with planned policies and measures to ensure that these objectives are achieved. It aims as a fundamental national objective to pursue a trajectory of emissions reduction which is in line with reaching net zero in Ireland by 2050.</p> <p>In relation to transport the plan aims to:</p> <ul style="list-style-type: none"> • make growth less transport intensive through better planning, remote and home-working and modal shift to public transport • Increase the renewable biofuel content of motor fuels • Set targets for the conversion of public transport fleets to zero carbon alternatives. 	<p>No potential impact pathways to European sites.</p> <p>There are no specific spatial references in this policy document and therefore, no specific link (in terms of potential impact pathways) between it and European sites within the Zol of the Proposed Scheme.</p>	<p>No in combination impact</p> <p>Key to considering the on-going evolution of national climate policy included are the obligations of the State under EU law (e.g. the EU Habitats Directive), and the promotion of sustainable development. Considering that, this policy position poses no identifiable risk of resulting in adverse effects on the integrity of any European sites.</p>
<p>Project Ireland 2040 – Building Ireland’s Future</p> <p>High-level strategic plan to guide future growth and development in Ireland. The NPF makes reference to delivering projects in Dublin (Here Dublin refers to the Greater Dublin Area (GDA). This area includes Dublin City and the following surrounding lands and counties: Dun Laoghaire/Rathdown, Fingal, Kildare, Meath, South Dublin and Wicklow) such as the DART expansion programme, Bus Connects Scheme, and investment at Dublin Port, amongst others. Key objectives of the plan include:</p>	<p>Objectives of the NPF are implemented through relevant local authorities and statutory bodies i.e. Fingal CDP (2017-2023), Dublin City CDP (2016-2023), South Dublin CDP (2016-2022), Dún Laoghaire-Rathdown CDP (2016-2022; 2022-2028 draft for public consultation), and Wicklow CDP (2016-2022), NTA and TII. Any future developments implemented through the NSS have the potential to lie within these European sites, or be situated in a location where these European sites may be within their Zol.</p>	<p>Objective 75 from the NPF ensures that all plans, projects and activities requiring consent arising from the NPF have an EIA and Appropriate Assessment conducted as appropriate.</p> <p>The NPF has undergone Appropriate Assessment, which concluded that, subject to the mitigation proposed in the NIS being incorporated, there would be no adverse effects on any European sites as a result of implementation of the NPF. Considering this, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the</p>

Plan Description	Are there potential impact pathways by which the Plan / Programme could act in combination with the Proposed Scheme to adversely impact European sites	Will the Plan/Programme act in combination with the Proposed Scheme to adversely affect the integrity of European sites
<ul style="list-style-type: none"> • Managing sustainable growth of cities, towns and villages • Providing accessibility between key urban centres <p>Enhance public transport in a sustainable manner</p>	<p>Potential impacts include:</p> <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts <p>Therefore, there is the potential that developments implemented under the NPF could affect European sites within the GDA.</p>	<p>NPF will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.</p>
<p>National Transport Authority Integrated Implementation Plan 2019-2024</p> <p>An Infrastructure investment programme forms the core of this plan. There are four key investment areas: bus, light rail, heavy rail, and integration measures and sustainable transport. The NTA Integrated Implementation Plan refers to the delivery of projects in Dublin, such as the DART expansion program and GDA Cycle Network Plan, amongst others.</p>	<p>Objectives of the NTA Integrated Implementation Plan 2019-2024 are implemented through relevant local/statutory authorities i.e. Fingal CDP (2017-2023), Dublin City CDP (2016-2023), South Dublin CDP (2016-2022), Dún Laoghaire-Rathdown CDP (2016-2022; 2022-2028 draft for public consultation), and Wicklow CDP (2016-2022), NTA and TII. Any future developments implemented through the National Transport Authority Integrated Implementation Plan have the potential to lie within these European sites, or be situated in a location where these European sites may be within their Zol.</p> <p>Potential impacts include:</p> <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts <p>Therefore, there is the potential that developments implemented under the NTA Integrated Implementation Plan 2019-2024 could affect European sites within the GDA.</p>	<p>Objective 75 from the NPF ensures that all plans, projects and activities requiring consent arising from the NPF have an EIA and Appropriate Assessment conducted as appropriate.</p> <p>The National Transport Authority Integrated Implementation Plan has undergone Appropriate Assessment, which concluded that the plan will not have any significant impacts on European sites, due to the inclusion of achievable mitigation measures designed to protect the ecological integrity of European sites. Considering this, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the NTA Integrated Implementation Plan 2019-2024 will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.</p>

Plan Description	Are there potential impact pathways by which the Plan / Programme could act in combination with the Proposed Scheme to adversely impact European sites	Will the Plan/Programme act in combination with the Proposed Scheme to adversely affect the integrity of European sites
<p>Smarter Travel a Sustainable Transport Future 2009-2020 Smarter Travel is a government policy document outlining a strategy related to sustainable transport. It sets out actions to reduce overall travel demand, to maximise the efficiency of the transport network, to reduce reliance on fossil fuels, to reduce transport emissions, and to improve accessibility to transport.</p>	<p>Objectives of Smarter Travel are implemented through relevant local authorities and statutory bodies i.e. Fingal CDP (2017-2023), Dublin City CDP (2016-2023), South Dublin CDP (2016-2022), Dún Laoghaire-Rathdown CDP (2016-2022; 2022-2028 draft for public consultation), and Wicklow CDP (2016-2022), NTA and TII.</p> <p>There is the potential that any developments implemented under Smarter Travel could affect European sites. Smarter Travel does not propose or support any specific development proposals in identified locations and the potential impact pathways cannot be defined. However, any future developments implemented through Smarter Travel have the potential to lie within these European sites, or be situated in a location where these European sites may be within their ZOI.</p> <p>Potential impacts include:</p> <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts <p>Therefore, there is the potential that developments implemented under Smarter Travel could affect European sites within the GDA.</p>	<p>No in combination impact</p> <p>Any projects required to achieve the objectives of Smarter Travel will be implemented locally by the relevant local authority and statutory bodies and must comply with the statutory planning requirements, and those of the relevant land use plans. All of these plans contain objectives and policies to ensure the protection of European sites from any projects proposed within the plan area. This assessment has identified those land use plans that have the potential to act in combination with the proposed scheme to affect European sites, given their spatial jurisdiction (see discussions on the relevant land use plans in the sections below). Considering the environmental protection policies included within the NPF, and in the county and local level land use plans, and that alone the proposed scheme will not adversely affect the integrity of any European sites, Smarter Travel poses no identifiable risk of resulting in adverse effects on the integrity of any European sites in combination with the proposed scheme.</p>
<p>National Biodiversity Action Plan 2017-2021</p> <p>The National Biodiversity Action Plan sets out 119 targeted actions, underpinned by seven strategic objectives aimed at</p>	<p>The purpose of this action plan is to halt the loss of biodiversity and the degradation of ecosystems therefore, it will contribute towards maintaining or</p>	<p>No in combination impact</p>

Plan Description	Are there potential impact pathways by which the Plan / Programme could act in combination with the Proposed Scheme to adversely impact European sites	Will the Plan/Programme act in combination with the Proposed Scheme to adversely affect the integrity of European sites
<p>ensuring that Irelands’ biodiversity and ecosystems are conserved and restored, delivering benefits essential for all sectors of society and that Ireland contributes to efforts to halt the loss of biodiversity and the degradation of ecosystems in the EU and globally. The strategic objectives lay out a clear framework for Ireland’s national approach to biodiversity.</p>	<p>restoring the conservation condition of the European sites within their Zol. Consequently, there are no potential impact pathways by which it could adversely affect the integrity of any European sites</p>	<p>As the National Biodiversity Action Plan aims to halt biodiversity loss, no likely significant in-combination effects are predicted</p>
<p>River Basin Management Plan 2018-2021 The River Basin Management Plan outlines the measures the State and other sectors will take to improve water quality in Ireland’s groundwater, rivers, lakes, estuarine and coastal waters.</p>	<p>The purpose of this plan is to improve water quality in Ireland’s groundwater, rivers, lakes, estuarine and coastal waters therefore, it will contribute towards maintaining or restoring the conservation condition of the European sites within their Zol. Consequently, there are no potential impact pathways by which it could adversely affect the integrity of any European sites.</p>	<p>No in combination impact No potential for in combination impacts with the proposed scheme as such a plan is intended to improve the quality of the ecological environment within its Zol.</p>
<p>National Air Pollution Control Programme (NAPCP) Draft 2019 The National Air Pollution Control Programme (Article 6 of Directive (EU) 2016/2284 – ‘the NEC Directive’) is the main governance instrument by which EU Member States must ensure that the emission reduction commitments for 2020-2029 and 2030 onwards are met.</p>	<p>The purpose of this programme is to reduce emissions and improve air quality in Ireland therefore, it will contribute towards maintaining or restoring the conservation condition of the European sites within its Zol. Consequently, there are no potential impact pathways by which it could adversely affect the integrity of any European sites.</p>	<p>No in combination impact No potential for in combination impacts with the proposed scheme as such a plan is intended to improve the quality of the ecological environment within its Zol.</p>
<p>National Marine Planning Framework 2018 This framework is the first formal step towards the preparation of a marine spatial plan for Ireland which will contribute to the effective management of marine activities e.g. fishing, shipping,</p>	<p>Objectives of the National Marine Planning Framework 2018 are implemented through relevant local authorities and statutory bodies i.e. Fingal CDP (2017-2023), Dublin City CDP (2016-2023), South Dublin CDP (2016-2022), Dún Laoghaire-Rathdown CDP (2016-2022; 2022-2028 draft for public</p>	<p>No in combination impact Any projects required to achieve the objectives of the National Marine Planning Framework will be implemented locally by the relevant local authority and statutory bodies and must comply with the statutory planning requirements, and those of the relevant land use plans. All of these plans</p>

Plan Description	Are there potential impact pathways by which the Plan / Programme could act in combination with the Proposed Scheme to adversely impact European sites	Will the Plan/Programme act in combination with the Proposed Scheme to adversely affect the integrity of European sites
<p>leisure, aquaculture and renewable energy, and a more sustainable use of our marine resources.</p>	<p>consultation), and Wicklow CDP (2016-2022), NTA and TII.</p> <p>There is the potential that any developments implemented under the National Marine Planning Framework could affect European sites. The framework does not propose or support any specific development proposals in identified locations and the potential impact pathways cannot be defined. However, any future developments implemented through the framework have the potential to lie within European sites, or be situated in a location where these European sites may be within their Zol.</p> <p>Potential impacts include:</p> <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts <p>Therefore, there is the potential that developments implemented under the National Marine Planning Framework 2018 could affect European sites within the GDA.</p>	<p>contain objectives and policies to ensure the protection of European sites from any projects proposed within the plan area. This assessment has identified those land use plans that have the potential to act in combination with the proposed scheme to affect European sites, given their spatial jurisdiction (see discussions on the relevant land use plans in the sections below). Considering the environmental protection policies included within the National Marine Planning Framework 2018, and in the county and local level land use plans, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the National Marine Planning Framework 2018 poses no identifiable risk of resulting in adverse effects on the integrity of any European sites in combination with the proposed scheme.</p>
<p>Water Services Strategic Plan 2015</p> <p>Water Services Strategic Plan (WSSP) sets out strategic objectives for the delivery of water services over the next 25 years up to 2040. Its six strategic objectives include: meeting customer expectations; ensuring a safe and reliable water supply; providing effective management of wastewater; protecting and enhancing</p>	<p>Objectives of the WSSP 2015 are implemented through relevant local authorities and statutory bodies i.e. Fingal CDP (2017-2023), Dublin City CDP (2016-2023), South Dublin CDP (2016-2022), Dún Laoghaire-Rathdown CDP (2016-2022; 2022-2028 draft for public consultation), and Wicklow CDP (2016-2022), NTA and TII.</p>	<p>No in combination impact</p> <p>Any projects required to achieve the objectives of the WSSP will be implemented locally by the relevant local authority and must comply with the statutory planning requirements, and those of the relevant land use plans. All of these plans contain objectives and policies to ensure the protection of</p>

Plan Description	Are there potential impact pathways by which the Plan / Programme could act in combination with the Proposed Scheme to adversely impact European sites	Will the Plan/Programme act in combination with the Proposed Scheme to adversely affect the integrity of European sites
<p>the environment; supporting social and economic growth; and investing in our future.</p>	<p>There is the potential that any developments implemented under the WSSP could affect European sites. The WSSP does not propose or support any specific development proposals in identified locations and the potential impact pathways cannot be defined. However, any future developments implemented through the WSSP have the potential to lie within these European sites, or be situated in a location where these European sites may be within their Zol.</p> <p>Potential impacts include:</p> <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts <p>Therefore, there is the potential that developments implemented under the WSSP 2015 could affect European sites within the GDA.</p>	<p>European sites from any projects proposed within the plan area. This assessment has identified those land use plans that have the potential to act in combination with the proposed scheme to affect European sites, given their spatial jurisdiction (see discussions on the relevant land use plans in the sections below). Considering the environmental protection policies included within the NPF, and in the county and local level land use plans, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the WSSP 2015 poses no identifiable risk of resulting in adverse effects on the integrity of any European sites in combination with the proposed scheme.</p>
<p>Regional Spatial & Economic Strategy for the Eastern and Midland Region 2019-2031</p> <p>A RSES is a strategic plan which identifies regional assets, opportunities and pressures and provides appropriate policy responses in the form of Regional Policy Objectives. One of its main aims is to provide a framework to better manage spatial planning and economic development throughout the Region.</p>	<p>Many of the infrastructure projects specifically supported by the RSES, or those that may be implemented in achieving its objectives, are or may be located within (or adjacent to) European sites. Many will also have potential impact pathways connecting them to European sites. There is therefore the potential for the RSES to affect the conservation objectives supporting the integrity of those European sites also within the Zol of the proposed scheme.</p>	<p>Objective 75 from the NPF ensures that all plans, projects and activities requiring consent arising from the NPF have an EIA and Appropriate Assessment conducted as appropriate.</p> <p>The RSES for the Eastern and Midland Region 2019-2031 has undergone Appropriate Assessment, which concluded that, subject to the mitigation proposed in the NIS being incorporated, there would be no adverse effects on any European sites as a result of implementation of the RSES. Considering this, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the</p>

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	Potential impacts include: <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts 	NPF will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.
<p>Greater Dublin Area Cycle Network Plan 2013</p> <p>The Greater Dublin Area Cycle Network Plan sets out the goals to promote and provide cycling infrastructure across the Greater Dublin Area, and the actions to achieve these goals.</p>	<p>Yes, there are potential impact pathways to European sites.</p> <p>Eight cycle networks are proposed for the Dublin Metropolitan Area Cycle Network, these include:</p> <ul style="list-style-type: none"> • Dublin City Centre • Dublin North East • Dublin North Central • Dublin North West • Dublin West • Dublin South West • Dublin South Central • Dublin South East <p>A further four cycle networks are proposed for the GDA Hinterlands Cycle Network, these include:</p> <ul style="list-style-type: none"> • Fingal County • County Meath • County Kildare • County Wicklow <p>Many of the proposals contained within the strategy, even as described in the context of existing road corridors, and greenways will or may interact directly/indirectly with European sites and have the potential to affect their conservation objectives through a variety of potential impact pathways.</p> <p>Some of these cycle routes, such as the River Boyne</p>	<p>Objective 75 from the NPF ensures that all plans, projects and activities requiring consent arising from the NPF have an EIA and Appropriate Assessment conducted as appropriate.</p> <p>The GDA Cycle Network Plan 2013 has undergone Appropriate Assessment, which concluded that, subject to the mitigation proposed in the NIS being incorporated, there would be no adverse effects on any European sites as a result of implementation of this plan. Considering this, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the NPF will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.</p>

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	<p>Way, Dodder Valley Way, River Liffey Way and the East Coast Trail will require careful assessment in order to avoid ecological impacts to European sites.</p> <p>Potential impacts include:</p> <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts 	
<p>Eastern Catchment Flood Risk Assessment and Management (CFRAM) study 2011-2016</p> <p>This study includes the following main elements within the Eastern catchment:</p> <ol style="list-style-type: none"> 1. Flood Risk Assessments 2. Flood Risk Mapping <p>Flood Risk Management Plans</p>	<p>The Eastern CFRAM Study will ultimately result in the development of catchment- based flood risk management plans. These may propose flood risk management measures which, through various potential impact pathways, could affect the conservation objectives supporting QI/SCI habitats and species of spatially relevant European sites.</p> <p>Potential impacts include:</p> <ul style="list-style-type: none"> - Hydrological impacts e.g. reduction in water quality or changes to water flow - Habitat loss / fragmentation 	<p>No in combination impact</p> <p>CFRAM Studies and their product Flood Risk Management Plans have undergone Appropriate Assessment.</p> <p>The Appropriate Assessment of the CFRAMs considered the potential for impacts from hard engineering solutions and how they might affect hydrological connectivity and hydromorphological supporting conditions for protected habitats and species. Considering this, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the CFRAM will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.</p>
<p>Fingal Development Plan 2017-2023</p> <p>The Fingal CDP makes reference to residential development, zoning and infrastructure targets / obligations.</p>	<p>Yes, there are potential impact pathways to European sites in Dublin Bay, Baldoyle Bay and Malahide Estuary.</p> <p>Any future developments implemented through the LAP have the potential to lie within these European sites, or be situated in a location where these European sites may be within their Zol.</p> <p>Potential impacts include:</p>	<p>Objective 75 from the NPF ensures that all plans, projects and activities requiring consent arising from the NPF have an EIA and Appropriate Assessment conducted as appropriate.</p> <p>The Fingal CDP has undergone Appropriate Assessment which concluded that, subject to the mitigation proposed in the NIS being incorporated, there would be no adverse effects on any European sites as a result of implementation of Fingal CDP. Considering this, and that alone the proposed scheme will not adversely affect the integrity of any</p>

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	<ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts 	European sites, the Fingal CDP will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.
<p>Fingal Biodiversity Action Plan 2010-2015</p> <p>The purpose of this action plan is to halt the loss of biodiversity and the degradation of ecosystems.</p>	<p>No, there are no potential impact pathways to European sites.</p> <p>This plan will contribute towards maintaining or restoring the conservation condition of the European sites within their Zol. Consequently, there are no potential impact pathways by which it could adversely affect the integrity of any European sites.</p>	<p>No in combination impact</p> <p>No potential for in combination impacts with the proposed scheme as such a plan is intended to improve the quality of the ecological environment within its Zol.</p>
<p>Fingal County Council Climate Action Plan 2019-2024</p> <p>The purpose of this action plan is to improve the council's energy efficiency, reduce their greenhouse emissions and create a climate resilient Dublin.</p>	<p>No, there are no potential impact pathways to European sites.</p> <p>This plan will contribute towards improving the climate change resilience of the European sites within their Zol. Consequently, there are no potential impact pathways by which it could adversely affect the integrity of any European sites.</p>	<p>No in combination impact</p> <p>No potential for in combination impacts with the proposed scheme as such a plan is intended to improve the quality of the environment within its Zol.</p>
<p>Donabate Local Area Plan 2016</p> <p>The LAP makes reference to phased housing development targets / obligations.</p>	<p>Yes, there are potential impact pathways to European sites in Malahide Estuary.</p> <p>Any future developments implemented through the LAP have the potential to lie within these European sites, or be situated in a location where these European sites may be within their Zol.</p> <p>Potential impacts include:</p> <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts 	<p>The LAP has undergone Appropriate Assessment which concluded that, subject to the mitigation proposed in the NIS being incorporated, there would be no adverse effects on any European sites as a result of implementation of the LAP. Considering this, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the LAP will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.</p>

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<p>Rivermeade Local Area Plan 2018</p> <p>The LAP makes reference to 11 development area targets / obligations and the creation of a link road to connect Rivermeade to Swords.</p>	<p>Yes, there are potential impact pathways to European sites in Malahide Estuary which contains European sites.</p> <p>Any future developments implemented through the LAP have the potential to lie within these European sites, or be situated in a location where these European sites may be within their Zol.</p> <p>Potential impacts include:</p> <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts 	<p>The LAP has undergone Appropriate Assessment which concluded that, there would be no adverse effects on any European sites as a result of implementation of the LAP. Considering this, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the LAP will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.</p>
<p>Barnhill Local Area Plan 2019</p> <p>The LAP makes reference to residential development targets / obligations.</p>	<p>Yes, there are potential impact pathways to European sites in Dublin Bay.</p> <p>Any future developments implemented through the LAP have the potential to lie within these European sites, or be situated in a location where these European sites may be within their Zol.</p> <p>Potential impacts include:</p> <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts 	<p>The LAP has undergone Appropriate Assessment which concluded that there would be no adverse effects on any European sites as a result of implementation of the LAP. Considering this, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the LAP will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.</p>
<p>Kinsaley Local Area Plan 2019</p> <p>The LAP makes reference to commercial and residential development targets / obligations.</p>	<p>Yes, there are potential impact pathways to European sites in Baldoyle Bay.</p> <p>Any future developments implemented through the LAP have the potential to lie within these European</p>	<p>The LAP has undergone Appropriate Assessment which concluded that there would be no adverse effects on any European sites as a result of implementation of the LAP. Considering this, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the</p>

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	<p>sites, or be situated in a location where these European sites may be within their Zol.</p> <p>Potential impacts include:</p> <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts 	<p>LAP will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.</p>
<p>Dublin Airport Local Area Plan 2020</p> <p>The LAP makes reference to airside and landside infrastructure targets / obligations.</p>	<p>Yes, there are potential impact pathways to European sites in Baldoyle Bay, Malahide Estuary, and Dublin Bay.</p> <p>Any future developments implemented through the LAP have the potential to lie within these European sites, or be situated in a location where these European sites may be within their Zol.</p> <p>Potential impacts include:</p> <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts 	<p>The LAP has undergone Appropriate Assessment which concluded that there would be no adverse effects on any European sites as a result of implementation of the LAP. Considering this, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the LAP will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.</p>
<p>Dublin City Development Plan 2016-2022</p> <p>The Dublin City CDP makes reference to improvement of the public transport network and facilities for pedestrians and cyclists and targets / obligations to create strategic development and regeneration areas.</p>	<p>Yes, there are potential impact pathways to European sites in Baldoyle Bay and Dublin Bay.</p> <p>Any future developments implemented through the LAP have the potential to lie within these European sites, or be situated in a location where these European sites may be within their Zol.</p> <p>Potential impacts include:</p> <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts 	<p>Objective 75 from the NPF ensures that all plans, projects and activities requiring consent arising from the NPF have an EIA and Appropriate Assessment conducted as appropriate.</p> <p>The Dublin City CDP has undergone Appropriate Assessment which concluded that, subject to the mitigation proposed in the NIS being incorporated, there would be no adverse effects on any European sites as a result of implementation of Dublin City CDP. Considering this, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the Dublin City CDP will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.</p>

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<p>Dublin City Biodiversity Action Plan 2015-2020</p> <p>The purpose of this action plan is to halt the loss of biodiversity and the degradation of ecosystems.</p>	<p>No, there are no potential impact pathways to European sites.</p> <p>This plan will contribute towards maintaining or restoring the conservation condition of the European sites within their Zol. Consequently, there are no potential impact pathways by which it could adversely affect the integrity of any European sites.</p>	<p>No in combination impact</p> <p>No potential for in combination impacts with the proposed scheme as such a plan is intended to improve the quality of the ecological environment within its Zol.</p>
<p>Dublin City Council Climate Action Plan 2019-2024</p> <p>The purpose of this action plan is to improve the council's energy efficiency, reduce their greenhouse emissions and create a climate resilient Dublin.</p>	<p>No, there are no potential impact pathways to European sites.</p> <p>This plan will contribute towards improving the climate change resilience of the European sites within their Zol. Consequently, there are no potential impact pathways by which it could adversely affect the integrity of any European sites.</p>	<p>No in combination impact</p> <p>No potential for in combination impacts with the proposed scheme as such a plan is intended to improve the quality of the environment within its Zol.</p>
<p>Clongriffin-Belmayne Local Area Plan 2012-2018</p> <p>The LAP makes reference to commercial and residential development targets / obligations, and targets associated with interconnecting walking, cycling and public transport routes.</p>	<p>Yes, there are potential impact pathways to European sites in Baldoyle Bay and Dublin Bay.</p> <p>Any future developments implemented through the LAP have the potential to lie within these European sites, or be situated in a location where these European sites may be within their Zol.</p> <p>Potential impacts include:</p> <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts 	<p>The LAP has undergone Appropriate Assessment which concluded that, subject to the mitigation proposed in the NIS being incorporated, there would be no adverse effects on any European sites as a result of implementation of the LAP. Considering this, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the LAP will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.</p>
<p>George's Quay Local Area Plan 2012-2022</p>	<p>Yes, there are potential impact pathways to European sites in Dublin Bay.</p>	<p>The LAP has undergone Appropriate Assessment which concluded that there would be no adverse effects on any European sites as a result of implementation of the LAP.</p>

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<p>The LAP makes reference to mixed use development targets / obligations, and targets associated with the improvement of pedestrian and cycling infrastructure.</p>	<p>Any future developments implemented through the LAP have the potential to lie within these European sites, or be situated in a location where these European sites may be within their Zol.</p> <p>Potential impacts include:</p> <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts 	<p>Considering this, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the LAP will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.</p>
<p>Ballymun Local Area Plan 2017</p> <p>The LAP makes reference to residential development targets / obligations, and targets associated with the development of M50 lands and construction of outstanding road infrastructure e.g. Metro North.</p>	<p>Yes, there are potential impact pathways to European sites in Dublin Bay and Baldoyle Bay.</p> <p>Any future developments implemented through the LAP have the potential to lie within these European sites, or be situated in a location where these European sites may be within their Zol.</p> <p>Potential impacts include:</p> <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts 	<p>The LAP has undergone Appropriate Assessment which concluded that there would be no adverse effects on any European sites as a result of implementation of the LAP. Considering this, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the LAP will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.</p>
<p>The Liberties Local Area Plan 2009-2020</p> <p>This LAP makes reference to increasing local authority housing, installing new infrastructure, and targets/obligations associated with creating new routes for pedestrians and cyclists.</p>	<p>Yes, there are potential impact pathways to European sites in Dublin Bay.</p> <p>Any future developments implemented through the LAP have the potential to lie within these European sites, or be situated in a location where these European sites may be within their Zol.</p> <p>Potential impacts include:</p> <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts 	<p>The LAP has undergone Appropriate Assessment which concluded that there would be no adverse effects on any European sites as a result of implementation of the LAP. Considering this, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the LAP will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.</p>

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<p>Naas Road Local Area Plan 2013-2023</p> <p>This LAP makes reference to the creation of four strategic development regeneration areas and targets / obligations associated making improvements to pedestrian, cycling and public transport infrastructure.</p>	<p>Yes, there are potential impact pathways to European sites in Dublin Bay.</p> <p>Any future developments implemented through the LAP have the potential to lie within these European sites, or be situated in a location where these European sites may be within their Zol.</p> <p>Potential impacts include:</p> <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts 	<p>The LAP has undergone Appropriate Assessment which concluded that there would be no adverse effects on any European sites as a result of implementation of the LAP. Considering this, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the LAP will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.</p>
<p>Park West- Cherry Orchard Local Area Plan 2019</p> <p>This LAP makes reference to residential and mixed-use development targets / obligations, and targets associated with the improvement of infrastructure connecting pedestrians, cycling and public transport.</p>	<p>Yes, there are potential impact pathways to European sites in Dublin Bay.</p> <p>Any future developments implemented through the LAP have the potential to lie within these European sites, or be situated in a location where these European sites may be within their Zol.</p> <p>Potential impacts include:</p> <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts 	<p>The LAP has undergone Appropriate Assessment which concluded that there would be no adverse effects on any European sites as a result of implementation of the LAP. Considering this, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the LAP will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.</p>
<p>South Dublin County Council Development Plan 2016-2022</p> <p>The South Dublin CDP makes reference to commercial and residential development (including Adamstown and Clonburris SDZs), and infrastructure targets / obligations aimed at increasing connectivity between pedestrian and cycle routes and public transport.</p>	<p>Yes, there are potential impact pathways to European sites in Dublin Bay.</p> <p>Any future developments implemented through the CDP have the potential to lie within these European sites, or be situated in a location where these European sites may be within their Zol.</p>	<p>Objective 75 from the NPF ensures that all plans, projects and activities requiring consent arising from the NPF have an EIA and Appropriate Assessment conducted as appropriate.</p> <p>The South Dublin CDP has undergone Appropriate Assessment which concluded that, there would be no adverse effects on any European sites as a result of implementation of South Dublin CDP. Considering this, and that alone the proposed scheme will not adversely affect the</p>

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	Potential impacts include: <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts 	integrity of any European sites, the South Dublin CDP will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.
Biodiversity Action Plan for South Dublin County (2020-2026)- Draft for public consultation The purpose of this action plan is to halt the loss of biodiversity and the degradation of ecosystems.	No, there are no potential impact pathways to European sites. This plan will contribute towards maintaining or restoring the conservation condition of the European sites within their Zol. Consequently, there are no potential impact pathways by which it could adversely affect the integrity of any European sites.	No in combination impact No potential for in combination impacts with the proposed scheme as such a plan is intended to improve the quality of the ecological environment within its Zol.
South Dublin County Council Climate Change Action Plan 2019-2024 The purpose of this action plan is to improve the council's energy efficiency, reduce their greenhouse emissions and create a climate resilient Dublin.	No, there are no potential impact pathways to European sites. This plan will contribute towards improving the climate change resilience of the European sites within their Zol. Consequently, there are no potential impact pathways by which it could adversely affect the integrity of any European sites.	No in combination impact No potential for in combination impacts with the proposed scheme as such a plan is intended to improve the quality of the environment within its Zol.
Tallaght Town Centre Local Area Plan 2020 This LAP makes reference to residential and mixed-use development targets / obligations, and targets associated with the improvement of infrastructure connecting pedestrians, cycling and public transport.	Yes, there are potential impact pathways to European sites in Dublin Bay. Any future developments implemented through the LAP have the potential to lie within these European sites, or be situated in a location where these European sites may be within their Zol. Potential impacts include: <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts 	The LAP has undergone Appropriate Assessment which concluded that, subject to the mitigation proposed in the NIS being incorporated, there would be no adverse effects on any European sites as a result of implementation of the LAP. Considering this, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the LAP will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.

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<p>Liffey Valley Town Centre Local Area Plan 2008</p> <p>This LAP makes reference to commercial and residential development targets / obligations, and targets to provide an integrated public transport network, and secure pedestrian and cycle networks.</p>	<p>Yes, there are potential impact pathways to European sites in Dublin Bay.</p> <p>Any future developments implemented through the LAP have the potential to lie within these European sites, or be situated in a location where these European sites may be within their Zol.</p> <p>Potential impacts include:</p> <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts 	<p>Although the LAP itself was not subject to Appropriate Assessment, all of the projects stemming from it must comply with the statutory planning requirements, and those of the relevant land use plans. All of these plans contain objectives and policies to ensure the protection of European sites from any projects proposed within the plan area. Considering this, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the LAP will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.</p>
<p>Dún Laoghaire- Rathdown Development Plan 2016-2022; Dún Laoghaire- Rathdown Development Plan (2022-2028)- Draft for public consultation</p> <p>The Dún Laoghaire- Rathdown CDP makes reference to commercial and residential development (including Cherrywood SDZ) targets / obligations, and targets associated with providing suitable community infrastructure.</p>	<p>Yes, there are potential impact pathways to European sites in Dublin Bay and within the Zol of the LAP boundary.</p> <p>Any future developments implemented through the CDP have the potential to lie within these European sites, or be situated in a location where these European sites may be within their Zol.</p> <p>Potential impacts include:</p> <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts 	<p>Objective 75 from the NPF ensures that all plans, projects and activities requiring consent arising from the NPF have an EIA and Appropriate Assessment conducted as appropriate.</p> <p>The Dún Laoghaire- Rathdown CDP has undergone Appropriate Assessment which concluded that, subject to the mitigation proposed in the NIS being incorporated, there would be no adverse effects on any European sites as a result of implementation of Dún Laoghaire- Rathdown CDP. Considering this, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the Dún Laoghaire- Rathdown CDP will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.</p>

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<p>Dún Laoghaire- Rathdown Biodiversity Plan 2009-2013; Dún Laoghaire- Rathdown Biodiversity Plan (current draft under review)</p> <p>The purpose of this action plan is to halt the loss of biodiversity and the degradation of ecosystems.</p>	<p>No, there are no potential impact pathways to European sites.</p> <p>This plan will contribute towards maintaining or restoring the conservation condition of the European sites within their Zol. Consequently, there are no potential impact pathways by which it could adversely affect the integrity of any European sites.</p>	<p>No in combination impact</p> <p>No potential for in combination impacts with the proposed scheme as such a plan is intended to improve the quality of the ecological environment within its Zol.</p>
<p>Dún Laoghaire-Rathdown County Council Climate Change Action Plan 2019-2024</p> <p>The purpose of this action plan is to improve the council's energy efficiency, reduce their greenhouse emissions and create a climate resilient Dublin.</p>	<p>No, there are no potential impact pathways to European sites.</p> <p>This plan will contribute towards improving the climate change resilience of the European sites within their Zol. Consequently, there are no potential impact pathways by which it could adversely affect the integrity of any European sites.</p>	<p>No in combination impact</p> <p>No potential for in combination impacts with the proposed scheme as such a plan is intended to improve the quality of the environment within its Zol.</p>
<p>Deansgrange Local Area Plan 2010-2020</p> <p>This LAP makes reference to residential and mixed-use development targets / obligations, and targets associated with the improvement of infrastructure connecting pedestrians, cycling and public transport.</p>	<p>Yes, there are potential impact pathways to European sites in Dublin Bay.</p> <p>Any future developments implemented through the LAP have the potential to lie within these European sites, or be situated in a location where these European sites may be within their Zol.</p> <p>Potential impacts include:</p> <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts 	<p>Although the LAP itself was not subject to Appropriate Assessment, all of the projects stemming from it must comply with the statutory planning requirements, and those of the relevant land use plans. All of these plans contain objectives and policies to ensure the protection of European sites from any projects proposed within the plan area. Considering this, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the LAP will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.</p>

Plan Description	Are there potential impact pathways by which the Plan / Programme could act in combination with the Proposed Scheme to adversely impact European sites	Will the Plan/Programme act in combination with the Proposed Scheme to adversely affect the integrity of European sites
<p>Stillorgan Local Area Plan 2018-2024</p> <p>This LAP makes reference to the redevelopment of five key sites, commercial and residential development targets / obligations, and targets associated with the improvement of infrastructure connecting pedestrians, cycling and public transport.</p>	<p>Yes, there are potential impact pathways to European sites in Dublin Bay.</p> <p>Any future developments implemented through the LAP have the potential to lie within these European sites, or be situated in a location where these European sites may be within their ZoI.</p> <p>Potential impacts include:</p> <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts 	<p>The LAP has undergone Appropriate Assessment which concluded that there would be no adverse effects on any European sites as a result of implementation of the LAP. Considering this, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the LAP will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.</p>
<p>Blackrock Local Area Plan 2015-2021</p> <p>This LAP makes reference to redevelopment of Frascati and Blackrock shopping centres, residential development targets / obligations, and targets associated with the improvement of infrastructure connecting pedestrians, cycling and public transport.</p>	<p>Yes, there are potential impact pathways to European sites in Dublin Bay.</p> <p>Any future developments implemented through the LAP have the potential to lie within these European sites, or be situated in a location where these European sites may be within their ZoI.</p> <p>Potential impacts include:</p> <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts 	<p>The LAP has undergone Appropriate Assessment which concluded that there would be no adverse effects on any European sites as a result of implementation of the LAP. Considering this, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the LAP will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.</p>
<p>Woodbrook-Shanganagh Local Area Plan 2017-2024</p> <p>This LAP makes reference to residential development targets / obligations, and targets associated with the improvement of infrastructure connecting pedestrians, cycling and public transport.</p>	<p>No, there are no potential impact pathways to European sites within in ZoI of the LAP.</p>	<p>The LAP has undergone Appropriate Assessment which concluded that there would be no adverse effects on any European sites as a result of implementation of the LAP. Considering this, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the LAP will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.</p>

Plan Description	Are there potential impact pathways by which the Plan / Programme could act in combination with the Proposed Scheme to adversely impact European sites	Will the Plan/Programme act in combination with the Proposed Scheme to adversely affect the integrity of European sites
<p>Wicklow County Development Plan 2016-2022</p> <p>The Wicklow CDP makes reference to commercial and residential development targets / obligations, and targets associated with facilitating an extension of the LUAS and rail services, and facilitating the development of cycleways and walkways throughout the county.</p>	<p>Yes, there are potential impact pathways to European sites within in the Zol of the CDP.</p> <p>Any future developments implemented through the LAP have the potential to lie within these European sites, or be situated in a location where these European sites may be within their Zol.</p> <p>Potential impacts include:</p> <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts 	<p>Objective 75 from the NPF ensures that all plans, projects and activities requiring consent arising from the NPF have an EIA and Appropriate Assessment conducted as appropriate.</p> <p>The Wicklow CDP has undergone Appropriate Assessment which concluded that, subject to the mitigation proposed in the NIS being incorporated, there would be no adverse effects on any European sites as a result of implementation of Wicklow CDP. Considering this, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the Wicklow CDP will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.</p>
<p>Wicklow Biodiversity Plan 2010-2015</p> <p>The purpose of this action plan is to halt the loss of biodiversity and the degradation of ecosystems.</p>	<p>No, there are no potential impact pathways to European sites.</p> <p>This plan will contribute towards maintaining or restoring the conservation condition of the European sites within their Zol. Consequently, there are no potential impact pathways by which it could adversely affect the integrity of any European sites.</p>	<p>No in combination impact</p> <p>No potential for in combination impacts with the proposed scheme as such a plan is intended to improve the quality of the ecological environment within its Zol.</p>
<p>Wicklow County Council Climate Change Adaptation Strategy 2019</p> <p>The purpose of this action plan is to improve the council's energy efficiency, reduce their greenhouse emissions and create a climate resilient Wicklow.</p>	<p>No, there are no potential impact pathways to European sites.</p> <p>This plan will contribute towards improving the climate change resilience of the European sites within their Zol. Consequently, there are no</p>	<p>No in combination impact</p> <p>No potential for in combination impacts with the proposed scheme as such a plan is intended to improve the quality of the environment within its Zol.</p>

Plan Description	Are there potential impact pathways by which the Plan / Programme could act in combination with the Proposed Scheme to adversely impact European sites	Will the Plan/Programme act in combination with the Proposed Scheme to adversely affect the integrity of European sites
	potential impact pathways by which it could adversely affect the integrity of any European sites.	
<p>Bray Municipal District Local Area Plan 2018-2024</p> <p>This LAP makes reference to commercial and residential development targets / obligations, including the two key development areas of Fassaroe and the former Bray Golf Club, and targets associated with improving roads and transport infrastructure, and providing pedestrian, cycling and public transport routes.</p>	<p>Yes, there are potential impact pathways to European sites within in the ZoI of the CDP.</p> <p>Any future developments implemented through the LAP have the potential to lie within these European sites, or be situated in a location where these European sites may be within their ZoI.</p> <p>Potential impacts include:</p> <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts 	<p>The LAP has undergone Appropriate Assessment which concluded that, subject to the mitigation proposed in the NIS being incorporated, there would be no adverse effects on any European sites as a result of implementation the LAP. Considering this, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the LAP will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.</p>
<p>Bray Town Development Plan 2011-2017</p> <p>This LAP makes reference to redevelopment of residential and industrial areas, and mixed-use development targets / obligations. It also mentions targets to provide an integrated network for walking, cycling and public transport, and facilitation of a LUAS connection to Bray.</p>	<p>Yes, there are potential impact pathways to European sites within in the ZoI of the CDP.</p> <p>Any future developments implemented through the LAP have the potential to lie within these European sites, or be situated in a location where these European sites may be within their ZoI.</p> <p>Potential impacts include:</p> <ul style="list-style-type: none"> - Habitat loss / fragmentation - Hydrological impacts 	<p>The LAP has undergone Appropriate Assessment which concluded that, subject to the mitigation proposed in the NIS being incorporated, there would be no adverse effects on any European sites as a result of implementation the LAP. Considering this, and that alone the proposed scheme will not adversely affect the integrity of any European sites, the LAP will not act in combination with the proposed scheme to adversely affect the integrity of any European sites.</p>

Table 34: In-Combination Assessment of Major Projects

ID	Application Reference	Applicant for 'Other Development' and Brief Description	Assessment of Cumulative Effect with Proposed Project	Proposed Mitigation	Residual Cumulative Effect: Will the Project act in combination with the Proposed Scheme to adversely affect the integrity of European sites
2	MP01	Widening of the M7 between Junction 9 (Naas North) and Junction 11 (M7/M9) to provide an additional lane in each direction	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction and/or operation of this development. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the operation of the Proposed Scheme. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events.</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will reduce potential cumulative impacts on fauna species</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events.</p>	<p>A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale.</p> <p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>
13	MP02	Enhancements of the N2/M2 national route inclusive of a bypass of Slane, to provide for additional capacity on	None	Not applicable	The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on

ID	Application Reference	Applicant for 'Other Development' and Brief Description	Assessment of Cumulative Effect with Proposed Project	Proposed Mitigation	Residual Cumulative Effect: Will the Project act in combination with the Proposed Scheme to adversely affect the integrity of European sites
		the non-motorway sections of this route, and to address safety issues in Slane village associated with, in particular, heavy goods vehicles			existing surface water quality and / or temporary disturbance to SCI species.
30	MP03	N3 Castaheany Interchange Upgrade: refer to "Details" link	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction and/or operation of this development. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the operation of the Proposed Scheme. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events.</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will reduce potential cumulative impacts on fauna species</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events.</p>	<p>A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale.</p> <p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>
1	MP04	Reconfiguration of the N7 from its junction with the	<p>Construction Potential for in-combination effects on downstream</p>	<p>Construction Mitigation proposed to</p>	<p>A significant residual effect with regard disturbance and</p>

ID	Application Reference	Applicant for 'Other Development' and Brief Description	Assessment of Cumulative Effect with Proposed Project	Proposed Mitigation	Residual Cumulative Effect: Will the Project act in combination with the Proposed Scheme to adversely affect the integrity of European sites
		M50 to Naas, to rationalise junctions and accesses in order to provide a higher level of service for strategic traffic travelling on the mainline	<p>habitats arising from an accidental pollution event during the construction and/or operation of this development. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the operation of the Proposed Scheme. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events.</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will reduce potential cumulative impacts on fauna species</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events.</p>	<p>displacement of fauna during construction will remain albeit at the local geographic scale.</p> <p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>
20	MP05	N3–N4: Barnhill to Leixlip Interchange	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction and/or operation of this development. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna,</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events.</p> <p>Mitigation proposed to reduce disturbance impacts on fauna</p>	<p>A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale.</p> <p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on</p>

ID	Application Reference	Applicant for 'Other Development' and Brief Description	Assessment of Cumulative Effect with Proposed Project	Proposed Mitigation	Residual Cumulative Effect: Will the Project act in combination with the Proposed Scheme to adversely affect the integrity of European sites
			<p>including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the operation of the Proposed Scheme. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>species during the construction phase of the Proposed Scheme will reduce potential cumulative impacts on fauna species</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events.</p>	<p>existing surface water quality and / or temporary disturbance to SCI species.</p>
5	MP06	Reconfiguration of the N4 from its junction with the M50 to Leixlip to rationalise accesses and to provide additional capacity at the Quarryvale junction	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction and/or operation of this development. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the operation of the Proposed Scheme. Accidental pollution events could result in habitat</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events.</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will reduce potential cumulative impacts on fauna species</p> <p>Operation Mitigation proposed to</p>	<p>A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale. The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>

ID	Application Reference	Applicant for 'Other Development' and Brief Description	Assessment of Cumulative Effect with Proposed Project	Proposed Mitigation	Residual Cumulative Effect: Will the Project act in combination with the Proposed Scheme to adversely affect the integrity of European sites
			degradation, and habitat loss arising from extreme habitat degradation.	protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events.	
27	MP07	Clonburris SDZ roads development: refer to "Details" link	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction and/or operation of this development. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the operation of the Proposed Scheme. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events.</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will reduce potential cumulative impacts on fauna species</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events.</p>	A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale. The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.
15	MP08	DART+ Programme West	<p>Construction Potential for in-combination effects on downstream</p>	<p>Construction Mitigation proposed to</p>	A significant residual effect with regard disturbance and

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			<p>habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will mitigate potential cumulative impacts on fauna species</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events</p>	<p>displacement of fauna during construction will remain albeit at the local geographic scale.</p> <p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>
23	MP09	Porterstown Distributor Link Road	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction and/or operation of this development. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events.</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the</p>	<p>A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale.</p> <p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality</p>

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			<p>displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the operation of the Proposed Scheme. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>construction phase of the Proposed Scheme will reduce potential cumulative impacts on fauna species</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events.</p>	<p>and / or temporary disturbance to SCI species.</p>
7	MP10	Widening of the N3 between Junction 1 (M50) and Junction 4 (Clonee), plus related junction and necessary changes to the existing national road network	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction and/or operation of this development. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the operation of the Proposed Scheme. Accidental pollution events could result in habitat</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events.</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will reduce potential cumulative impacts on fauna species</p> <p>Operation Mitigation proposed to protect surface water quality</p>	<p>A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale.</p> <p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>

ID	Application Reference	Applicant for 'Other Development' and Brief Description	Assessment of Cumulative Effect with Proposed Project	Proposed Mitigation	Residual Cumulative Effect: Will the Project act in combination with the Proposed Scheme to adversely affect the integrity of European sites
			degradation, and habitat loss arising from extreme habitat degradation.	during operation of the Proposed Scheme will prevent surface water pollution events.	
9	MP11	Lucan LUAS	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction and/or operation of this development. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the operation of the Proposed Scheme. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events.</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will reduce potential cumulative impacts on fauna species</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events.</p>	<p>A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale.</p> <p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCl species.</p>
16	MP12	DART+ Programme South West	<p>Biodiversity Construction Potential for in-combination effects on downstream</p>	<p>Biodiversity Construction Mitigation proposed to</p>	<p>Biodiversity A significant residual effect with regard disturbance and</p>

ID	Application Reference	Applicant for 'Other Development' and Brief Description	Assessment of Cumulative Effect with Proposed Project	Proposed Mitigation	Residual Cumulative Effect: Will the Project act in combination with the Proposed Scheme to adversely affect the integrity of European sites
			<p>habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will mitigate potential cumulative impacts on fauna species</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events</p>	<p>displacement of fauna during construction will remain albeit at the local geographic scale.</p> <p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>
4	MP13	Junction upgrades and other capacity improvements on the M1 motorway, including additional lanes south of Drogheda, where required	<p>Biodiversity Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in</p>	<p>Biodiversity Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the</p>	<p>Biodiversity A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale.</p> <p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality</p>

ID	Application Reference	Applicant for 'Other Development' and Brief Description	Assessment of Cumulative Effect with Proposed Project	Proposed Mitigation	Residual Cumulative Effect: Will the Project act in combination with the Proposed Scheme to adversely affect the integrity of European sites
			<p>displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>Proposed Scheme will mitigate potential cumulative impacts on fauna species</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events</p>	<p>and / or temporary disturbance to SCI species.</p>
11	MP14	Finglas LUAS (Green Line extension Broombridge to Finglas)	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction and/or operation of this development. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the operation of the Proposed Scheme. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events.</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will reduce potential cumulative impacts on fauna species</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the</p>	<p>A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale. The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>

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				Proposed Scheme will prevent surface water pollution events.	
19	MP15	DART+ Tunnel Element (Kildare Line to Northern Line)	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will mitigate potential cumulative impacts on fauna species</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events</p>	<p>A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale.</p> <p>A significant residual effect with regard loss of habitat will remain albeit at the local geographic scale</p> <p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>
31	MP16	Potential Metro South alignment: SW option	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction and/or operation of this development. Accidental pollution events could result in habitat degradation, and habitat loss arising from</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution</p>	<p>A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale.</p>

ID	Application Reference	Applicant for 'Other Development' and Brief Description	Assessment of Cumulative Effect with Proposed Project	Proposed Mitigation	Residual Cumulative Effect: Will the Project act in combination with the Proposed Scheme to adversely affect the integrity of European sites
			<p>extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the operation of the Proposed Scheme. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>events.</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will reduce potential cumulative impacts on fauna species</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events.</p>	<p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>
10	MP17	LUAS Cross City incorporating LUAS Green Line Capacity Enhancement - Phase 1	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will mitigate potential cumulative impacts on fauna species</p>	<p>A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale.</p> <p>A significant residual effect with regard loss of habitat will remain albeit at the local geographic scale</p> <p>The Scheme will not adversely affect the integrity of any European sites, in its own right,</p>

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			Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.	Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events	as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.
25	MP18	Oldtown-Mooretown Western Distributor Link Road	None	Not applicable	The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.
26	MP19	Potential Metro South alignment: Charlemont to Sandyford	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction and/or operation of this development. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events.</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will reduce potential cumulative impacts on fauna species</p>	<p>A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale.</p> <p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>

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			<p>during the operation of the Proposed Scheme. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events.</p>	
12	MP20	Poolbeg LUAS	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction and/or operation of this development. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the operation of the Proposed Scheme. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events.</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will reduce potential cumulative impacts on fauna species</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events.</p>	<p>A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale.</p> <p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>

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22	MP21	Leopardstown Link Road Phase 2	None	Not applicable	The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.
14	MP22	Development of a road link connecting from the southern end of the Dublin Port Tunnel to the South Port area, which will serve the South Port and adjoining development areas	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction and/or operation of this development. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the operation of the Proposed Scheme. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events.</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will reduce potential cumulative impacts on fauna species</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events.</p>	<p>A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale.</p> <p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>

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29	MP23	Poolbeg SDZ roads development: refer to "Details" link	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction and/or operation of this development. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the operation of the Proposed Scheme. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events.</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will reduce potential cumulative impacts on fauna species</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events.</p>	<p>A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale.</p> <p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>
21	MP24	Glenamuck District Distributor Road	None	Not applicable	<p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>

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17	MP25	DART+ Programme Coastal North	<p>Construction Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation N/A</p>	<p>Construction Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will reduce potential cumulative impacts on fauna species</p> <p>Operation N/A</p>	<p>A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale.</p> <p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCl species.</p>
3	MP26	Widening of the M50 to three lanes in each direction between Junction 14 (Sandyford) and Junction 17 (M11) plus related junction and other changes	None	Not applicable	<p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCl species.</p>
28	MP27	Cherrywood SDZ roads development: refer to "Details" link	None	Not applicable	<p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCl species.</p>
18	MP28	DART+ Programme Coastal South	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event</p>	<p>Construction Mitigation proposed to protect surface water quality</p>	<p>A significant residual effect with regard disturbance and displacements of fauna during</p>

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			<p>during the construction of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>during construction of the Proposed Scheme will prevent surface water pollution events</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will mitigate potential cumulative impacts on fauna species</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events</p>	<p>construction will remain albeit at the local geographic scale.</p> <p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>
24	MP29	R126 Donabate Relief Road: R132 to Portrane Demesne	None	Not applicable	The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.
8	MP30	Extension of LUAS Green Line to Bray	None	Not applicable	The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality

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					and / or temporary disturbance to SCI species.
6	MP31	Capacity enhancement and reconfiguration of the M11/N11 from Junction 4 (M50) to Junction 14 (Ashford) inclusive of ancillary and associated road schemes, to provide additional lanes and upgraded junctions, plus service roads and linkages to cater for lo	None	Not applicable	The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.
2	MP32	MetroLink	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will mitigate potential cumulative impacts on fauna species</p> <p>Operation Mitigation proposed to</p>	<p>A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale.</p> <p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>

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			during the construction of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.	protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events	
1	MP33	Greater Dublin Drainage (GDD)	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the operation of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will mitigate potential cumulative impacts on fauna species</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events</p>	<p>A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale.</p> <p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>
N/A	MP34 (TBC)	Cycling: Greater Dublin Area Cycle Network Plan (excluding Radial Core Bus Corridor elements)	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent</p>	<p>A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale.</p>

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			<p>degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the operation of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>surface water pollution events</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will mitigate potential cumulative impacts on fauna species</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events</p>	<p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>
N/A	MP35 (TBC)	Dublin Array - offshore windfarm	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction and/or operation of this development. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the operation of the Proposed Scheme. Accidental pollution events could result in habitat</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events.</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent</p>	<p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>

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			degradation, and habitat loss arising from extreme habitat degradation.	surface water pollution events.	
1	303678	Air insulated switchgear 110kV transmission substation. Platin, Duleek	None	Not applicable	The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.
2	304799	Construction of a new distributor road and junction to the southwest of Kells town centre. Kells	None	Not applicable	The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.
3	JA0040	Dublin Mountain Visitors Centre and all associated works. Killakee and Jamestown	None	Not applicable	The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.

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1	304624	FCC/12/0001 Broadmeadow Way. Greenway between Malahide Demesne and Newbridge Demesne to be known as 'Broadmeadow Way'. Malahide	None	Not applicable	The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.
2	307073	Alternations to a permitted double circuit 110kV electricity transmission line development between substations. Darndale / Belcamp	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the operation of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will mitigate potential cumulative impacts on fauna species</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events</p>	<p>A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale.</p> <p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>

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1	303249	110kV onsite electrical substation with associated electrical plant, electrical equipment, welfare facilities and waste water holding tank and security fencing. 110kV overhead line grid connection cabling, upgrade of existing tracks and provision of new site access roads with all associated site development and ancillary works. Timahoe East	None	Not applicable	The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.
2	304888	15-year permission for development at Oil Berth 3 and Oil Berth 4, Eastern Oil Jetty and at Berths 50A, 50N, 50S, 51, 51A, 49, 52, 53 and associated terminal yards to provide for various elements including new Ro-Ro jetty and consolidation of passenger terminal buildings. Dublin Port.	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction and/or operation of this development. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the operation of the Proposed Scheme.</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events.</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will reduce potential cumulative impacts on fauna species</p> <p>Operation</p>	<p>A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale.</p> <p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>

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			Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.	Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events.	
3	306583	A residential development with ancillary commercial uses (retail unit, café and crèche) partially comprising a "Build to Rent" scheme on circa 9.69 hectares. The townlands of Shanganagh, Cork Little and Shankill, Co. Dublin.	None	Not applicable	The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.
4	307352	The proposed development for Brexit Infrastructure will consist of - Installation of porta-cabin structures. Resurfacing and amalgamation of existing yards. Parking for heavy good vehicles, cars and bicycles. Gates, signage and all ancillary site works. Dublin Port.	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction and/or operation of this development. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events.</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will reduce potential cumulative impacts on fauna species</p>	<p>A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale.</p> <p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>

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			habitats arising from an accidental pollution event during the operation of the Proposed Scheme. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.	Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events.	
5	306834	Provision of a double circuit 220kV transmission line and a 220kV gas insulated switchgear (GIS) substation along with associated and ancillary works. Townlands of Cruiserath, Goddamendy and Bay, Co. Dublin.	None	Not applicable	The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.
6	307296	Construction of a 2 storey 110kV Gas Insulated Switchgear (GIS) substation, underground cable and all associated and ancillary site works. Former Clyde House, IDA Blanchardstown Business and Technology Park, Snugborough Road, Blanchardstown, Dublin 15	Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction and/or operation of this development. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation. Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the operation of the Proposed Scheme. Accidental pollution events could result in habitat	Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events. Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent	The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.

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			degradation, and habitat loss arising from extreme habitat degradation.	surface water pollution events.	
7	306725	Flood alleviation works along and adjacent to the River Poddle extending from the upper reaches of the river. Tymon North, Tallaght to Merchant's Quay, Dublin.	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction and/or operation of this development. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the operation of the Proposed Scheme. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events.</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will reduce potential cumulative impacts on fauna species</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events.</p>	<p>A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale.</p> <p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>
	245738 (DCC ref: 2552/15)	Aviation fuel pipeline. Location: Inlet Station: Team CV, Bond Drive,	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent</p>	<p>A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale.</p>

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		Dublin Port, Dublin 1 to Dublin Airport, Co. Dublin	<p>degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>surface water pollution events</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will mitigate potential cumulative impacts on fauna species</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events</p>	<p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>
	308585	Clutterland 110kV substation building and 2 underground single circuit transmission lines	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events</p>	<p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>

ID	Application Reference	Applicant for 'Other Development' and Brief Description	Assessment of Cumulative Effect with Proposed Project	Proposed Mitigation	Residual Cumulative Effect: Will the Project act in combination with the Proposed Scheme to adversely affect the integrity of European sites
			degradation, and habitat loss arising from extreme habitat degradation.		
	309951	Provision of two 110kV transmission lines. Connecting Coolderrig 110kV GIS substation to Grange Castle – Kilmahud circuits	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events</p>	The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.
	B1	<u>Dublin BusConnects</u> : CBC 02 Swords to City Centre	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will mitigate potential cumulative impacts</p>	<p>Biodiversity A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale.</p> <p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality</p>

ID	Application Reference	Applicant for 'Other Development' and Brief Description	Assessment of Cumulative Effect with Proposed Project	Proposed Mitigation	Residual Cumulative Effect: Will the Project act in combination with the Proposed Scheme to adversely affect the integrity of European sites
			<p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>on fauna species</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events</p>	<p>and / or temporary disturbance to SCI species.</p>
C1		<p><u>Dublin BusConnects</u>: CBC 05 Blanchardstown to City Centre</p>	<p>Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction and/or operation of this development. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>Mitigation proposed to protect surface water quality during construction and operation of the Proposed Scheme will prevent surface water pollution events.</p>	<p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>
A2		<p><u>Dublin BusConnects</u>: CBC 06 Lucan to City Centre</p>	<p>Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction and/or operation of this development. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>Mitigation proposed to protect surface water quality during construction and operation of the Proposed Scheme will prevent surface water pollution events.</p>	<p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>
B2		<p><u>Dublin BusConnects</u>: CBC 07 Liffey Valley to City Centre</p>	<p>Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction and/or operation of this development. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>Mitigation proposed to protect surface water quality during construction and operation of the Proposed Scheme will prevent surface water pollution events.</p>	<p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>

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	A3	<u>Dublin BusConnects</u> : CBC 0809 Tallaght-Clondalkin	Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction and/or operation of this development. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.	Mitigation proposed to protect surface water quality during construction and operation of the Proposed Scheme will prevent surface water pollution events.	The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.
	C2	<u>Dublin BusConnects</u> : CBC 1012 Templeogue-Rathfarnham	Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction and/or operation of this development. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.	Mitigation proposed to protect surface water quality during construction and operation of the Proposed Scheme will prevent surface water pollution events.	The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.
	D2	<u>Dublin BusConnects</u> : CBC 11 Kimmage to City Centre	Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction and/or operation of this development. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.	Mitigation proposed to protect surface water quality during construction and operation of the Proposed Scheme will prevent surface water pollution events.	The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.
	B3	<u>Dublin BusConnects</u> : CBC 13 Bray to City Centre	Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction and/or operation of this development. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.	Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events.	A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale. The Scheme will not adversely affect the integrity of any European sites, in its own right,

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			<p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the operation of the Proposed Scheme. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will reduce potential cumulative impacts on fauna species</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events.</p>	<p>as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>
	C3	<u>Dublin BusConnects</u> : CBC 14/15 Blackrock/Belfield	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction and/or operation of this development. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events.</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will reduce potential cumulative impacts on fauna species</p>	<p>A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale.</p> <p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>

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			<p>during the operation of the Proposed Scheme. Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events.</p>	
	D3	Dublin BusConnects: CBC 16 Ringsend to City Centre	<p>Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.</p>	<p>Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will mitigate potential cumulative impacts on fauna species</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events</p>	<p>A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale.</p> <p>The Scheme will not adversely affect the integrity of any European sites, in its own right, as a result of any effects on existing surface water quality and / or temporary disturbance to SCI species.</p>
		SHDs (Impact dependent on	Construction Potential for in-combination effects on downstream	Construction Mitigation proposed to	A significant residual effect with regard disturbance and

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		<p><i>proximity to Proposed Scheme.</i> Items marked with * are only relevant if within close proximity to the Proposed Scheme and items marked with ** are only relevant if they are located within the same catchment as the Proposed Scheme)</p>	<p>habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.**</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality*</p> <p>Potential for in-combination effects on habitats and species as a result of direct habitat loss or treelines and mixed broadleaf woodland arising from the construction of the Proposed Scheme*</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.**</p>	<p>protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events**</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will mitigate potential cumulative impacts on fauna species*</p> <p>Mitigation proposed to minimise habitat loss and retain vegetation during the construction phase of the Proposed Scheme will reduce potential cumulative impacts on habitats and species.*</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent surface water pollution events**</p>	<p>displacement of fauna during construction will remain albeit at the local geographic scale.*</p> <p>A significant residual effect with regard loss of habitat will remain albeit at the local geographic scale*</p>

ID	Application Reference	Applicant for 'Other Development' and Brief Description	Assessment of Cumulative Effect with Proposed Project	Proposed Mitigation	Residual Cumulative Effect: Will the Project act in combination with the Proposed Scheme to adversely affect the integrity of European sites
		<p>Irish Water Projects (<i>Impact dependent on proximity to Proposed Scheme</i>. Items marked with * are only relevant if within close proximity to the Proposed Scheme and items marked with ** are only relevant if they are located within the same catchment as the Proposed Scheme) Larger scale Irish Water infrastructure projects are described separately under major projects</p>	<p>Biodiversity Construction Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.**</p> <p>Should the construction periods overlap there is potential for in-combination disturbance on fauna, including wintering bird species, resulting in displacement from the locality*</p> <p>Potential for in-combination effects on habitats and species as a result of direct habitat loss of treelines and mixed broadleaf woodland arising from the construction of the Proposed Scheme*</p> <p>Operation Potential for in-combination effects on downstream habitats arising from an accidental pollution event during the construction of the Proposed Scheme . Accidental pollution events could result in habitat degradation, and habitat loss arising from extreme habitat degradation.**</p>	<p>Biodiversity Construction Mitigation proposed to protect surface water quality during construction of the Proposed Scheme will prevent surface water pollution events**</p> <p>Mitigation proposed to reduce disturbance impacts on fauna species during the construction phase of the Proposed Scheme will mitigate potential cumulative impacts on fauna species*</p> <p>Mitigation proposed to minimise habitat loss and retain vegetation during the construction phase of the Proposed Scheme will reduce potential cumulative impacts on habitats and species.*</p> <p>Operation Mitigation proposed to protect surface water quality during operation of the Proposed Scheme will prevent</p>	<p>Biodiversity A significant residual effect with regard disturbance and displacement of fauna during construction will remain albeit at the local geographic scale.*</p> <p>A significant residual effect with regard loss of habitat will remain albeit at the local geographic scale*</p>

ID	Application Reference	Applicant for 'Other Development' and Brief Description	Assessment of Cumulative Effect with Proposed Project	Proposed Mitigation	Residual Cumulative Effect: Will the Project act in combination with the Proposed Scheme to adversely affect the integrity of European sites
				surface water pollution events**	

9.2 Plan Level Environmental Protection Policies and Objectives

351 This Section lists the overarching plan level environmental protection policies from the following plans: Fingal Development Plan 2017-2023 (Fingal County Council (FCC 2017)), Dublin City Development Plan 2016-2022 (Dublin City Council (DCC 2016)), South Dublin County Council Development Plan 2016-2022 (South Dublin County Council (SDCC 2016)), Wicklow County Development Plan 2016-2022 (Wicklow County Council (WCC 2016)) and the Dún Laoghaire-Rathdown County Development Plan 2016-2022 (Dún Laoghaire-Rathdown County Council (DLRCC 2016)).

352 The Proposed Scheme is compliant with all of the plan level biodiversity protection policies and objectives described above, including those within the Fingal Development Plan 2017-2023, the Dublin City Development Plan 2016-2022, the South Dublin County Council Development Plan 2016-2022, the Wicklow County Development Plan 2016-2022 and the Dún Laoghaire-Rathdown County Development Plan 2016-2022. Furthermore, the Proposed Scheme will not prevent the achievement of any of these plan level biodiversity protection policies and objectives across the identified potential impact pathways.

Fingal Development Plan 2017 – 2023

353 **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.

354 **Objective NH16:** Protect the ecological integrity of proposed Natural Heritage Areas (pNHAs), Natural Heritage Areas (NHAs), Statutory Nature Reserves, Refuges for Fauna, and Habitat Directive Annex I sites.

355 **Objective NH17:** Ensure that development does not have a significant adverse impact on proposed Natural Heritage Areas (pNHAs), Natural Heritage Areas (NHAs), Statutory Nature Reserves, Refuges for Fauna, Habitat Directive Annex I sites and Annex II species contained therein, and on rare and threatened species including those protected by law and their habitats.

Dublin City Development Plan 2016 - 2022

356 **GI2:** That any plan/project, either individually or in combination with other plans or projects that has the potential to give rise to significant effect on the integrity of any European site(s), shall be subject to an appropriate assessment in accordance with Article 6(3) and 6(4) of the EU Habitats Directives.

357 **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.

358 **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.

South Dublin County Council Development Plan 2016 - 2022

359 **Heritage, Conservation and Landscapes (HCL) Policy 12 Natura 2000 Sites:** It is the policy of the Council to support the conservation and improvement of Natura 2000 Sites 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:

- 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; and
- 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 2000 Act 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.

360 Heritage, Conservation and Landscapes (HCL) Policy 13 Natural Heritage Areas: It is the policy of the Council to protect the ecological, visual, recreational, environmental and amenity value of the County's proposed Natural Heritage Areas and associated habitats:

- HCL13 Objective 1: To ensure that any proposal for development within or adjacent to a proposed Natural Heritage Area (pNHA) is designed and sited to minimise its impact on the biodiversity, ecological, geological and landscape value of the pNHA particularly plant and animal species listed under the Wildlife Acts and the Habitats and Birds Directive including their habitats; and
- HCL13 Objective 2: To restrict development within a proposed Natural Heritage Area to development that is directly related to the area's amenity potential subject to the protection and enhancement of natural heritage and visual amenities including biodiversity and landscapes.

Wicklow County Development Plan 2016 - 2022

361 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).

362 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), the Birds Directive (2009/147/EC), the Environmental Liability Directive (2004/35/EC), 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 1976, the European Communities (Environmental Impact Assessment) Regulations 1989 (S.I. No. 349 of 1989) (as amended), the Wildlife (Amendment) Act 2000, the European Union (Water Policy) Regulations 2003 (as amended), the 2000 Act, the Birds and Habitats Regulations and the European Communities (Environmental Liability) Regulations 2008;
- 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); and

- 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.

363 **NH4:** All projects and plans arising from this plan (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.

364 **NH5:** To maintain the conservation value of all proposed and future Natural Heritage Areas (NHAs) and to protect other designated ecological sites in Wicklow.

365 **NH6:** Ensure ecological impact assessment is carried out for any proposed development likely to have a significant impact on proposed Natural Heritage Areas (pNHAs), Natural Heritage Areas (NHAs), Statutory Nature Reserves, Refuges for Fauna, Annex I habitats, or rare and threatened species including those species protected by law and their habitats. Ensure appropriate avoidance and mitigation measures are incorporated into development proposals as part of any ecological impact assessment.

Dún Laoghaire-Rathdown County Development Plan 2016 - 2022

366 **Policy 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.

367 **Policy 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.

368 **Policy 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.

9.3 Conclusion of the In Combination Assessment

- 369 The Proposed Scheme will not affect the integrity of any European sites. It will not result in the loss or fragmentation of any QI habitats, or habitats supporting populations of QI / SCI species, in (or associated with) any European sites, nor will it degrade any such habitats or affect QI / SCI species as a result of hydrological or hydrogeological impacts (quality or quantity), air quality impacts or introducing / spreading non-native invasive plant species.
- 370 The in combination assessment has concluded that there is no potential for adverse effects on the integrity of any European sites, to arise as a consequence of the Proposed Scheme in combination with any other plans or projects, as in consideration of the mitigation measures detailed in Section 7.7.4 of this NIS, no adverse effects on European site integrity will arise from the implementation of the Proposed Scheme.
- 371 The implementation of, and adherence to, the policies and objectives set out in Section 9.2 will ensure the protection of European sites across all identified potential impact pathways and will include the requirement for any future project to undergo Screening for Appropriate Assessment and / or Appropriate Assessment, as appropriate.
- 372 As the Proposed Scheme will not affect the integrity of European sites within the Zol of the Proposed Scheme, and given the protection afforded to European sites under the overarching land use plans, it has been concluded that there will be no adverse effects on the integrity of any European sites to arise as a consequence of the Proposed Scheme acting in combination with any other plans or projects.
- 373 Table 33 and Table 34 present the results of a pairwise assessment of the Proposed Scheme in-combination with all of those projects and plans. This assessment found that there will be no adverse effects on the integrity of any European sites as a consequence of the Proposed Scheme acting in combination with each of these plans and projects.
- 374 Furthermore for the same reasons, there will be no adverse effects on the integrity of any European sites as a consequence of the Proposed Scheme acting in-combination with any, some or indeed all taken together, of these plans or projects.
- 375 Therefore, the Proposed Scheme will not adversely affect the integrity of any European sites, either alone or in combination with any other plans or projects. No additional mitigation measures are necessary or required following this update assessment.

10 NIS Conclusion

- 376 This NIS has examined and analysed, in light of the best scientific knowledge, with respect to those European sites within the Zol of the Proposed Scheme, the potential impact sources and pathways, how these could impact on the sites' QI habitats and species and SCI species and whether the predicted impacts would adversely affect the integrity of North Dublin Bay SAC, South Dublin Bay SAC, Howth Head SAC, Rockabill to Dalkey Island SAC, Lambay Island SAC, Howth Head Coast SPA, Dalkey Islands SPA, North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA, Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, Skerries Islands SPA, Ireland's Eye SPA, Rockabill SPA, Lambay Island SPA or The Murrugh SPA. There are no other European sites at risk of effects from the Proposed Scheme.
- 377 Avoidance, design requirements and mitigation measures are set out within this NIS [and its appendices] and they ensure that any impacts on the conservation objectives of European sites will be avoided during the construction and operation of the Proposed Scheme such that there will be no risk of adverse effects on these European sites.
- 378 It has been objectively concluded by Scott Cawley Ltd., following an examination, analysis and evaluation of the relevant information, including in particular the nature of the predicted impacts from the Proposed Scheme and with the implementation of the mitigation measures proposed, that the Proposed Scheme will not adversely affect (either directly or indirectly) the integrity of any European site, either alone or in combination with other plans or projects, and there is no reasonable scientific doubt in relation to this conclusion.

11 References

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