

**Liffey Valley to City
Centre Core Bus
Corridor Scheme**
June 2022

**Appropriate
Assessment
Report**

**Screening
Report**

**BUS
CONNECTS**

SUSTAINABLE TRANSPORT FOR A BETTER CITY.

Table of Contents

1	Introduction	1
2	Methodology	1
2.1	Guidance	1
2.2	Assessment Methodology.....	2
2.3	Desktop Data Review	4
2.4	Consultations	5
2.5	Baseline Surveys.....	7
3	Provision of Information for Screening for Appropriate Assessment	8
3.1	Description of the Proposed Scheme.....	9
3.2	Overview of the Receiving Environment.....	11
3.3	Assessment of Potential Effects on European Sites	19
3.4	In-Combination Effects.....	24
4	Conclusions of Screening Assessment Process.....	28
	References	29

List of Images:

Image 1 - Stage One Screening Process for Appropriate Assessment

List of Figures:

Figure 1 – European sites in the vicinity of the Proposed Scheme

List of Appendices:

Appendix I - The Qualifying Interests (QIs) and Special Conservation Interests (SCIs) of the European sites in the Vicinity of the Proposed Scheme

1 Introduction

- 1 This report, which contains information to assist the competent authority to undertake a screening for Appropriate Assessment (AA) in respect of the Liffey Valley to City Centre Core Bus Corridor Scheme (hereinafter referred to as the Proposed Scheme), has been prepared by Scott Cawley Ltd. on behalf of the National Transport Authority. It provides information on, and assesses 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 the Natura 2000 network (hereafter referred to as European sites)¹. The Proposed Scheme aims to provide enhanced walking, cycling and bus 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 between Liffey Valley and the City Centre.
- 2 Article 6(3) of Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna (as amended) (the “**Habitats Directive**”) requires that, any plan or project not directly connected with or necessary to the management of European sites, but likely to have significant effects thereon, either individually or in combination with other plans or projects, shall be subject to Appropriate Assessment of its implications for the European sites in view of their conservation objectives. The requirements of Article 6(3) of the Habitats Directive, have been transposed into Irish law by part XAB of the Planning and Development Act 2000 (as amended) and the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) (the “**2011 Birds and Habitats Regulations**”).

For the reasons set out in detail in this AA Screening Report, a Stage Two **Appropriate Assessment of the Proposed Scheme is required in this instance** as it cannot be concluded, 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 not have a significant effect on the following European site(s) in view of the conservation objectives of the following site(s): **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 Murrough SPA.**

2 Methodology

2.1 Guidance

- 3 This Appropriate Assessment Screening Report has been prepared with regard to the following guidance documents, as relevant:
 - *Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities.* (Department of Environment, Heritage and Local Government, 2010 revision)

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

In Ireland these sites are designated as *European sites* - defined under section 177R of the Planning and Development Act 2001 (as amended) Regulations 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 Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

- Appropriate Assessment Screening for Development Management: OPR Practice Note PN01 (OPR, 2021)
- *Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities*. Circular NPW 1/10 & PSSP 2/10
- *Assessment of Plans and Projects in Relation to Natura 2000 sites: Methodological Guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (European Commission, 2021)
- *Communication from the Commission on the precautionary principle* (European Commission, 2000), and
- *Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC* (European Commission, 2019)
- EC (2013) *Interpretation Manual of European Union Habitats*. Version EUR 28. European Commission

2.2 Assessment Methodology

- 4 The above referenced guidance sets out a staged process for carrying out Appropriate Assessment. To determine if an Appropriate Assessment is required, documented screening is required. Screening identifies the potential for significant effects on the conservation objectives of European sites, if any, which would arise from a proposed plan or project, either alone or in combination with other plans and projects.
- 5 Significant effects on a European site are those that would undermine the conservation objectives supporting the favourable conservation condition of the Qualifying Interest (QI) habitats and / or the QI / Special Conservation Interest (SCI) species of a European site(s).
- 6 Image 1 describes the steps involved in Stage One Screening for Appropriate Assessment.

Image 1 Stage One Screening Process for Appropriate Assessment



- 7 If the conclusions at the end of screening are that there is no likelihood of significant effects occurring on any European sites as a result of the proposed plan or project, either alone or in combination with other plans and projects, then there is no requirement to undertake a Stage Two Appropriate Assessment.
- 8 A source-pathway-receptor approach has been applied. In order for a likely significant effect to occur, there must be a risk enabled by having a source (e.g., water abstraction or construction works), a receptor (e.g., a European site or its QI(s) or SCI(s)²), and a pathway between the source and the receptor (e.g., 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 likely significant effects to occur.
- 9 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 Zone of Influence (Zoi) of the Proposed Scheme, and therefore potentially at risk of significant effects. The Zoi is the area over which the Proposed Scheme could affect the receiving environment such that it could potentially have significant

² The term Qualifying Interest (QI) is used when referring to the habitats or species for which an SAC is designated; the term Special Conservation Interest (SCI) is used when referring to the bird species (or wetland habitats) for which an SPA is designated.

effects on the QI habitats or QI / SCI species of a European site, or on the achievement of their conservation objectives³.

- 10 The identification of a source-pathway-receptor link does not mean that significant effects will arise. Rather, the likelihood for significant effects will depend upon the characteristics of the source (e.g. extent and duration of construction works), the characteristics of the pathway (e.g. direction and strength of prevailing winds for airborne pollution) and the characteristics of the receptor (e.g. the sensitivities of the European site and its QIs / SCIs). Where uncertainty exists, the precautionary principle⁴ is applied.

2.3 Desktop Data Review

- 11 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):
- Online data available on European sites and on Natural Heritage Areas (NHAs) or proposed Natural Heritage Areas (pNHAs) from www.npws.ie⁵, including conservation objectives documents;
 - Online data records available on National Biodiversity Data Centre Database (NBDC 2020);
 - Online data records made available via an NPWS data request (NPWS, 2020);
 - Ordnance Survey Ireland (OSI) orthophotography (from 1995 to 2012) for the Proposed Scheme study area;
 - 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 data⁶;
 - Records from the Botanical Society of Britain and Ireland (BSBI);
 - Information contained within the Flora of County Dublin (Doogue *et al.* 1998);
 - Environmental information / data for the area available from the EPA website www.epa.ie
 - Information on the status of EU protected habitats and species in Ireland (NPWS 2019);

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

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

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

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

⁵ The following SAC and SPA GIS boundary datasets are the most recently available at the time of writing: SAC_ITM_2022_02 and SPA_ITM_2021_10.

⁶ Article 17 of the EU Directive on the Conservation of habitats, Floras and Fauna (Habitats Directive) requires 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 a 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.

- Information on light-bellied brent goose inland feeding sites from the Natura Impact Statement prepared for a Proposed Residential Development, St. Paul's College, Sybill Hill, Raheny, Dublin (Scott Cawley Ltd. 2017);
- The results of ecological surveys undertaken as part of the Environmental Impact Assessment (EIA) studies for the Proposed Scheme (see Section 5 below for details); and,
- Information on the location, nature and design of the Proposed Scheme.
- Bus Connects Drone Imagery, surveyed 2020

2.4 Consultations

- 12 Table 1 outlines the Appropriate Assessment issues raised during consultation, which are addressed in the NIS.

Table 1: Principal AA Issues Raised During Consultation

Consultee	Phase / Date of Consultation	Issues Raised	Relevant Section of the AA where this is addressed
Department of Housing, Local Government and Heritage (formerly Department of Culture, Heritage and the Gaeltacht)	30th July 2019 Ref. G Pre00165/2019	<p>The Department recommend identification, description, and assessment of direct and indirect impacts of the Proposed Scheme on the following features:</p> <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. • • 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. 	<p>Section 2.5 Baseline Surveys, Section 3.2 Overview of Receiving Environment Section 3.2.1 European Sites, Section 3.3 Assessment of Potential Effects on European Sites</p>

Consultee	Phase / Date of Consultation	Issues Raised	Relevant Section of the AA where this is addressed
		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 AA	Section 2.5 Baseline Surveys, Section 3.2 Overview of Receiving Environment Section 3.3 Assessment of Effects on European sites
		Appropriate Assessment addresses the issue of invasive alien plant and animal species and include detailed methods to ensure accidental introduction or spreading does not occur. An Invasive Species Action Plan should form part of the planning application.	Section 3.2.3, Section 3.3.4. A non-native Invasive Species Management Plan has been prepared in respect of the Proposed Scheme as an appendix to the CEMP. It is not considered during the AA Screening
		The Cumulative impacts of the Proposed Scheme be considered, to include interaction between different and / or approved plans and projects in the same area as the Proposed Scheme.	Section 3.4 In-Combination Effects
		<p>The Proposed Scheme be subject to Appropriate Assessment 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. • 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. • 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>	<p>The Proposed Scheme has been subject to Screening for AA and the production of a Natura Impact statement, which accompanies the planning submission.</p> <p>Section 3.3 Potential Impacts, Zone of Influence and Identifying European sites at Risk of Effects</p> <p>Section 3.3 Assessment of Potential Effects</p>

Consultee	Phase / Date of Consultation	Issues Raised	Relevant Section of the AA where this is addressed
		<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. The applicant should not use any proposed post construction monitoring as mitigation to supplement inadequate information in the assessment. 	

2.5 Baseline Surveys

- 13 Baseline ecological surveys were undertaken as necessary to inform environmental assessments of the Proposed Scheme. This section describes those ecological surveys which are relevant to and have informed the assessment of likely significant effects on European sites.

2.5.1 Habitats and Flora Survey

- 14 Habitat surveys were carried out by Scott Cawley Ltd., between June and August 2018 along the then 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 Fossitt (2000) and in accordance with the Heritage Council’s *Best Practice Guidance for Habitat Survey and Mapping* (Smith *et al.* 2011). 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 the 2011 Birds and Habitats Regulations were also recorded. Each 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* (Stace 2019).
- 15 A desk study was carried out to identify all hydrological crossing points within the footprint of the Proposed Scheme. No in-stream works are proposed and the desk study identified no sites where water bodies may be subject to significant disturbance as a consequence of the Proposed Scheme. As such, instream aquatic habitat surveys were not necessary.

2.5.2 Fauna Surveys

- 16 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 Special Conservation Interest bird species. Dedicated fisheries or aquatic surveys were not required for this assessment as the Proposed Scheme is not hydrologically connected to any European site designated for Annex II fish species or white-clawed crayfish *Austropotamobius pallipes*. The nearest known European site designated for Atlantic salmon *Salmo salar*, River Lamprey *Lampetra fluviatilis* and Brook Lamprey *L. planeri* is the River Boyne and River Blackwater SAC, located approximately 32.1km north-west 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 50km south-west of the Proposed Scheme in the River Barrow catchment, River Nore catchment and River Ballyteigue-Bannow river catchment.

2.5.2.1 Otter

- 17 The footprint of the Proposed Scheme and suitable lands (*e.g.* greenfield sites) immediately adjacent were surveyed for otter *Lutra lutra* activity as part of the multi-disciplinary walkover survey, undertaken between June and August 2018, and in August 2020. 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.
- 18 A desk study was carried out to identify all hydrological crossing points within the footprint of the Proposed Scheme. No in-stream works are proposed and the desk study identified no sites where water bodies may be subject to significant disturbance as a consequence of the Proposed Scheme. As such, separate otter suitability surveys were not deemed necessary.

2.5.2.2 Kingfisher

- 19 A desk study was carried out to identify all hydrological crossing points within the footprint of the Proposed Scheme. No in-stream works are proposed and the desk study identified no sites where water bodies may be subject to significant disturbance as a consequence of the Proposed Scheme. As such, kingfisher habitat suitability assessment surveys were not deemed necessary.

2.5.2.3 Other Birds

- 20 The results of the desk study have informed the assessment of likely significant effects on breeding bird species arising from the Proposed Scheme.
- 21 A desk study was carried out to identify any potential suitable inland feeding and / or roosting sites for winter 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*⁹ (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.
- 22 The desk study identified three sites adjacent to the Proposed Scheme with potential for wintering birds that would be subject to direct habitat loss. These sites are located adjacent to Ballyfermot College of Further Education (BCFE) on R112 / Kylemore Road referred to as CBC0007WB001, at Longmeadow's Park on Sarsfield Road, referred to as CBC0007WB002 and within Liffey Gaels Park before the junction with Chapelizod Bypass, referred to as CBC0007WB003. 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.
- 23 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 line varied per site. Transect lines were only completed at sites where no bird species were present, to avoid any potential disturbance.

3 Provision of Information for Screening for Appropriate Assessment

- 24 The following sections provide information to facilitate the Appropriate Assessment screening of the Proposed Scheme to be undertaken by the competent authority.
- 25 A description of the Proposed Scheme and the receiving environment is provided to identify the potential ecological impacts. The environmental baseline conditions are described, 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.* air quality, geological, hydrogeological and hydrological data *etc.*).

26 The potential impacts are examined in order to define the potential zone of influence 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 QIs or SCIs.

3.1 Description of the Proposed Scheme

27 The following sections provide information to facilitate the Appropriate Assessment screening of the Proposed Scheme to be undertaken by the competent authority. A description of the Proposed Scheme is provided to identify the potential ecological impacts.

3.1.1 Overview

28 The Proposed Scheme is approximately 9.2km long from end to end and will commence on the Fonthill Road at the tie in point with the new Liffey Valley Shopping Centre Bus Interchange and Road Improvement Scheme. The route will continue along the distributor road to the west and south of Liffey Valley Shopping Centre in a southerly direction towards Coldcut Road. From here it will join the R833 Coldcut Road and continue to the bridge over the M50, subsequently turning onto the R833 Ballyfermot Road. The Proposed Scheme will travel through Ballyfermot Village and continue onto the Sarsfield Road, whilst city bound general traffic will be diverted via Le Fanu Road and Kylemore Road back to Ballyfermot Road.

29 The Proposed Scheme will continue along Ballyfermot Road and Sarsfield Road, turning right at the junction with Con Colbert Road before turning right again onto Grattan Crescent. At the intersection of Grattan Crescent and Emmet Road the Proposed Scheme will travel along Emmet Road, Old Kilmainham, Mount Brown and James's Street. From here the Proposed Scheme will join Thomas Street, Cornmarket and go along High Street to the junction with Nicholas Street and Winetavern Street where it will join the existing traffic management regime in the City Centre and terminates at the end of High Street.

30 For the purposes of describing the Proposed Scheme it has been split into three main sections which have also been divided as follows:

- **Section 1:** Liffey Valley to Le Fanu Road;
- **Section 2:** Le Fanu Road to Sarsfield Road; and
- **Section 3:** Sarsfield Road to City Centre.

31 The Proposed Scheme includes a substantial increase in the level of bus and cycle priority provided along the corridor, including the provision of additional lengths of bus lane and cycle lane, both inbound and outbound. Bus stops will be enhanced throughout the Proposed Scheme to improve the overall journey experience for bus passengers.

32 The main characteristics of the construction stage 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;
- Road widening, pavement reconstruction, and kerb improvements;
- Reconfiguration of traffic lanes throughout;
- Installation of new bus stops and junction / roundabout modification;
- Property boundary reinstatement, signage replacement; relocation of and/or installation of lighting columns; and
- Landscaping and tree planting, and reinstatement of temporary land acquisitions.

3.1.2 Structural Works

33 There are no major structural works proposed as part of this Proposed Scheme, although there are a number of minor structural works, including the construction of three no. retaining walls.

3.1.3 Surface Water Drainage Infrastructure

- 34 It is proposed to connect proposed drainage infrastructure into the existing surface water drainage system. There are three existing surface water catchments within the Proposed Scheme. Surface waters will drain to the Quarryvale Stream (Liffey_180), the River Liffey (Liffey_180 & Liffey_190) and, to Liffey_190, Camac_040 and Ringsend WWTP, via a combined sewer. The Proposed Scheme also crosses the River Camac (Camac_040) at Emmet Road, Kilmainham.
- 35 The drainage system for the Proposed Scheme will discharge to three waterbodies, the Liffey_180 and Liffey_190; and to the Camac_040 and Ringsend WwTP (which ultimately discharges to Liffey Estuary Lower, Dublin Bay, post treatment). All drainage outfall discharges to surface waters represent point discharges.
- 36 Runoff will discharge through existing surface water outfalls to the Liffey_180, Liffey_190 and Camac_040, or through the existing combined drainage system to Ringsend WwTP.
- 37 There will be a net increase in impermeable area draining to the Liffey_180 of 9,188m², which equates to a 10% increase. There will also be a net increase in impermeable area draining to the Liffey_190 of 5,847m², which also equates to a 10% increase. There is no direct hydrological connection from the Proposed Scheme to the Liffey Estuary Upper and Camac_040. Indirect impacts could occur as a result of increased frequency and duration in the operation of Surface Water Outfalls (SWOs) which discharge to the waterbody from the combined sewer in Catchment 3 (Section 3: Sarsfield Road to City Centre); however there is no increase in impermeable area draining to Ringsend WwTP and so there will be no impacts.
- 38 Notwithstanding this, the drainage design principles ensure that there will be no net increase in the surface water flow discharged to these receptors.
- 39 Particular aspects of relevance to this assessment include the existing and proposed drainage and the construction aspects of the Proposed Scheme. The Proposed Scheme is hydrologically connected to Dublin Bay and it is proposed to connect the proposed drainage infrastructure into the existing surface water network. Surface waters from the Proposed Scheme will drain to Dublin Bay via the Liffey_180, Liffey_190, Camac_040 and Ringsend WWTP. The Proposed Scheme will increase the amount of impermeable surface area through widening of carriageways. Drainage of these newly paved areas will include SuDS measures to treat and attenuate any additional runoff. These measures will ensure that there is no increase in existing runoff rates from newly paved areas and appropriate treatment to ensure runoff quality. SuDS measures proposed for this scheme include relocation and addition of drainage gullies, permeable paving, bio retention area, rain gardens, green roofs, filter drains and tree pits which will be installed in suitable locations along the Proposed Scheme (e.g. in the central median and along road verges).

Table 2 Proposed SuDS and Impermeable Area Changes

Existing Catchment Reference	Waterbody	Approx. Impermeable Surface Area m ²			SuDS Measures Proposed
		Existing	Additional	Percentage change	
R7-1	Liffey_180	90,849	9,188	10%	Swales, UAT, Bio retention systems, OSP, Dry Detention Basins, Rain Garden
R7-2	Liffey_190	56,879	5,847	10%	OSP, UAT, Attenuation Pond, FD
R7-3	Camac_040, Liffey estuary Upper	72,564	0	0.0%	None

3.1.4 Construction Compounds

- 40 There will be three no. construction compounds for the Proposed Scheme. They will be located in;
- Fonthill Road, within the grounds of the Liffey Valley Shopping Centre;
 - At lands adjacent to the Eir exchange building on the Coldcut Road, between Cloverhill Road and Ballyfermot Road; and
 - At lands along Con Colbert Road, before the junction with Chapelizod Bypass, within Liffey Gaels Park for the duration of the construction works (30 months).

3.1.5 Estimated Project Duration

- 41 The duration of the construction phase is estimated to be of the duration of 30 months.

3.1.6 Operational Phase

- 42 The main characteristics of the Operational Phase of the Proposed Scheme that have potential for likely significant effects on European sites and their QI / SCI include:
- The presence and operation (traffic) of the road;
 - The presence of additional lighting; and,
 - Routine maintenance
- 43 The Proposed Scheme is not directly connected with, nor necessary to the conservation management of any European site(s).

3.2 Overview of the Receiving Environment

3.2.1 European sites

- 44 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 3.3km away. The nearest European site with a hydrological connection to the Proposed Scheme is South Dublin Bay and River Tolka Estuary SPA, which is located approximately 5.6km downstream of the Proposed Scheme terminus at Winetavern Street. This is followed by South Dublin Bay SAC, which is located approximately 6.5km downstream of the Proposed Scheme terminus at Winetavern Street.
- 45 There are eight European sites located in Dublin Bay that are hydrologically connected to the Proposed Scheme. These European Sites are 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 SPA, Howth Head Coast SPA, and Dalkey Island SPA. European sites will be hydrologically connected to the Proposed Scheme via three watercourses i.e. the Liffey_180, Liffey_190 and the Camac_040, and the Ringsend WWTP.
- 46 There are thirteen SPAs designated for SCI species that are known to forage and / or roost at inland sites across Dublin City. These are 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, Wicklow Mountains SPA and The Murrough SPA.
- 47 In addition, Rockabill to Dalkey Island SAC and Lambay Island SAC are designated for mobile QI species known to utilise the Dublin Bay and the Liffey Estuary Lower.
- 48 All European sites present in the vicinity of the Proposed Scheme are shown on Figure 1 at the end of this report. The QIs / SCIs of the European sites in the vicinity of the Proposed Scheme are provided in Appendix I.

3.2.2 Habitats

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);
- Stone walls and other stonework (BL1);
- Buildings and artificial surfaces (BL3);
- Tidal rivers (CW2);
- Exposed sand, gravel or till (ED1)
- Spoil and bare ground (ED2);
- Recolonising bare ground (ED3);
- Depositing / lowland rivers (FW2);
- Amenity Grassland (Improved) (GA2);
- Dry meadows and grassy verges (GS2);
- Residential;
- (Mixed) broadleaved woodland (WD1);
- Scattered trees and parkland (WD5);
- Hedgerows (WL1);
- Treelines (WL2);
- Scrub (WS1); and,
- Ornamental / non-native shrub (WS3).

49 The habitat type tidal rivers (CW2) corresponds with the Annex I habitat Estuaries [1130] and is present in the Liffey Estuary Upper, downstream of the Proposed Scheme.

3.2.3 Flora and Fauna Species

50 No records of any Annex II plant species were recorded within the footprint of the Proposed Scheme during field surveys.

51 The desk study also returned records of a total of 18 species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011 across the wider study area (i.e. Grid Squares O03 and O13). Records within close proximity to the Proposed Scheme include Canadian waterweed *Elodea canadensis*, curly waterweed *Lagarosiphon major*, bohemian knotweed *Reynoutria japonica x sachalinensis* = *R. x bohémica*, giant knotweed *Reynoutria sachalinensis*, Himalayan balsam *Impatiens glandulifera*, Japanese knotweed *Reynoutria japonica*, parrot's-feather *Myriophyllum aquaticum*, rhododendron *Rhododendron ponticum* and three-cornered garlic *Allium triquetum*.

52 There were four areas of the non-native invasive plant species Japanese Knotweed listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011 identified along or adjacent to the Proposed Scheme. These locations are summarised below in Table 3.

Table 3 Non-native Invasive Plant Species Listed in the Third Schedule of the Birds and Habitats Regulations 2011 recorded along or adjacent to the Proposed Scheme

<u>Reference</u>	<u>Species</u>	<u>Location</u>
CBC0007IAPS001	Japanese knotweed <i>Reynoutria japonica</i>	Stand observed in a private property along St. Laurence's Road.
CBC0007IAPS002	Japanese knotweed <i>Reynoutria japonica</i>	Stand observed in a private property along St. Laurence's Road.
CBC0007IAPS003	Japanese knotweed <i>Reynoutria japonica</i>	Stand observed in a private property along St. Laurence's Road.
CBC0007IAPS004	Japanese knotweed <i>Reynoutria japonica</i>	Stand observed in a private property opposite Liffey Gaels GAA Club, Kilmainham adjacent to Sarsfields Road R833.

Otter

- 53 The desk study found that otter are known to occur within 1km of the Proposed Scheme and across the wider study area along the River Liffey, the River Camac and the Grand Canal. Records of otter were returned along the Grand Canal at Suir Road and the River Liffey at Frank Sherwin Bridge, Chapelizod Road and downstream at Grand Canal Dock and the east-link toll bridge. The desk study did not return records for otter along the River Camac within close proximity to the Proposed Scheme. Otter are known to utilize upstream sections of the river at sites adjacent to Lansdowne Valley Park. The desk study did not return records for otter along the River Poddle within close proximity to the Proposed Scheme. Otter are known to utilize upstream sections of the river at Tymon Park, approximately 8.6km upstream of the Proposed Scheme. The River Liffey is known to support a local otter population with clusters of otter activity observed upstream of the Proposed Scheme at Waterstown Park, Palmerstown (Grid O088357), near Heuston Station (O136343), on Usher's Quay (O145342), and adjacent to the Proposed Scheme at War memorial gardens (Grid O121342). Otter have also been recorded along the Grand Canal between Devoy Road (Grid O115329) and Inchicore at Suir Road (Grid O127331).
- 54 No evidence of otter activity (e.g. sprainting posts), holts or couch sites were recorded during the multi-disciplinary surveys carried out along the Proposed Scheme. The nearest European site for which this species is designated is the Wicklow Mountains SAC, which is located approximately 11.3km south of the Proposed Scheme. Wicklow Mountains SAC is located within a different sub-catchment (Dodder_SC_010) to the Proposed Scheme the majority of which is located in the Liffey_SC_090, with a small portion also located within Liffey_SC_100. As such, populations of otter within the footprint of the Proposed Scheme are not connected to the SAC population.

Marine mammals

- 55 The Proposed Scheme is hydrologically connected to the Dublin Bay via the Liffey_180, Liffey_190 and Camac_040, and the Ringsend WWTP. Harbour seal, grey seal, and harbour porpoise are known to be present in Dublin Bay and all are listed on Annex II of the Habitats Directive. The nearest European site for which harbour seal and grey seal have been designated is Lambay Island SAC located approximately 22.5km from the Proposed Scheme. The nearest European site for which harbour porpoise has been designated is Rockabill to Dalkey Island SAC located approximately 12.1km from the Proposed Scheme.

Kingfisher

- 56 A desk study 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, the River Liffey is known to support a population of kingfisher (DCC 2015). There are also records of kingfisher on the Grand Canal, which is within 1km of the Proposed Scheme (FERS Ltd. 2018).
- 57 No kingfisher were recorded during surveys within the footprint of the Proposed Scheme.

58 The nearest European site for which this species is designated is River Boyne and River Blackwater SPA, which is located approximately 32.2km from the Proposed Scheme in a separate catchment. Kingfisher populations within close proximity to the Proposed Scheme are not deemed to be SCI species.

Other Birds

- 59 The desk study returned records of three breeding and wintering 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*, lesser black-backed gull *Larus fuscus*.
- 60 The desk study returned records of a total of 38 wintering bird species, including 19 species with breeding and wintering populations in the wider study area (i.e. Grid Squares O03 and O13). Records included 26 species listed under Annex I of the Birds Directive and 54 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 five SCI wintering bird species which may use inland amenity grassland feeding sites, including light-bellied brent goose, lapwing, black-headed gull, herring gull and lesser black-backed gull.
- 61 A review of a study into light-bellied brent goose inland feeding sites (Benson 2009) has identified no known inland wintering bird feeding sites in the footprint of the Proposed Scheme. There is one known inland wintering bird feeding site within approximately 300m of the Proposed Scheme i.e. the disturbance Zol: Ballyfermot / Le Fanu Park, located approximately 150m from the Proposed Scheme.
- 62 Wintering bird surveys were carried out for the Proposed Scheme at three locations, Ballyfermot College of Further Education (BCFE) on R112 / Kylemore Road (referred to as CBC0007WB001), at Longmeadows Park on Sarsfield Road (referred to as CBC0007WB002) and at Liffey Gaels Park on Con Colbert Road (referred to as CBC0007WB003, between October 2020 and March 2021, and between October 2021 and March 2022. Wintering bird surveys were terminated mid-season for CBC0007WB001 following removal of this site as a potential construction compound, CBC0007WB003 is proposed for use as construction compound 3. Table 4 provides a summary of the findings of the winter bird surveys with respect to those species which are of highest conservation concern and were recorded within winter bird survey sites.

Table 4 Wintering Birds of Conservation Concern Recorded at Sites CBC0007WB001, CBC0007WB002 and CBC0007WB003 during the Wintering Bird Surveys

Common Name / Scientific Name / BTO Code	Site: Peak Count and Activity in the Study Area (2020/2021)	Site: Peak Count and Activity in the Study Area (2021/2022)	Conservation Importance			Nearest SPA Designated for SCI Species
			BoCCI (B – Breeding / W – Wintering)	Annex I	SCI	
Herring gull <i>Larus argentatus</i> (HG)	Two individuals feeding on the grassland adjacent to the BCFE at CBC0007WB001	12 individuals foraging on grassland within Liffey Gaels Park at CBC0007WB003 (21/12/2021)	Amber (B/W)	-	✓	Ireland's Eye SPA c.15.9km
Black-headed gull <i>Chroicocephalus ridibundus</i> (BH)	Two individuals foraging on grassland within Liffey Park at CBC0007WB003	19 birds loafing within Liffey Gaels Park at CBC0007WB003 (09/03/2022)	Amber (B/W)	-	✓	South Dublin Bay and River Tolka Estuary SPA c.3.3km
Common Gull <i>Larus canus</i> (CM)	Single individual foraging on grassland within Liffey Gaels Park at CBC0007WB003	Nine birds foraging on grassland within Liffey Gaels Park at CBC0007WB003 (28/02/2022)	Amber (B/W)	-	✓	Dundalk Bay SPA c.58.5km

- 63 Site conditions at BCFE (CBC0007WB001) were characterised by well-maintained ground conditions managed through regular cutting. Longmeadow (CBC0007WB002) was not regularly maintained by cutting and the site was partly covered by asphalt during the survey season. There was no access into this site and observations were made with binoculars through the fencing. No birds were recorded at CBC0007WB002 throughout the survey period. Liffey Gaels Park (CBC0007WB003) comprised recreational pitches, maintained through regular cutting. Disturbance was noted as high on this site due to animals (dogs off leash and horse grazing / walking), evidence of vehicles (motorcross and quad bikes) and public disorder activities (fireworks and large material littering) being frequent.
- 64 Wintering bird activity was low across all visits. Droppings attributed to light-bellied Brent goose were recorded on two dates during the 2021-2022 survey season at CBC0007WB003. A total of 294 light-bellied Brent goose droppings were recorded here on the 21/12/2021 and 16 light-bellied Brent goose droppings were recorded here on 28/02/2022. No goose droppings were recorded here during the 2020-2021 survey season. This data suggests that the Liffey Gaels Park has recently started to be used on an infrequent basis by irregular numbers of light-bellied Brent geese, for foraging / loafing purposes. The inconsistency of recorded use of the site suggests that it is not a significant inland foraging resource for this SCI bird species and is more likely to be use sporadically / infrequently. **Table 5** compares peak counts identified across surveys to their national and international populations.

Table 5 Wintering Bird Species Recorded during Winter Bird Surveys in Comparison to the 1% of its International and National Populations

Common Name / Scientific Name / BTO Code	Peak Count (2020/2021)	Peak Count (2021/2022)	Associated European sites within the Zol	1% of International Population	1% of National Population
Herring gull <i>Larus argentatus</i> (HG)	2	12	Ireland's Eye SPA Lambay Island SPA Skerries Islands SPA	14,400	n/a
Black-headed gull <i>Chroicocephalus ridibundus</i> (BH)	2	19	South Dublin Bay and River Tolka Estuary SPA c.3.3km	31,000	n/a
Common Gull <i>Larus canus</i> (CM)	1	9	Dundalk Bay SPA c.58.5km	16,400	n/a

3.2.4 Hydrology

- 65 The Proposed Scheme crosses one watercourse: the Camac_040. The catchment details available for the Proposed Scheme indicate that surface waters for the Proposed Scheme largely discharge directly to the Liffey_180, Liffey_190 via the existing surface water drainage system. Closer to the city centre, there is a combination of surface water sewers and combined foul and surface water sewers which drain to the Liffey_190, Camac_040 through SWOs and Ringsend WwTP, which ultimately discharges to the Liffey Estuary Lower and Dublin Bay.
- 66 The proposed drainage system for the Proposed Scheme will discharge to the Liffey_180 and Liffey 190. There will be a net increase in impermeable area draining to the Liffey_180 of 9,188m², which equates to a 10% increase. There will be a net increase in impermeable area draining to the Liffey_190 of 5,847m², which also equates to a 10% increase. There is no direct hydrological connection from the Proposed Scheme to the Liffey Estuary Upper. Indirect impacts could occur as a result of increased frequency and duration in the operation of SWOs which discharge to the waterbody from the combined sewer in Catchment 3 (Section 3: Sarsfield Road to City Centre); however there is no increase in impermeable area

draining to Ringsend WwTP. Notwithstanding this, the drainage design principles ensure that there will be no net increase in the surface water flow discharged to these receptors.

- 67 Details on the water quality of each watercourse, as sourced from the Environmental Protection Agency (EPA), and the distances from the proposed crossing point to downstream waterbodies are also provided in **Table 6** below.

Table 6 Water Quality of Watercourses / Waterbodies 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 Waterbodies along with their associated Water Quality
River Camac (Camac_40)	One existing crossing point on Emmet Road, Inchicore.	Q3 Camac Close Emmet Road Poor 'At risk'	It enters the Liffey Estuary Upper (classified as "Eutrophic") adjacent to Heuston Station. It then enters the Liffey Estuary Lower transitional waterbody (classified as "Unpolluted") at Grand Canal Dock, which ultimately drains to Dublin Bay coastal waterbody (classified as "Unpolluted").
River Poddle (Poddle_10)	One existing crossing point on Thomas Street, where the River Poddle is culverted under the road.	Q3 The Priory, Kimmage Road Poor 'At risk'	It enters the Liffey Estuary Upper (classified as "Eutrophic") at Usher's Quay. It then enters the Liffey Estuary Lower transitional waterbody (classified as "Unpolluted") at Grand Canal Dock, which ultimately drains to Dublin Bay coastal waterbody (classified as "Unpolluted").
Quarryvale Stream (Liffey_180)	Hydrologically connected to the Proposed Scheme via the receiving surface water system.	Q-Value Score not applicable Unassigned 'At risk'	It flows into the River Liffey (classified as "Unpolluted") at Quarryvale, which drains to the Liffey Estuary Upper (classified as 'Eutrophic')
River Liffey (Liffey_180) (Liffey_190)	Hydrologically connected to the Proposed Scheme via the receiving surface water network.	Q3 Liffey- Mill Lane Studio, Liffey- 1km u/s Chapelizod Bridge (Gleanaulin Park), Liffey- 0.2km d/s Chapelizod Bridge (Lynch's Lane) Poor 'At risk'	It flows into the Liffey Estuary Upper at the War Memorial Garden (classified as "Eutrophic"). It then enters the Liffey Estuary Lower transitional waterbody (classified as "Unpolluted") at Grand Canal Dock, which ultimately drains to Dublin Bay coastal waterbody (classified as "Unpolluted").

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 Waterbodies along with their associated Water Quality
Liffey Estuary Upper	Hydrologically connected to the Proposed Scheme via the River Liffey (Liffey_180 and Liffey_190)	Q-Value Score not applicable Good 'At risk'	It flows into the Liffey Estuary Lower transitional waterbody (classified as "Unpolluted") at Grand Canal Dock, which ultimately drains to Dublin Bay coastal waterbody (classified as "Unpolluted").
Liffey Estuary Lower	Hydrologically connected to the Proposed Scheme via the Liffey Estuary Upper	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 receiving surface water system, including Ringsend WWTP.	Q-Value Score not applicable Good 'Not at risk'	The Dublin Bay coastal waterbody is classified as "Unpolluted".

3.2.5 Hydrogeology

- 68 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 comprised of Lucan Formation and Ballysteen Formation. The majority of the Dublin City area was a deep marine basin known as the Dublin Basin where these sedimentary rocks were deposited.
- 69 The Proposed Scheme traverses one ground waterbody. Environmental data sourced from the EPA for this ground waterbody is presented below:

Dublin Groundwater body

- For the majority of this area, it is considered to be of "Good" Groundwater body WFD Status (2010-2015) and "not at risk" of failing the WFD groundwater quality objectives for the majority of this area;
- 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"

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.

3.2.6 Soils & Geology

- 70 The 1:100,000 GSI bedrock geology map⁷ of the area indicates that the underlying bedrock along the Proposed Scheme comprises of predominantly of Carboniferous Limestones. The subsoils within the study area, as classified by the GSI Quaternary mapping (GSI 2016) are predominately glacial tills. Additionally, there are areas of made ground (Urban), alluvial deposits, gravels and shallow bedrock.

3.2.7 Air Quality

- 71 As part of the implementation of S.I. No. 271/2002 - Air Quality Standards Regulations 2002, four air quality zones have been defined in Ireland for air quality management and assessment purposes (EPA 2020a). Dublin is defined as Zone A. With regard to NO₂, continuous monitoring data from the EPA at locations in close proximity to the Proposed Scheme was reviewed. The stations reviewed included Ballyfermot, St. John's Road, Davitt Road and Winetavern Street. The Davitt Road station was opened on 20 November 2018 and St. John's Road was opened on 28 November 2018 and thus limited data is currently available. Sufficient data was available for the station in Ballyfermot, which is located roughly 200m from the Proposed Scheme, to review long-term trends over a five-year period (2015 to 2019). Long-term annual average levels at Ballyfermot range from 16µg/m³ to 20µg/m³ over the period 2015 to 2019, with an average concentration of 20µg/m³ in 2019.

Table 7 Trends in Suburban and Urban NO₂ Concentration (µg/m³) In Dublin 2015 to 2019

Station	Station Classification Council Directive 96/62/EC	Averaging Period	Year					Limit Value
			2015	2016	2017	2018	2019	
Winetavern Street	Urban Traffic	Annual Mean NO ₂ (µg/m ³)	31	37	27	29	28	40
		99.8 th ile 1-hr NO ₂ (µg/m ³)	128	120	110	115	115	200
Rathmines	Urban Background	Annual Mean NO ₂ (µg/m ³)	18	20	17	20	22	40
		99.8 th ile 1-hr NO ₂ (µg/m ³)	105	88	86	87	95	200
Ballyfermot	Suburban Background	Annual Mean NO ₂ (µg/m ³)	16	17	17	17	20	40
		99.8 th ile 1-hr NO ₂ (µg/m ³)	127	90	112	101	101	200
Dun Laoghaire	Suburban Background	Annual Mean NO ₂ (µg/m ³)	16	19	17	19	15	40
		99.8 th ile 1-hr NO ₂ (µg/m ³)	91	105	101	91	84	200
Swords	Suburban Background	Annual Mean NO ₂ (µg/m ³)	13	16	14	16	15	40
		99.8 th ile 1-hr NO ₂ (µg/m ³)	93	96	79	85	80	200

⁷ Accessible at <https://dcnr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aac3c228>

- 72 Continuous PM₁₀ monitoring carried out at the suburban locations of Ballyfermot, Dún Laoghaire, Tallaght and Phoenix Park showed annual average levels ranging from 11µg/m³ to 15µg/m³ in 2019, with a maximum of seven exceedances of the 24-hour limit value of 50µg/m³ (35 exceedances are permitted per year). Longer term averages from 2015 to 2019 show annual average concentrations of between 11µg/m³ to 16µg/m³.
- 73 Continuous PM_{2.5} monitoring carried out at the Zone A locations of Finglas, Rathmines and Marino showed average levels of 9.3µg/m³ in 2019. The annual average level measured in Finglas in 2019, was 9µg/m³ compared to an annual mean limit value of 25µg/m³. Longer term averages from 2015 to 2019 show annual average concentrations of between from 6µg/m³ to 9µg/m³.

3.3 Assessment of Potential Effects on European Sites

- 74 This section identifies all the potential impacts associated with the Proposed Scheme, examines whether there are any European sites within the ZoI of effects from the Proposed Scheme, and assesses whether there is potential for of the Proposed Scheme to result in a significant effect on any European site, either alone or in combination with other plans or projects.
- 75 In assessing the potential for the Proposed Scheme to result in a significant effect on any European sites, any measures intended to avoid or reduce the harmful effects of the project on European sites (i.e., mitigation measures) are not taken into account as part of the Stage One Screening appraisal.
- 76 Considering the baseline ecological environment and the extent and characteristics of the Proposed Scheme the following potential impacts have been identified:
- Habitat loss and fragmentation;
 - Habitat degradation / effects on QI / SCI species as a result of hydrological impacts;
 - Habitat degradation as a result of hydrogeological impacts;
 - Habitat degradation as a result of introducing/spreading non-native invasive species;
 - Habitat degradation as a result of air quality impacts; and,
 - Disturbance and displacement impacts.

3.3.1 Habitat loss and fragmentation

- 77 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 in Dublin Bay, approximately 6km downstream of the terminus of 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.
- 78 Special Conservation Interest (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, North Bull Island SPA, South Dublin Bay and River Tolka SPA and Rogerstown Estuary SPA, Skerries Islands SPA, Ireland's Eye SPA, Lambay Island SPA and The Murrough SPA). The Proposed Scheme will result in the temporary loss of one inland site within the Proposed Scheme footprint suitable to support breeding gull and wintering bird species - at Liffey Gaels Park, before the junction with Chapelizod Bypass on Con Colbert Road (referred to as CBC0007WB003). As only small numbers of birds were recorded during the two seasons of survey (2020/2021 and 2021/2022) and the infrequent nature of the recorded use of the site by light-bellied brent goose, the CBC0007WB003 site is not deemed to be a significant inland foraging resource, nonetheless the Proposed Scheme will result (for the duration of the construction period) in the loss of sites suitable to support breeding and wintering SCI bird species. Therefore, there is potential for impacts on SCI species associated with SPAs to occur as a result of habitat loss / fragmentation.

3.3.2 *Habitat degradation / effects on QI / SCI species as a result of hydrological impacts*

- 79 The Proposed Scheme is hydrologically connected to Dublin Bay via the Ringsend WWTP, Liffey_180, Liffey_190 and Camac_040. The potential 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. It should be noted that a highly substantial event or events would be required to generate such quantities, which is considered unlikely.
- 80 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 the downstream environment, i.e., in Dublin Bay, including the following European sites: North Dublin Bay SAC, South Dublin Bay SAC, Howth Head SAC, Howth Head Coast SPA, 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 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 impacts could potentially occur to such a degree that the conservation objectives of the North Dublin Bay SAC, South Dublin Bay SAC, Howth Head SAC, Howth Head Coast SPA, Rockabill to Dalkey Island SAC, North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA and Dalkey Islands SPA may be undermined.
- 81 In a worst case scenario, in the absence of mitigation measures, the release of contaminated surface water runoff and / or an accidental spillage or pollution event into any surface water features during construction, or operation, also has the potential to affect mobile SCI bird species and QI mammal species that commute, forage and loaf in Dublin Bay i.e., birds associated with Skerries Islands SPA, Rockabill SPA, Lambay Island SPA, Ireland's Eye SPA, North Dublin Bay SPA, South Dublin Bay and River Tolka Estuary SPA, Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, Dalkey Islands SPA, The Murrrough SPA and, marine mammals associated with Rockabill to Dalkey Island SAC and Lambay Island SAC. This potential 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 downstream 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 and QI populations.

3.3.3 *Habitat degradation as a result of hydrogeological impacts*

- 82 Groundwater levels in groundwater dependant habitats may be impacted by the removal of a proportion of an aquifer or dewatering activities associated with excavations which can lead to a temporary change in groundwater levels and flow within the aquifer. Likewise, the mobilisation of contaminants into the aquifer either through accidental spillage or disturbance of contaminated ground during excavation may reduce the quality of the groundwater within the aquifer, also resulting in the degradation of groundwater dependent terrestrial ecosystem and any species that they may support.
- 83 The underlying aquifers are either Locally Important Bedrock Aquifer, Moderately Productive only in Local Zones or Poor Bedrock Aquifer, Moderately Productive only in Local Zones. These types of aquifers are associated with low permeability which decreases with depth. An upper shallow zone of higher permeability may exist in the top few meters and is associated with relatively short flow paths. Therefore, any influence on the groundwater as a result of the proposed works will be localised and will not extend to any groundwater dependant habitats which are all located over 400m from any proposed work. 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 is determined by the professional judgement of the hydrogeology specialists.

- 84 In summary therefore, the Proposed Scheme does not have the potential to result in habitat degradation of the qualifying / special conservation interest species of any European site as the result of hydrogeological impacts.

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

- 85 There are four areas of Japanese knotweed, a species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011 present within, or in close proximity to, the Proposed Scheme. In the absence of mitigation, there is potential for this 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). 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.
- 86 It is not considered likely that invasive species could spread to European sites which are located a significant distance from the outfall locations of the Liffey_180, Liffey_190, Camac_040, Liffey Estuary Upper, Liffey Estuary Lower or Ringsend WWTP, and separated by a large marine waterbody (i.e., Howth Head SAC, Howth Head Coast SPA, Rockabill to Dalkey Island SAC and Dalkey Islands SPA).

3.3.5 *Habitat degradation as a result of air quality impacts*

- 87 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 and heavy metals 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), particulate matter (PM), heavy metals (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.
- 88 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, located approximately 3.3km from the Proposed Scheme (as the crow flies) and therefore not located within the Zol of this potential impact.
- 89 As the Proposed Scheme does not have the potential to result in habitat degradation of the qualifying/special conservation interest species of any European site as the result of 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.

3.3.6 *Disturbance and displacement impacts*

- 90 A temporary and / or permanent increase in noise, vibration and / or human activity levels during the construction 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 150m⁸. For wintering birds, disturbance effects would not be expected to extend beyond a distance of approximately 300m⁹, as noise levels associated with general construction activities would attenuate to close to background levels at that distance. There are no European sites within the disturbance Zol of the Proposed Scheme.

- 91 Although no signs of otter were recorded during field surveys of the Proposed Scheme, the River Liffey, River Camac and the Grand Canal (i.e. watercourses within 1km of the Proposed Scheme) are known to support otter, an Annex II and IV mammal species. The nearest SAC to the proposed development site for which otter has been designated is Wicklow Mountains SAC which is located approximately 11.3km south, as the crow flies. Research carried out by Ó Néill et al. (2009) 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 7-19km. The Proposed Scheme is largely located within Liffey_SC_090 catchment, with a small portion located within Liffey_SC_100 catchment while the eastern part of the scheme extends into the Dodder_SC_010 sub-catchment, in which part of the Wicklow Mountains SAC is also located. While the River Liffey and tributaries are 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 Works are not considered to be associated with QI populations associated with the Wicklow Mountains SAC, by virtue of distance and differing sub-catchments.
- 92 Although marine mammals associated with European sites may commute and forage within the Liffey Estuary, it is considered unlikely that there will be any impacts on these species as a result of the Proposed Scheme as the terminus of the Proposed Scheme is located approximately 167m south of the Liffey Estuary Upper, at High Street 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.
- 93 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, in particular, along the River Liffey, River Camac and the Grand Canal. 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 3-5km of a river catchment¹⁰. The nearest SPA for which kingfisher has been designated is the River Boyne and Blackwater SPA which is located in a separate catchment approximately 32.2km away, therefore kingfisher present in the vicinity of the Proposed Scheme are not associated with an SPA population.
- 94 There are a number of SPAs 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 Bay and River Tolka SPA, Skerries Islands SPA, Ireland's Eye SPA, Lambay Island SPA, and The Murrugh SPA). Five of these species were returned from

⁸ This is consistent with Transport Infrastructure Ireland (TII) guidance (Guidelines for the Treatment of Otters prior to the Construction of National Road Schemes. 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.

⁹ 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 approximately 300m, typical noise levels associated with construction activity (BS 5228) are generally below 60dB or, in most cases, are approaching the 50dB threshold.

¹⁰ RSPB. *Kingfisher breeding, feeding and territory webpage*. Available from: <https://www.rspb.org.uk/birds-and-wildlife/wildlife-guides/bird-a-z/kingfisher/feeding-feeding-territory/>

the desk study and include light-bellied brent goose, lapwing, 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 3.2.3 above). In summary therefore, there is potential for the Proposed Scheme to result in the disturbance / displacement of SCI bird species associated with SPA populations.

3.3.7 Summary

- 95 The hydrological, invasive species and disturbance and displacement impacts associated with the Proposed Scheme have the potential to affect the receiving environment and, consequently, have the potential to affect the conservation objectives supporting the qualifying interests / special conservation interests of a European site(s). Therefore, the potential for the Proposed Scheme to have significant effects on a European site(s) cannot be excluded.
- 96 As the Proposed Scheme itself is likely to affect the QIs/SCIs or conservation objectives of a European site(s), there is also the potential for other plans or projects to act in combination with it to result in likely significant effects on European sites.
- 97 The potential impacts of the Proposed Scheme on the receiving environment, their Zol, and the European sites for which likely significant effects cannot be excluded are summarised in Table 8 below. In assessing the potential for the Proposed Scheme to result in a significant effect on any European sites, any measures intended to avoid or reduce the harmful effects of the project on European sites are not taken into account.

Table 8 Summary of Analysis of Likely Significant Effects on European sites

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 (for the duration of the construction works).	Yes Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, North Bull Island SPA and South Dublin Bay and River Tolka SPA, Skerries Islands SPA, Lambay Island SPA, Ireland's Eye SPA and The Murrrough SPA.
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 downstream 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, North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA, Howth Head Coast SPA, Dalkey Islands SPA, Baldoyle Bay SPA, Ireland's Eye SPA, Skerries Islands SPA, Rockabill SPA, Lambay Island SPA, Malahide Estuary SPA, Rogerstown Estuary 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

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?
	<p>Proposed Scheme to downstream European sites from the spread / introduction of non-native invasive species</p> <p>North Dublin Bay SAC, South Dublin Bay SAC, North Bull Island SPA and South Dublin Bay and River Tolka Estuary SPA</p>
<p>Air quality impacts Potentially up to 200m from the Proposed Scheme boundary.</p>	<p>No There are no European sites at risk of air quality effects associated with the Proposed Scheme</p>
<p>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</p>	<p>Yes There are no European sites within the potential zone of influence 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 and South Dublin Bay and River Tolka SPA, Skerries Islands SPA, Lambay Island SPA, Ireland's Eye SPA, Rockabill SPA and The Murrough SPA</p>

3.4 In-Combination Effects

- 98 This section presents the assessment carried out to examine whether other plans or projects have the potential to act in combination with the Proposed Scheme to have a significant effect on European sites.
- 99 There are 17 European sites within the Zol of the Proposed Scheme at outlined above. These are North Dublin Bay SAC; South Dublin Bay SAC; Howth Head SAC; Rockabill to Dalkey Island SAC; Lambay Island SAC; Ireland's Eye 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.
- 100 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.
- 101 The in-combination assessment involved first identifying those plans and projects which have the potential to impact on those European sites within the Zol of the Proposed Scheme.
- 102 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 9 and Table 10 below.

Table 9 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 ¹¹
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

¹¹ Together the National Development Plan and the National Framework are referred to as Project Ireland 2040: Building Ireland’s Future

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

- 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

Table 10 Projects Considered for the In-Combination Assessment

- Southern Part Access Route (SPAR)
- Widening of the M7 between Junction 9 (Naas North) and Junction 11 (M7/M9) to provide an additional lane in each direction
- Enhancements of the N2/M2 national route inclusive of a bypass of Slane, to provide for additional capacity on the non-motorway sections of this route, and to address safety issues in Slane village associated with, in particular, heavy goods vehicles
- N3 Castaheany Interchange Upgrade: refer to “Details” link
- Reconfiguration of the N7 from its junction with the M50 to Naas, to rationalise junctions and accesses in order to provide a higher level of service for strategic traffic travelling on the mainline
- N3–N4: Barnhill to Leixlip Interchange
- Reconfiguration of the N4 from its junction with the M50 to Leixlip to rationalise accesses and to provide additional capacity at the Quarryvale junction
- Clonburris SDZ roads development: refer to “Details” link
- DART+ Programme West
- Porterstown Distributor Link Road
- Widening of the N3 between Junction 1 (M50) and Junction 4 (Clonee), plus related junction and necessary changes to the existing national road network
- Lucan LUAS
- DART+ Programme South West
- Junction upgrades and other capacity improvements on the M1 motorway, including additional lanes south of Drogheda, where required
- Finglas LUAS (Green Line extension Broombridge to Finglas)
- DART+ Tunnel Element (Kildare Line to Northern Line)
- Potential Metro South alignment: SW option
- LUAS Cross City incorporating LUAS Green Line Capacity Enhancement - Phase 1
- Oldtown-Mooretown Western Distributor Link Road
- Potential Metro South alignment: Charlemont to Sandyford
- Poolbeg LUAS
- Leopardstown Link Road Phase 2
- 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
- Poolbeg SDZ roads development: refer to “Details” link
- Glenamuck District Distributor Road
- DART+ Programme Coastal North
- Widening of the M50 to three lanes in each direction between Junction 14 (Sandyford) and Junction 17 (M11) plus related junction and other changes
- Cherrywood SDZ roads development: refer to “Details” link
- DART+ Programme Coastal South

- R126 Donabate Relief Road: R132 to Portrane Demesne
- Extension of LUAS Green Line to Bray
- 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 Io
- MetroLink
- Greater Dublin Drainage (GDD)
- Cycling: Greater Dublin Area Cycle Network Plan (excluding Radial Core Bus Corridor elements)
- Dublin Array - offshore windfarm
- Air insulated switchgear 110kV transmission substation. Platin, Duleek
- Construction of a new distributor road and junction to the southwest of Kells town centre. Kells
- Dublin Mountain Visitors Centre and all associated works. Killakee and Jamestown.
- FCC/12/0001 Broadmeadow Way.Greenway between Malahide Demesne and Newbridge Demesne to be known as 'Broadmeadow Way'. Malahide.
- Alternations to a permitted double circuit 110kV electricity transmission line development between substations. Darndale / Belcamp
- 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
- 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.
- 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.
- 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.
- 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.
- 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
- 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.
- Aviation fuel pipeline. Location: Inlet Station: Team CV, Bond Drive, Dublin Port, Dublin 1 to Dublin Airport, Co. Dublin
- Park development project at the Racecourse Park
- 2 no. 110kV transmission lines and a 110kV Gas Insulated Switchgear (GIS) substation
- Swords to City Centre Core Bus Corridor Scheme
- Ballymun / Finglas to City Centre Core Bus Corridor Scheme
- Blanchardstown to City Centre Core Bus Corridor Scheme
- Lucan to City Centre Core Bus Corridor Scheme
- Clongriffin to City Centre Core Bus Corridor Scheme
- Tallaght / Clondalkin to City Centre Core Bus Corridor Scheme
- Templeogue / Rathfarnham to City Centre Core Bus Corridor Scheme
- Kimmage to City Centre Core Bus Corridor Scheme
- Bray to City Centre Core Bus Corridor Scheme
- Belfield / Blackrock to City Centre Core Bus Corridor Scheme
- Ringsend to City Centre Core Bus Corridor Scheme
- A range of Strategic Housing Developments
- A range of Irish Water Projects

- 103 There is the potential for developments listed in Table 10, or those implemented under a range of land use and other plans listed in Table 9, to lie either within European sites, or be situated in a location where they may be within the Zol of the European sites which also fall within the Zol of the Proposed Scheme.
- 104 Key development projects with potential for in-combination effects due to their size, nature and/or location include other Core Bus Corridor Schemes, MetroLink, upgrades to or new rail infrastructure, utility infrastructure including proposed or consented water utility improvement.
- 105 The potential for in combination effects between these plans and projects and the Proposed Scheme arises via the same pathways for potential effects as identified above in Table 8 for the Proposed Scheme (i.e. hydrological, invasive species, air quality, and disturbance and displacement effects) which could act in combination with similar effects and pathways arising from the various plans.
- 106 Therefore the potential for the following in combination effects arising from plans cannot be ruled out:
- Habitat fragmentation (for example European sites at risk of ex-situ habitat losses; Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, North Bull Island SPA and South Dublin Bay and River Tolka SPA, Skerries Islands SPA, Lambay Island SPA, Ireland’s Eye SPA and The Murrough SPA);
 - Habitat degradation / effects on QI / SCI species as a result of hydrological impacts (for example reduction in water quality in catchments draining to Dublin Bay affecting the conservation objectives supporting aquatic habitats and species in 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, Baldoyle Bay SPA, Ireland’s Eye SPA, Skerries Islands SPA, Rockabill SPA, Lambay Island SPA, Malahide Estuary SPA, Rogerstown Estuary SPA, Dalkey Islands SPA and The Murrough SPA);
 - Habitat degradation as a result of introducing / spreading non-native invasive species;
 - Disturbance and displacement impacts (for example ex-situ inland feeding sites which are utilised by SCI wintering bird species within the potential disturbance Zol of the Proposed Scheme for Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, Skerries Islands SPA, Ireland’s Eye SPA, Lambay Island SPA, North Bull Island SPA, South Dublin Bay and River Tolka SPA and The Murrough SPA).

4 Conclusions of Screening Assessment Process

- 107 Following an examination, analysis and evaluation of all relevant information and in view of best scientific knowledge, and applying the precautionary principle, it can be concluded that there is the possibility for significant effects on the following European sites, in the absence of mitigation, either arising from the project alone or in combination with other plans and projects, as a result of habitat loss, hydrological impacts, invasive species, and disturbance and displacement impacts: 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, Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, Skerries Islands SPA, Lambay Island SPA, Ireland’s Eye SPA, Rockabill SPA and The Murrough SPA.
- 108 In reaching this conclusion, the nature of the project and its potential relationship with all European sites within the zone of influence, and their conservation objectives, have been fully considered.
- 109 Therefore, it is the professional opinion of the authors of this report that the application for approval for the Proposed Scheme does require a Stage Two Appropriate Assessment in respect of the above-listed 17 no. European sites (5 no. SACs and 12 no. SPAs) and consequently, the preparation of a Natura Impact Statement (NIS).

References

- Benson (2009)** Use of Inland Feeding Sites by Light-bellied Brent Geese in Dublin 2008-2009: A New Conservation Concern? *Irish Birds* 8: 563-570.
- BSBI (2021)** Botanical Society of Britain and Ireland Maps [Online] Available from bsbi.org/maps
- Chartered Institute of Ecology and Environmental Management (2018)** Guidelines for Ecological Impact Assessment in the UK and Ireland.
- Cutts, N., Phelps, A., Burdon, D. (2009)** Construction and Waterfowl: Defining Sensitivity, Response, Impact and Guidance. Report prepared by the Institute of Estuarine and Coastal Studies University of Hull and Humber INCA.
- DCC (2015)** Dublin City Biodiversity Action Plan 2015-2020. Dublin City Council.
- Department of Environment, Heritage and Local Government (2010)**. Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities.
- Doogue, D., Nash, D., Parnell, J., Reynolds, S. & Wyse Jackson, P. (1998)** *Flora of County Dublin*. The Dublin Naturalists' Field Club, Dublin.
- EPA (2022)** EPA Maps [Online] Available from gis.epa.ie/EPAMaps/
- European Commission (2000)** *Communication from the Commission on the Precautionary Principle*.
- European Commission (2013)** *Interpretation Manual of European Union Habitats*. Version EUR 28.
- European Commission (2019)**. Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitat's Directive 92/43/EEC
- European Commission (2021)**. 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.
- FERS Ltd. (2018)**. Ecological survey of Clonburris Strategic Development Zone, Clondalkin, Co. Dublin.
- Fossitt, J.A. (2000)** *A Guide to Habitats in Ireland*. Heritage Council, Kilkenny.
- GSI (2016)** Quaternary geology of Ireland – Sediments Map. [Online] Available from <https://secure.dccae.gov.ie/arcgis/rest/services/Quaternary/QuaternarySediments16/MapServer>
- 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.
- NBDC (2022)** National Biodiversity Data Centre Database [Online] Available from maps.biodiversityireland.ie/Map
- NPWS (2010)**. Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities. Circular NPW 1/10 & PSSP 2/10.
- NPWS (2012)** *Conservation Objectives: Baldoyle Bay SAC 000199*. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS (2013a)** *Conservation Objectives: South Dublin Bay SAC 000210*. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS (2013b)** *Conservation Objectives: North Dublin Bay SAC 000206*. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS (2013c)** *Conservation Objectives: Rockabill to Dalkey Island SAC 003000*. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS (2013d)** *Conservation Objectives: Malahide Estuary SAC 000205*. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

- NPWS (2013e)** Conservation Objectives: Rogerstown Estuary SAC 000208. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS (2013f)** Conservation Objectives: Lambay Island SAC 000204. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS (2013g)** Conservation Objectives: Baldoyle Bay SPA 004016. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS (2013h)** Conservation Objectives: Malahide Estuary SPA 004025. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS (2013i)** Conservation Objectives: Rogerstown Estuary SPA 004015. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS (2013j)** Conservation Objectives: Rockabill SPA 004014. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS (2015a)** Conservation Objectives: South Dublin Bay and River Tolka Estuary SPA 004024. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS (2015b)** Conservation Objectives: North Bull Island SPA 004006. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS (2016)** Conservation Objectives: Howth Head SAC 000202. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.
- NPWS (2017a)** Conservation Objectives: Wicklow Mountains SAC 002122. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.
- NPWS (2017b)** Conservation Objectives: Ireland's Eye SAC 002193. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.
- NPWS (2019)**. The Status of EU Protected Habitats and Species in Ireland. Volume 1: Summary Overview. Unpublished NPWS report.
- NPWS (2021a)** Conservation Objectives: Rye Water Valley/Carton SAC 001398. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.
- NPWS (2021b)** Conservation Objectives: Glenasmole Valley SAC 001209. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.
- NPWS (2022a)** Conservation objectives for Wicklow Mountains SPA [004040]. Generic Version 9.0. Department of Housing, Local Government and Heritage.
- NPWS (2022b)** Conservation objectives for Dalkey Islands SPA [004172]. Generic Version 9.0. Department of Housing, Local Government and Heritage.
- NPWS (2022c)** Conservation objectives for Howth Head Coast SPA [004113]. Generic Version 9.0. Department of Housing, Local Government and Heritage.
- NPWS (2022d)** Conservation objectives for Ireland's Eye SPA [004117]. Generic Version 9.0. Department of Housing, Local Government and Heritage.
- NPWS (2022e)** Conservation objectives for Lambay Island SPA [004069]. Generic Version 9.0. Department of Housing, Local Government and Heritage.
- NPWS (2022f)** Conservation objectives for Skerries Islands SPA [004122]. Generic Version 9.0. Department of Housing, Local Government and Heritage.
- NPWS (2022g)** Conservation objectives for The Murrough SPA [004186]. Generic Version 9.0. Department of Housing, Local Government and Heritage.
- NRA (2005)** Guidelines for the Treatment of Badgers prior to the Construction of National Road Schemes.
- NRA (2006)** Guidelines for the Treatment of Otters prior to the Construction of National Road Schemes.

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.

OPR (2021). Appropriate Assessment Screening for Development Management: Office of the Planning Regulator - Practice Note PN01.

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.

Scott Cawley Ltd. (2022) Non-native Invasive Species Management Plan.

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.

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

Svensson, L., Mullarney, K., Zetterstrom, D., Grant, P.J. (2010). Collins Bird Guide: The Most Complete Guide to the Birds of Britain and Europe. Second Ed. HarperCollins Publishers Limited, 2011.

Wright, M., Goodman, P., Cameron, T. (2010) Exploring Behavioural Responses of Shorebirds to Impulse Noise. *Wildfowl* (2010) 60: 150-167.

Directives and Legislation

Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (The Habitats Directive).

Council Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (The Birds Directive).

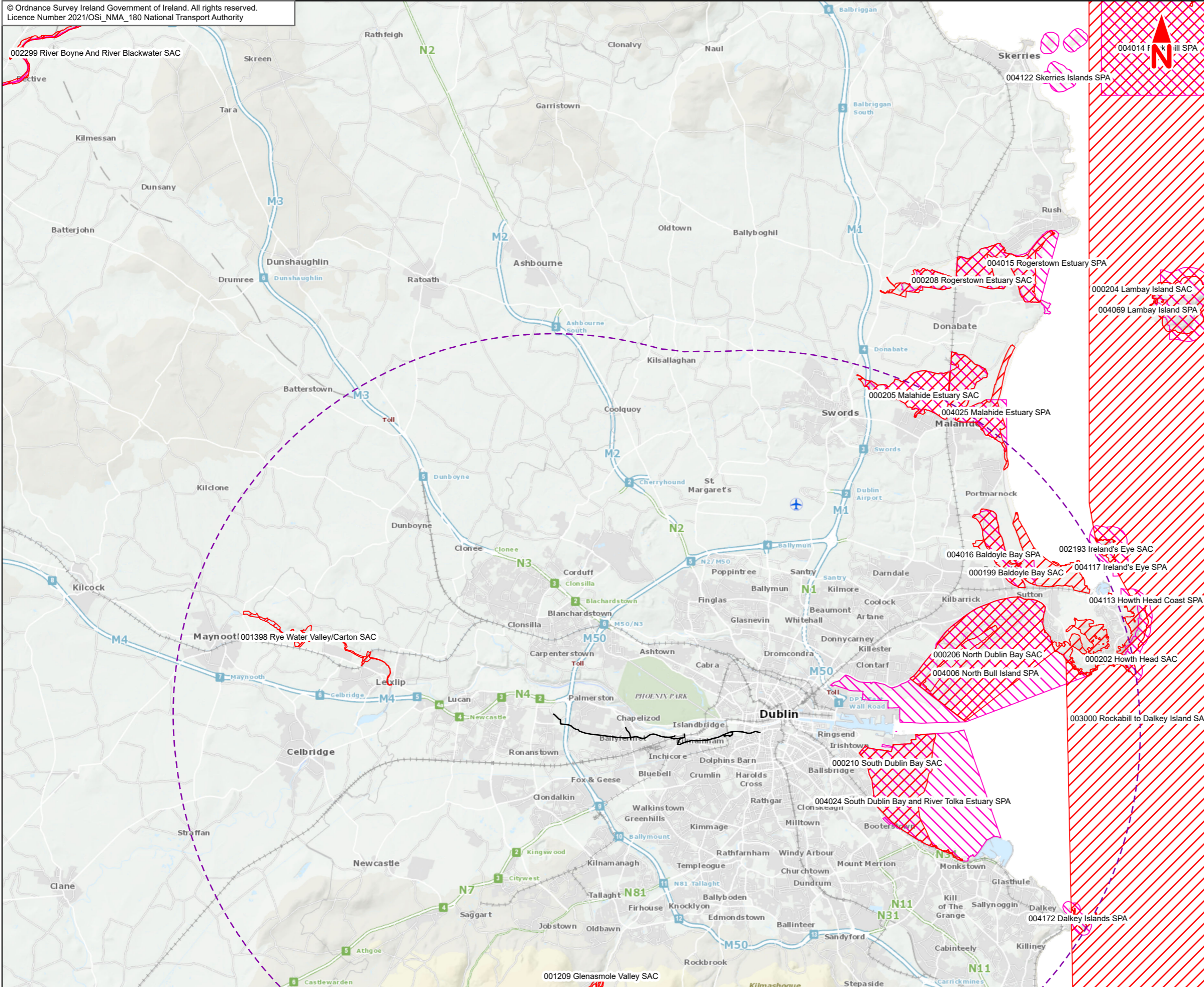
Planning and Development Acts 2000 (as amended).

S.I. No. 477/2011 – European Communities (Birds and Natural Habitats) Regulations 2011.

S.I. No. 356/2015 – Flora (Protection) Order, 2015.

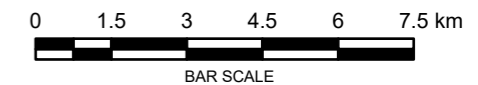


Figure 1
European Sites
in the Vicinity
of the Proposed
Scheme



- Legend :**
- Liffey Valley to City Centre Core Bus Corridor Scheme
 - 15km from Proposed Scheme
 - Special Protection Areas (SPA)
 - Special Area of Conservation (SAC)

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Rev	Date	Drn	Chk'd	App'd	Description
M01	May 2022	EK	PW	DK	ISSUE FOR PHASE 4 : PLANNING

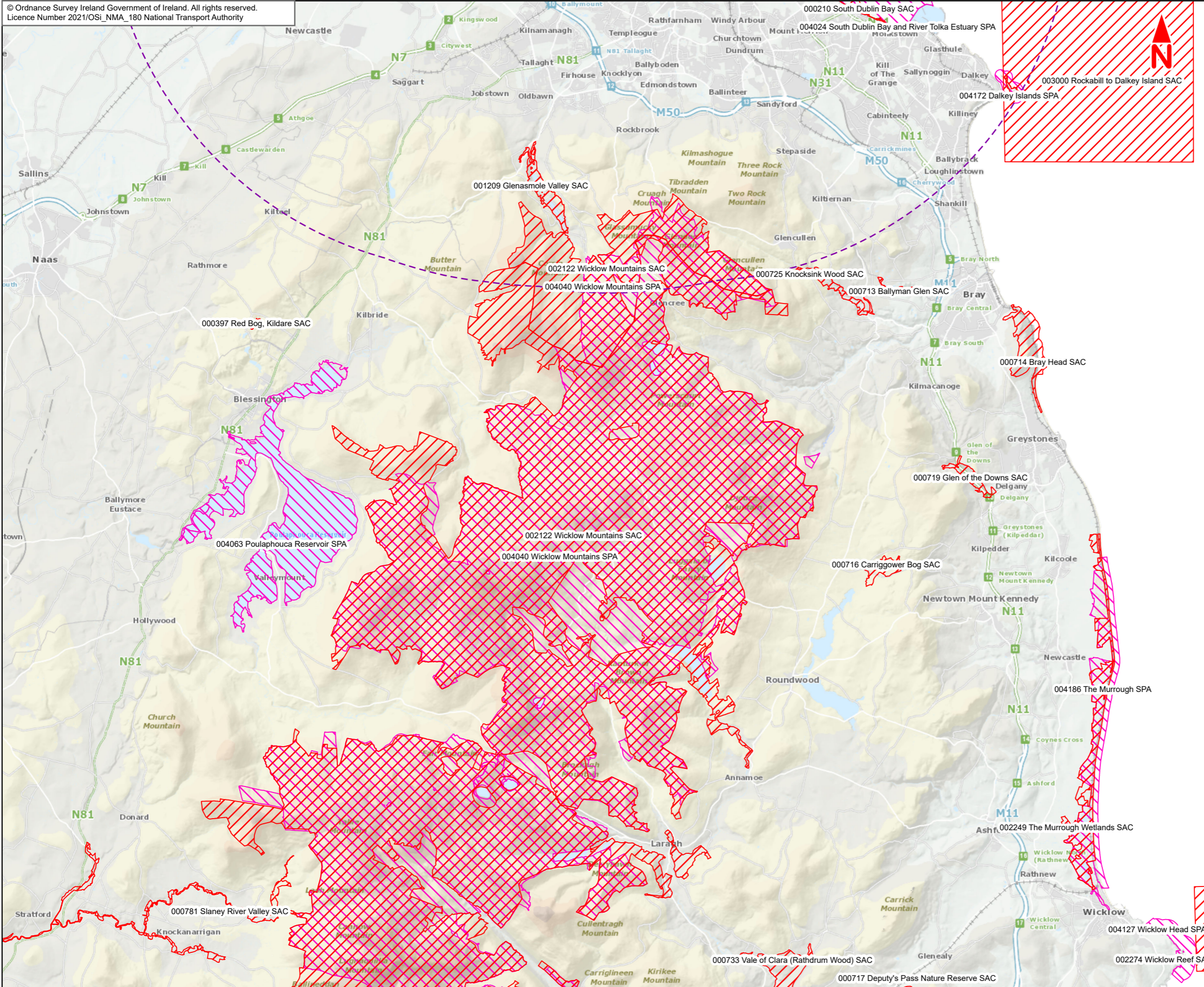
Client: **NTA**
Udarás Náisiúnta Iompair
National Transport Authority

Consultant: **JACOBS ARUP SYSTRA**

Date: 5/26/2022 | Scale @ A3: 1:150 000
Project Code: BCIDE | Originator Code: JAC

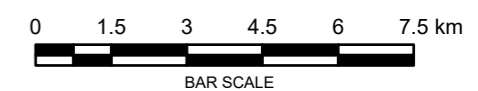
Drawn: EK | Checked: PW | Approved: DK

Programme Title: BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS			
Drawing Title: Liffey Valley to City Centre Core Bus Corridor Scheme Figure 1 European sites in the Vicinity of the Proposed Scheme			
Drawing File Name: BCIDE-JAC-ENV BD-0007_XX 00-DR-GG-2090	Sheet Number: 1 of 2	Status: A	Rev: M01



- Legend :**
- Liffey Valley to City Centre Core Bus Corridor Scheme
 - 15km from Proposed Scheme
 - Special Protection Areas (SPA)
 - Special Area of Conservation (SAC)

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Rev	Date	Drn	Chk'd	App'd	Description
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Client
NTA
 Udarás Náisiúnta Iompair
 National Transport Authority

Consultant
JACOBS
ARUP SYSTRA

Programme Title BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS				
Drawing Title Liffey Valley to City Centre Core Bus Corridor Scheme Figure 1 European sites in the Vicinity of the Proposed Scheme				
Date 5/26/2022	Scale @ A3 1:150 000	Drawn EK	Checked PW	Approved DK
Project Code BCIDE	Originator Code JAC	QMS Code		
Drawing File Name BCIDE-JAC-ENV BD-007 XX 00-DR-GG-2091	Sheet Number 2 of 2	Status A	Rev M01	



Appendix I
The Qualifying Interests
(QIs) and Special
Conservation Interests (SCIs)
of the European Sites in the
Vicinity of the Proposed
Scheme

Appendix I

The Qualifying Interests (QIs) and Special Conservation Interests (SCIs) of the European sites in the vicinity of the Proposed Scheme (see Figure 1)

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed 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><i>S.I. No. 525/2019 - European Union Habitats (South Dublin Bay Special Area of Conservation 000210) Regulations 2019</i> NPWS (2013a) Conservation Objectives: South Dublin Bay SAC 000210. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>approximately 4km from the Proposed Scheme</p>
<p>Rye Water Valley / Carton SAC [001398] 7220 Petrifying springs with tufa formation (<i>Cratoneurion</i>)* 1014 Narrow-mouthed Whorl Snail <i>Vertigo angustior</i> 1016 Desmoulin's Whorl Snail <i>Vertigo moulinsiana</i></p> <p><i>S.I. No. 494/2018 - European Union Habitats (Rye Water Valley/Carlton Special Area of Conservation 001398) Regulations 2018</i> NPWS (2021a) Conservation objectives for Rye Water Valley/Carlton SAC [001398]. Generic Version 8.0. Department of Housing, Local Government and Heritage¹²</p>	<p>approximately 6.5km 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 maritima</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><i>S.I. No. 524/2019 - European Union Habitats (North Dublin Bay Special Area of Conservation 000206) Regulations 2019</i></p>	<p>approximately 6.3km from the Proposed Scheme</p>

¹² The versions of the conservation objectives documents referenced in this table are the most recent published versions at the time of writing

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)
NPWS (2013b) <i>Conservation Objectives: North Dublin Bay SAC 000206</i> . Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.	
<p>Glenasmole Valley SAC [001209]</p> <p>6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites)</p> <p>6410 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>)</p> <p>7220 Petrifying springs with tufa formation (<i>Cratoneurion</i>)*</p> <p>NPWS (2021b) Conservation objectives for Glenasmole Valley SAC [001209]. Generic Version 8.0. Department of Housing, Local Government and Heritage.</p>	approximately 9.3km from the Proposed Scheme
<p>Baldoyle Bay SAC [000199]</p> <p>1140 Mudflats and sandflats not covered by seawater at low tide</p> <p>1310 <i>Salicornia</i> and other annuals colonizing mud and sand</p> <p>1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)</p> <p>1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>)</p> <p>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>	approximately 11.2km from the Proposed Scheme
<p>Wicklow Mountains SAC [002122]</p> <p>3110 Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>)</p> <p>3160 Natural dystrophic lakes and ponds</p> <p>4010 Northern Atlantic wet heaths with <i>Erica tetralix</i></p> <p>4030 European dry heaths</p> <p>4060 Alpine and Boreal heaths</p> <p>6130 <i>Calaminarian</i> grasslands of the <i>Violetalia calaminariae</i></p> <p>6230 Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)</p> <p>7130 Blanket bogs (* if active bog)</p> <p>8110 Siliceous scree of the montane to snow levels (<i>Androsacetalia alpinae</i> and <i>Galeopsietalia ladani</i>)</p> <p>8210 Calcareous rocky slopes with chasmophytic vegetation</p> <p>8220 Siliceous rocky slopes with chasmophytic vegetation</p> <p>91A0 Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles</p> <p>1355 <i>Lutra</i> (Otter)</p> <p>NPWS (2017a) <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>	approximately 11.3km from the Proposed Scheme
<p>Howth Head SAC [000202]</p> <p>1230 Vegetated sea cliffs of the Atlantic and Baltic coasts</p> <p>4030 European dry heaths</p>	approximately 12km from 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)
<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>Rockabill to Dalkey Island SAC [003000] 1170 Reefs 1351 Harbour porpoise <i>Phocoena phocaena</i></p> <p><i>S.I. No. 94/2019 - European Union Habitats (Rockabill To Dalkey Island Special Area Of Conservation 003000) Regulations 2019</i></p> <p>NPWS (2013c) <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 12.1km from the Proposed Scheme</p>
<p>Malahide Estuary SAC [000205] 1140 Mudflats and sandflats not covered by seawater at low tide 1310 Salicornia and other annuals colonising mud and sand 1320 Spartina swards (<i>Spartinion maritimae</i>)^{13**} 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><i>S.I. No. 91/2019 - European Union Habitats (Malahide Estuary Special Area Of Conservation 000205) Regulations 2019</i></p> <p>NPWS (2013d) <i>Conservation Objectives: Malahide Estuary SAC 000205</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>approximately 13.9km 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><i>S.I. No. 501/2017 – European Union Habitats (Ireland's Eye Special Area of Conservation 002193) Regulations 2017</i></p> <p>NPWS (2017b) <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>Approximately 15.2km 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 maritimae</i>) 1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>)</p>	<p>Approximately 18km from the Proposed Scheme</p>

¹³ 1320 Spartina swards (*Spartinion maritimae*) habitat is included within the conservation objectives document for Malahide Estuary SAC, but not within the Statutory Instruments document. This is likely because Spartina is an invasive alien species in Ireland.

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>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><i>S.I. No. 286/2018 - European Union Habitats (Rogerstown Estuary Special Area of Conservation 000208) Regulations 2018</i></p> <p>NPWS (2013e) <i>Conservation Objectives: Rogerstown Estuary SAC 000208. Version 1.</i> National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	
<p>Lambay Island SAC [000204]</p> <p>1170 Reefs</p> <p>1230 Vegetated sea cliffs of the Atlantic and Baltic coasts</p> <p>1364 Grey seal <i>Halichoerus grypus</i></p> <p>1365 Harbour seal <i>Phoca vitulina</i></p> <p><i>S.I. No. 294/2019 - European Union Habitats (Lambay Island Special Area Of Conservation 000204) Regulations 2019</i></p> <p>NPWS (2013f) <i>Conservation Objectives: Lambay Island SAC 000204. Version 1.</i> National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>approximately 22.6km from the Proposed Scheme</p>
Special Protection Area (SPA)	
<p>South Dublin Bay and River Tolka Estuary SPA [004024]</p> <p>A046 Light-bellied Brent Goose <i>Branta bernicla hrota</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>A144 Sanderling <i>Calidris alba</i></p> <p>A149 Dunlin <i>Calidris alpina</i></p> <p>A157 Bar-tailed Godwit <i>Limosa lapponica</i></p> <p>A162 Redshank <i>Tringa totanus</i></p> <p>A179 Black-headed Gull <i>Chroicocephalus ridibundus</i></p> <p>A192 Roseate Tern <i>Sterna dougallii</i></p> <p>A193 Common Tern <i>Sterna hirundo</i></p> <p>A194 Arctic Tern <i>Sterna paradisaea</i></p> <p>A999 Wetland and Waterbirds</p> <p><i>S.I. No. 212/2010 - European Communities (Conservation of Wild Birds (South Dublin Bay and River Tolka Estuary Special Protection Area 004024)) Regulations 2010.</i></p> <p>NPWS (2015a) <i>Conservation Objectives: South Dublin Bay and River Tolka Estuary SPA 004024. Version 1.</i> National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>approximately 3.3km from the Proposed Scheme</p>
<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>approximately 6.3km 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>A054 Pintail <i>Anas acuta</i> A056 Shoveler <i>Anas clypeata</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> 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><i>S.I. No. 211/2010 - European Communities (Conservation of Wild Birds (North Bull Island Special Protection Area 004006)) Regulations 2010.</i> NPWS (2015b) <i>Conservation Objectives: North Bull Island SPA 004006. Version 1.</i> National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	
<p>Wicklow Mountains SPA [004040] A098 Merlin <i>Falco columbarius</i> A103 Peregrine <i>Falco peregrinus</i></p> <p><i>S.I. No. 586/2012 - European Communities (Conservation of Wild Birds (Wicklow Mountains Special Protection Area 004040)) Regulations 2012.</i> NPWS (2022a) <i>Conservation objectives for Wicklow Mountains SPA [004040]. Generic Version 8.0.</i> Department of Housing, Local Government and Heritage.</p>	<p>approximately 11.3km from the Proposed Scheme</p>
<p>Baldoyle 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> A999 Wetland and Waterbirds</p> <p><i>S.I. No. 275/2010 - European Communities (Conservation of Wild Birds (Baldoyle Bay Special Protection Area 004016)) Regulations 2010.</i> NPWS (2013g) <i>Conservation Objectives: Baldoyle Bay SPA 004016. Version 1.</i> National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>approximately 11.4km from the Proposed Scheme</p>
<p>Dalkey Islands SPA [004172] A192 Roseate Tern <i>Sterna dougallii</i> A193 Common Tern <i>Sterna hirundo</i></p>	<p>approximately 13.8km 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>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 (2022b) <i>Conservation objectives for Dalkey Islands SPA [004172]. Generic Version 8.0.</i> Department of Housing, Local Government and Heritage.</p>	
<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><i>S.I. No. 285/2011 - European Communities (Conservation of Wild Birds (Malahide Estuary Special Protection Area 004025)) Regulations 2011.</i></p> <p>NPWS (2013h) <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 13.9km from the Proposed Scheme</p>
<p>Howth Head Coast SPA [004113]</p> <p>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 (2022c) <i>Conservation objectives for Howth Head Coast SPA [004113]. Generic Version 8.0.</i> Department of Housing, Local Government and Heritage.</p>	<p>approximately 14.6km 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><i>S.I. No. 240/2010 - European Communities (Conservation of Wild Birds (Ireland's Eye Special Protection Area 004117)) Regulations 2010.</i></p>	<p>approximately 15km 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)
NPWS (2022d) <i>Conservation objectives for Ireland's Eye SPA [004117]</i> . Generic Version 8.0. Department of Housing, Local Government and Heritage.	
<p>Rogerstown Estuary SPA [004015]</p> <p>A043 Greylag Goose <i>Anser anser</i> A046 Brent Goose <i>Branta bernicla hrota</i> A048 Shelduck <i>Tadorna tadorna</i> A056 Shoveler <i>Anas clypeata</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> A149 Dunlin <i>Calidris alpina alpina</i> A156 Black-tailed Godwit <i>Limosa limosa</i> A162 Redshank <i>Tringa totanus</i> A999 Wetlands</p> <p><i>S.I. No. 271/2010 - European Communities (Conservation of Wild Birds (Rogerstown Estuary Special Protection Area 004015) Regulations 2010.</i> NPWS (2013i) <i>Conservation Objectives: Rogerstown Estuary SPA 004015</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	approximately 18.3km from the Proposed Scheme
<p>Lambay Island SPA [004069]</p> <p>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><i>S.I. No. 242/2010 - European Communities (Conservation of Wild Birds (Lambay Island Special Protection Area 004069)) Regulations 2010.</i> NPWS (2022e) <i>Conservation objectives for Lambay Island SPA [004069]</i>. Generic Version 8.0. Department of Housing, Local Government and Heritage.</p>	approximately 22.4km from the Proposed Scheme
<p>Skerries Islands SPA [004122]</p> <p>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>	approximately 27.9km from 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)
<p><i>S.I. No. 245/2010 - European Communities (Conservation of Wild Birds (Skerries Islands Special Protection Area 004122)) Regulations 2010.</i> NPWS (2022f) <i>Conservation objectives for Skerries Islands SPA [004122].</i> Generic Version 8.0. Department of Housing, Local Government and Heritage.</p>	
<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><i>S.I. No. 94/2012 - European Communities (Conservation of Wild Birds (Rockabill Special Protection Area 004014)) Regulations 2012.</i> NPWS (2013j) <i>Conservation Objectives: Rockabill SPA [004014].</i> Version 1. Department of Culture, Heritage and the Gaeltacht.</p>	<p>approximately 28.5km 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><i>S.I. No. 298/2011 - European Communities (Conservation of Wild Birds (The Murrough Special Protection Area 004186)) Regulations 2011.</i> NPWS (2022g) <i>Conservation objectives for The Murrough SPA [004186].</i> Generic Version 7.0. Department of Culture, Heritage and the Gaeltacht.</p>	<p>approximately 30.5km from the Proposed Scheme</p>



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Project Ireland 2040
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