

**Blanchardstown to
City Centre Core Bus
Corridor Scheme**
May 2022

**Appropriate
Assessment
Report**

**BUS
CONNECTS**

SUSTAINABLE TRANSPORT FOR A BETTER CITY.

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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 Blanchardstown 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 Blanchardstown and the City Centre.
- 2 Article 6(3) of Council Directive 92/43/EEC of 21 May 1992 on the Conservation of National 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, an **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): **North Dublin Bay SAC, South Dublin Bay SAC, Howth Head SAC, Rockabill to Dalkey Island SAC, Lambay Island SAC, Skerries Islands SPA, Lambay Island SPA, Howth Head Coast SPA, Ireland’s Eye SPA, North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA, Dalkey Islands SPA, Malahide Estuary SPA, Rockabill SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA 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 under Article 6 of the Habitats Directive: Guidance for Planning Authorities.* Circular NPW 1/10 & PSSP 2/10;
- *Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (European Commission, 2021);
- *Communication from the Commission on the precautionary principle* (European Commission, 2000);
- *Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitat's Directive 92/43/EEC* (European Commission, 2019);
- EC (2013) *Interpretation Manual of European Union Habitats.* Version EUR 28. European Commission; and
- *OPR Practice Note PN01. Appropriate Assessment Screening for Development Management* (Office of the Planning Regulator, 2021).

2.2 Assessment Methodology

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

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.

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 (Zol) of the Proposed Scheme, and therefore potentially at risk of significant effects. The Zol is the area over which the Proposed Scheme could affect the receiving environment such that it could potentially have significant effects on the QI habitats or QI / SCI species of a European site, or on the achievement of their conservation 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).

2.3 Desktop Data Review

11 The desktop data sources used to inform the assessment presented in this report are as follows (accessed in November 2020 and reconfirmed in February 2022):

- Online data available on European sites and on Natural Heritage Areas (NHAs) or proposed Natural Heritage Areas (pNHAs) from www.npws.ie⁴, including conservation objectives documents; ;
- Online data records available on National Biodiversity Data Centre Database (NBDC 2020 & updated in February 2022);
- Online data records made available via NPWS data request (NPWS 2020);
- Information on the status of EU protected habitats and species in Ireland (National Parks & Wildlife Service, 2019a, 2019b and 2019c);
- Ordnance Survey Ireland (OSI) orthophotography (from 1995 to 2012) for the Proposed Scheme study area;
- Bus Connects Drone Imagery, surveyed 2020;
- Habitat and species GIS datasets provided by the NPWS, including Article 12 and Article 17 data⁵;
- Records from the Botanical Society of Britain and Ireland (BSBI);
- Information contained within the *Flora of County Dublin*⁶;
- 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 Ireland⁷;
- Information on light-bellied brent goose inland feeding sites⁸;

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

⁴ The following SAC and SPA GIS boundary datasets are the most recently available at the time of writing: SAC_ITM_2019_12 and SPA_ITM_2019_12.

⁵ 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

⁶ Doogue, D., Nash, D., Parnell, J., Reynolds, S. & Wyse Jackson, P. (eds) (1998) *Flora of County Dublin*. The Dublin Naturalists' Field Club, Dublin

⁷ NPWS (2019). *The Status of EU Protected Habitats and Species in Ireland. Volume 1: Summary Overview. Unpublished NPWS report.*

⁸ 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.*

- The results of ecological surveys undertaken as part of the Environmental Impact Assessment (EIA) studies for the Proposed Scheme; and
- Information on the location, nature and design of the Proposed Scheme.

2.4 Consultations

12 **Table 1** outlines the Appropriate Assessment issues raised during consultation.

Table 1 Appropriate Assessment issues raised during consultation

Consultee	Phase / Date of Consultation	Issues Raised	Relevant Section of the AA where this is addressed
<i>Department of Housing, Local Government and Heritage (formerly Department of Culture, Heritage and the Gaeltacht)</i>	30/07/19 Ref. G Pre00165/2019	The Department recommend identification, description, and assessment of direct and indirect impacts of the Proposed Scheme on the following features: <ul style="list-style-type: none"> • Biodiversity in general and with specific attention to Natura 2000 sites. • Habitats and species protected under the Habitats Directive, such as Annex I habitats, Annex II species and their habitats, and Annex IV species and their breeding sites and resting places (wherever they occur), bird species protected under the Birds Directive, such as Annex I species and other regularly occurring migratory species, and their habitats (wherever they occur). • Species and / or habitats listed in the Habitats Directive inside or outside of Natura 2000 sites be recorded. 	Addressed in NIS
		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.	Addressed in NIS
		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.	Addressed in NIS
		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.	Addressed in NIS

Consultee	Phase / Date of Consultation	Issues Raised	Relevant Section of the AA where this is addressed
		<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>Mitigation requirements should outline measures proposed and timescales provided relative to the Proposed Scheme These should be based on scientific evidence with their effectiveness considered.</p> <p>Where residual impacts remain, further mitigation measures may be required:</p> <ul style="list-style-type: none"> • Evidence should be provided of how mitigation measures will be monitored. • Monitoring should take place immediately down-stream of the Proposed Scheme. <p>The applicant should not use any proposed post construction monitoring as mitigation to supplement inadequate information in the assessment.</p>	Addressed in NIS
Development Applications Unit (DAU), DCHG	30 July 2019 (letter received from DAU)	No specific AA concerns raised	N/A
Inland Fisheries Ireland (IFI)	3 November 2020 (letter received from IFI)	No specific AA concerns raised	N/A
Inland Fisheries Ireland (IFI)	8 June 2021 (email from Roisin O'Callaghan, IFI)	In respect of query raised with IFI in respect of potential works alongside the River Tolka, IFI confirmed that the planned works out of stream and not subject to the open season.	N/A

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 in December 2020 along any new route sections added since 2018 in particular sections adjacent to the River Tolka such as The Grange, Waterville Park and Corduff Park to confirm extent and distribution of priority Annex I (91E0) alluvial woodlands. 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 Fossitt⁹ and in accordance with *Best Practice Guidance for Habitat Survey and Mapping*¹⁰. 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 2015 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 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*¹¹.

15 A desk study was carried out to identify all hydrological crossing points within the footprint of the Proposed Scheme. Construction methodologies which involved in-stream works, modifications to banks or significant disturbance were deemed to require instream aquatic habitat surveys. Previous iterations of the Proposed Scheme identified two sites where water bodies may be subject to significant disturbance as a consequence of the Proposed Scheme, both located on the Blanchardstown Bypass N3, adjacent to Waterville Park. The Proposed Scheme does not involve modifications to banks but will result in significant disturbance during the Construction Phase at one of these sites (CBC0005AR001), however the results for both sites will inform the receiving environment and impact assessment. These sites were surveyed by Triturus Environmental Ltd. in October and November 2020. A broad habitat assessment was conducted at each site utilising elements of the methodology given in the Environment Agency's 'River Habitat Survey in Britain and Ireland Field Survey Guidance Manual 2003'¹² and the Irish Heritage Council's 'A Guide to Habitats in Ireland'¹³. All sites were assessed in terms of:

- Channel width and depth and other physical characteristics;
- Substrate type, listing substrate fractions in order of dominance, i.e. bedrock, boulder, cobble, gravel, sand, silt etc.;
- Flow type, listing percentage of riffle, glide and pool in the survey area;
- In-stream macrophyte and aquatic bryophytes occurring and the prominence of each (DAFOR scale); and
- General riparian vegetation composition.

2.5.2 Fauna Surveys

16 Ecological surveys relevant to this 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. Additional fisheries surveys were undertaken by Triturus Environmental Ltd. in areas where waterbodies may be subject to significant disturbance as a result of the Proposed Scheme i.e. the two sites located on the Blanchardstown Bypass N3, adjacent to Waterville Park. The Proposed Scheme does not involve modifications to banks, but will result in significant disturbance during the Construction Phase at one of these sites (CBC0005AR001), however the results for both sites will inform the receiving environment and impact assessment. The results of these surveys are not directly relevant to this assessment as the Proposed Scheme is not hydrologically connected to any European site designated for Annex II fish species or white-clawed crayfish *Austropotamobius pallipes*. The nearest known European site designated for Salmon *Salmo salar*, River Lamprey *Lampetra fluviatilis* and Brook Lamprey *Lampetra*

⁹ Fossitt, J.A. (2000) *A Guide to Habitats in Ireland*. Heritage Council, Kilkenny.

¹⁰ 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.

¹¹ Stace, C. (2019) *New Flora of the British Isles. 4th Edition*. C&M Floristics

¹² Environment Agency. (2003). River Habitat Survey in Britain and Ireland: Field Survey Guidance Manual: 2003 Version. Forest Research.

¹³ Fossitt, J.A. (2000) *A Guide to Habitats in Ireland*. Heritage Council, Kilkenny.

planeri is the River Boyne and River Blackwater SAC, located approximately 28.5km north of the Proposed Scheme in the Boyne River catchment. The nearest known European site designated for white-clawed crayfish is the River Barrow and River Nore SAC, which is located approximately 50.6km south-west of the Proposed Scheme in the River Barrow catchment, River Nore catchment and River Ballyteigue-Bannow river catchment. There is no hydrological connectivity between the Proposed Scheme and these European sites.

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. A number of specific areas (River Tolka at Belvedere rugby grounds, and two sperate greenfield sites adjacent to Navan road Blanchardstown and the park south of Old Corduff road) were revisited in October 2020. An additional survey of otter presence was undertaken at key watercourse crossing 24 March, a follow up survey was carried out 01 April 2022 to gain access across a construction site to lands along a section of the River Tolka which were not accessible in the March survey. 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. A desk study was carried out to identify all hydrological crossing points within the footprint of the Proposed Scheme. Construction methodologies which involved in-stream works, modifications to banks or significant disturbance were deemed to require otter surveys. Previous iterations of the Proposed Scheme design identified two sites where water bodies may be subject to significant disturbance as a consequence of the Proposed Scheme. These sites are both located on the Blanchardstown Bypass N3, adjacent to Waterville Park. Where possible, a corridor of approximately 150m upstream and downstream of these sites were surveyed to identify the presence of otter holts in November 2020. Signs of otter were also noted during aquatic surveys carried out by Triturus Environmental Ltd. in October and November 2020.

2.5.2.2 Kingfisher

- 18 A desk study was carried out to identify all hydrological crossing points within the footprint of the Proposed Scheme. Construction methodologies which involved in-stream works, modifications to banks or significant disturbance were deemed to require habitat suitability assessments for nesting kingfisher. Previous iterations of the Proposed Scheme design identified two sites where water bodies may be subject to significant disturbance as a consequence of the Proposed Scheme. These sites are both located on the Blanchardstown Bypass N3, adjacent to Waterville Park. The suitability of water features and associated foraging, roosting, and nesting habitats, located within or directly adjacent to the Proposed Scheme, were assessed for kingfisher potential in October 2020. Where suitable habitat existed, surveys extended approximately 500m upstream and downstream of the proposed crossing point. Evidence of kingfisher activity at any potential nest holes was recorded.

2.5.2.3 Other Birds

- 19 The results of the desk study have informed the assessment of likely significant effects on breeding bird species arising from the Proposed Scheme.
- 20 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*⁸ (Scott Cawley Ltd. 2017). A habitat suitability assessment was carried out in October 2020 to verify the suitability of potential inland feeding/roosting sites identified during the desk study.
- 21 There are no suitable wintering bird sites which would be subject to habitat loss by the Proposed Scheme. One site, Belvedere Sports Grounds in Cabra is proximally located to the Proposed Scheme, but no loss of suitable forage territory will arise as a result of the Proposed Scheme, by virtue of the nature of the built ground that is required and as the Proposed Scheme is separated from the inland feeding areas

by buildings. Therefore, winter bird surveys were deemed unnecessary for this scheme. The results of the desk-based study have informed the assessment of potential impacts on wintering bird species arising from the Proposed Scheme.

3 Provision of Information for Screening for Appropriate Assessment

- 22 The following sections provide information to facilitate the Appropriate Assessment screening of the Proposed Scheme to be undertaken by the competent authority.
- 23 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.).
- 24 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 has the potential to 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

- 25 The following sections provide information to facilitate the Appropriate Assessment screening of the Proposed Scheme to be undertaken by the competent authority.
- 26 A description of the Proposed Scheme and the receiving environment is provided to identify the potential ecological impacts. The environmental baseline conditions are discussed, as relevant to the assessment of ecological impacts where they may highlight potential pathways for impacts associated with the Proposed Scheme to affect the receiving ecological environment (e.g., geological, hydrogeological and hydrological data etc.).
- 27 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 likely 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.

3.1.1 Overview

- 28 The Proposed Scheme has an overall length of approximately 10.9km and will commence at Junction 3 (Blanchardstown/Mulhuddart) southbound off-slip from the N3. The Proposed Scheme proceeds along the R121 Blanchardstown Road South into the Blanchardstown Shopping Centre. From a new terminus to the north-west of Blanchardstown Shopping Centre the Proposed Scheme is routed onto the N3 Navan Road via the Snugborough Road junction and will follow the N3 and Navan Road as far as the junction with the Old Cabra Road. From here, the Proposed Scheme will be routed along Old Cabra Road, Prussia Street, Manor Street and Stoneybatter to the junction with King Street North. The Proposed Scheme will proceed via Blackhall Place as far as the junction with Ellis Quay, where it will join the prevailing traffic management regime on the North Quays. At the Stoneybatter/Brunswick Street North junction, cyclists proceed along Brunswick Street North, George's Lane and Queen Street as far as Ellis Quay/Arran Quay.
- 29 The Proposed Scheme will involve the delivery of an enhanced bus and cycleway system. The proposed works involve widening existing carriageways, realigning footpaths / cycleways, the conversion of roundabouts to signalised junctions, removal of existing walls, widening of the Mill Road overbridge and widening the River Tolka culvert in Blanchardstown. Works that will take place in the City Centre, in the vicinity of Blackhall Place and Queens Street involve minor works i.e. the realignment of footpaths and cycleways.
- 30 The main characteristics of the Construction Phase of the Proposed Scheme that have the potential for ecological impact are:

- Site preparation and clearance;
- Removal of existing boundaries, pavement, lighting columns, bus stops, and signage;
- Protection and / or diversion of buried services;
- Reconnection of existing and new drainage infrastructure into the existing surface water drainage infrastructure;
- Road widening, pavement reconstruction, and kerb improvements;
- Temporary and permanent land take;
- Installation of new bus stops and junction / roundabout modification;
- Property boundary reinstatement, signage replacement;
- relocation of lighting columns; and
- Landscaping and tree planting, and reinstatement of temporary land acquisitions.

3.1.2 Structural Works

31 The following principal structures which form part of the Proposed Scheme include:

- Structure No. 1: Tolka River Bridge (BR01);
- Structure No. 2: Mill Road Bridge (BR02);
- Pedestrian Ramps (RW07-A and RW07-B);
- Sign Gantries; and
- Retaining Walls.

3.1.2.1 Structure No 1 Tolka River Bridge BR01

32 The southern end of the Tolka River Bridge will be widened in order to facilitate the additional lanes proposed for the N3 dual carriageway. The existing Tolka River Bridge comprises a single 13m span bridge. There is an existing maintenance access path under the bridge, however no works to this access path are proposed. The original corrugated steel arch culvert was previously widened at the southern end, using precast reinforced concrete (RC) beams.

33 The bridge will be widened using a similar approach of precast concrete beams, supported on a new abutment. For the duration of the works, the N3 dual carriageway westbound slip road will be reduced to a single lane. Access to the temporary working area around the bridge structure will be from the N3 dual carriageway westbound slip road.

34 Initially vegetation and site clearance will be carried out. Once the access from N3 dual carriageway westbound slip road to the temporary working area is provided, demolition of the southern section of the existing Tolka River Bridge, and the existing wingwall will be undertaken. The demolition will be carried out by mechanical means including the use of cutting, hydraulic breakers and potentially hydro-demolition.

35 Sheet piling will be installed on the land side of the existing gabion baskets to minimise the risk of any construction materials washing into the river and to retain the existing bank during excavation works for the bridge foundations. The sheet piles will be driven and installed in accordance with Inland Fisheries Ireland (IFI) Guidelines on Protection of Fisheries During Construction Works Adjacent to Waters (IFI 2016). Consultation was undertaken (in June of 2021) with IFI and they have confirmed that the works are deemed out-of-channel. Environmental mitigation measures including netting beneath bridge deck adjacent to widening works, and silt curtains and silt busters will be installed within the temporary working area, to mitigate potential impacts associated with surface water runoff on the River Tolka. The appointed contractor will provide site hoarding of 2.4m height between the sheet piles and the watercourse to mitigate potential impacts associated with protected species (Otter and Kingfisher). The hoarding will be installed to retain the existing maintenance access path under the bridge.

- 36 After the sheet piling is installed, the excavation works will commence for the abutment foundations. Excavations will be completed to the required level and will be upfilled with imported aggregate to the underside of the foundation. The foundation and abutment walls will be constructed and backfilled in accordance with the design. Foundations for the bridge widening will be supported on piles. Percussive and driven piling techniques will be avoided to mitigate impacts on the surrounding environment. In situ rotary bored piles will be installed to support the bridge foundations. A drill rig will be used for boring lined holes to a predetermined depth as per the design, with the holes filled with reinforced concrete. A reinforced concrete foundation pad will be constructed on top of the piles. This will be undertaken by placing formwork, then steel reinforcement followed by the concrete pour. After the concrete has cured, the formwork will be removed.
- 37 Following completion of the foundations, the sheet piling will be removed. Once the foundations have been constructed, the remaining elements will be completed as follows:
- Break out area of existing bridge (to allow for structurally tying in of existing bridge deck to new bridge deck);
 - Construct abutments – as with the foundations, these will be reinforced concrete, and will be constructed by placing formwork, then steel reinforcement followed by the concrete pour;
 - Install bridge beams – precast reinforced concrete beams which will be delivered to site on lorries, and lifted into place (probably out-of-hours) using a large mobile crane;
 - Construct reinforced concrete bridge deck;
 - Construct reinforced concrete wingwalls and masonry cladding;
 - Construct reinforced concrete retaining wall and masonry cladding on new widened section of the bridge;
 - Waterproof and backfill abutments, wingwalls and retaining walls;
 - Construct parapet edge beams and install steel parapet;
 - Complete bridge deck waterproofing;
 - Place backfill to structure; and
 - Construct pavement, footpaths and finishes.
- 38 Once the structure is completed, the access will be removed from the adjacent slip road and the temporary working area will be reinstated to the existing profile and in accordance with working within the Streamside Zone by IFI in the Planning for Watercourses in the Urban Environment Guidelines (IFI 2020).
- 39 With the N3 dual carriageway westbound slip road reduced to a single lane, the majority of works will be carried out during normal working hours. Some works will be carried out at night-time under full slip road closure, including works to remove the existing bridge deck at the tie-in to the widened section, and bridge beam lifts.
- 3.1.2.2 Structure No. 2: Mill Road Bridge (BR02) and Pedestrian Ramps (RW07-A and RW07-B)
- 40 The existing Mill Road Bridge will be widened to the north and south, in order to facilitate the additional lanes proposed for the N3 dual carriageway. The existing Mill Road Bridge consists of twin bridges of single 14m span RC, integral with portal abutment walls.
- 41 The widening will be completed to both ends of the bridges, with the abutment walls, foundations and bridge decks being extended, widening the existing structure. Pedestrian access ramps will also be constructed on both sides of the Mill Road Bridge. The sequencing of works for this structure will be undertaken as follows:
- Central Reservation Works;
 - Mill Road South and Mill Road North Works; and

- Pedestrian Ramp Works.

42 Prior to all demolition and construction works at this location, environmental mitigation measures including silt curtains and silt busters will be installed within the temporary working area, to mitigate potential impacts associated with surface water runoff on the River Tolka. Given that Mill Road will be closed, all works will be undertaken during normal working hour.

43 Mill Road will be closed to vehicular traffic for the duration of the construction works, between Herbert Road and Edmund Rice College. For the majority duration of the works pedestrian access will be maintained through Mill Road however, for specific works such as bridge beam lifts, pedestrian access will be closed. These works will be undertaken at night.

3.1.2.3 Central Reservation Works

44 Traffic on the N3 dual carriageway will be reduced to two lanes in each direction, with traffic realigned to the verges, maximising the working area in the central reservation. This traffic management arrangement will provide sufficient room in the N3 central reservation for structural works.

45 Works will commence with demolition of the central sections of the existing bridge. These will be removed by mechanical means including the use of cutting, hydraulic breakers and potentially hydro-demolition. Demolition will be carried out. Once the demolition works are completed, the deck construction works will commence. Falsework will be installed over the Mill Road, for construction of the in-situ RC deck.

3.1.2.4 Mill Road South and Mill Road North Works

46 During this element of work, traffic on the N3 dual carriageway will be reduced to two lanes in each direction, with traffic realigned to run tightly along the newly constructed central reservation. This traffic management arrangement will provide sufficient room in the N3 verges for structural widening works.

47 Works will commence with the demolition of the existing parapet and edge beam on the northern and southern edges of the bridge. These will be removed by mechanical means including the use of cutting, hydraulic breakers and potentially hydro-demolition. Once the demolition works are completed, the widening works will be constructed in the following sequence:

- Abutments:
 - Diversion / temporary protection of services;
 - Excavation for foundation construction;
 - Construction of in-situ RC spread pad footing. As rock is approximately 1m below existing ground level, no piling of foundations will be required; and
 - Construction of in-situ RC abutment stem;
- Deck Construction:
 - Construction of in-situ RC deck with falsework over Mill Road.
- Wingwalls:
 - Construction of in-situ wingwalls with sculptured finish.
- Finishes:
 - Backfill of abutment and wingwalls;
 - Construction of RC parapet edge beam and installation of parapet;
 - Waterproofing of bridge deck;
 - Kerbing, footpaths, pavement on deck; and
 - Cobble / paving underneath bridge widening.

3.1.2.5 Pedestrian Ramp Works (Structure RW07-A and RW07-B)

48 To the south of the N3 dual carriageway, a pedestrian ramp will be constructed to the east of Mill Road (RW07-A). These works will be carried out simultaneously with the Mill Road Bridge (BR02) widening. The southern access works will be divided into three sections:

- Southern approach ramp: The southern access will involve underpinning or temporary supporting of the adjacent wall during excavation and construction of the new approach ramp. Extensive surveys of the existing wall will be required in advance of construction works commencing to inform the construction method. Access for these works will be from Mill Road with lane closures required for tie-in works.
- Pedestrian ramp adjacent to N3: The pedestrian ramp will be constructed with access from the N3 dual carriageway. Initially the area will be excavated to formation level. The retaining walls will then be constructed with the areas backfilled to finished level as the walls are being constructed.
- Stepped access: The stepped access will be constructed from the bottom, up, with access to the works from both Mill Road and the N3.

49 To the north of the N3 dual carriageway, a pedestrian ramp will be constructed to the west of Mill Road (RW07-B). These works will be carried out simultaneously with the Mill Road Bridge (BR02) widening. The pedestrian access ramp will be constructed in close proximity to an existing foul sewer pumping station which is being retained as part of the works. Any services connecting to the pumping station, in the line of the proposed works will be diverted by the appointed contractor prior to commencement of the works. Due to the position of the pumping station, a construction access lane will be constructed to the north of the pumping station. The access ramp will be constructed from the bottom up, completing the retaining walls in sequence as the works progress. The works will be completed with plant and equipment positioned at the bottom of the slope for the lower walls and on the N3 dual carriageway for the walls higher up the slope. Once the access ramp is completed, the area at the bottom of the slope will be reinstated to its existing profile.

3.1.2.6 Sign Gantries

50 There are nine sign gantries along the Proposed Scheme; one gantry to be retained without modifications (Sign Gantry GY05), four gantries to be modified, two gantries to be replaced and two new gantries to be constructed, as detailed in Table 2.

51 Prior to construction works commencing the appointed contractor will inspect the position and condition of the gantry foundations and evaluate whether new foundations need to be constructed and / or relocated. Gantry foundations will be constructed during the verge and central reservation phases of construction and the steelwork and signage will be installed during out-of-hours works under a carriageway closure.

Table 2: Gantries / Variable Message Signs along the Proposed Scheme

Gantry / VM Reference	Structure Type	New / Existing	Chainage	Section Reference
GY01	Overhead Sign Gantry	Modify/Replace existing	Alignment A Ch 1439.00	Section 2b
GY02	Overhead Sign Gantry	New (replace existing)	Existing location Alignment A Ch 1745.00 Proposed location Alignment A Ch 1799.00	Section 2b
GY03	Overhead Sign Gantry	Modify/Replace existing	Alignment A Ch 2988.00	Section 3a
GY04	Variable Message Sign	New (replace existing)	Alignment A Ch 1316.00	Section 2a
GY05	Overhead Sign Gantry	Existing – retain	Alignment A Ch 2818.00	Section 3a

Gantry / VM Reference	Structure Type	New / Existing	Chainage	Section Reference
GY06	Overhead Sign Gantry	Modify/Replace existing	Alignment A Ch 3316.00	Section 3a
GY07	Overhead Sign Gantry	New	Alignment A Ch 1765.00	Section 2b
GY08	Overhead Sign Gantry	New	Alignment A Ch 1311.00	Section 2b
GY09	Overhead Sign Gantry	Modify/Replace existing	Alignment A Ch 3916.00	Section 3b

3.1.2.7 Retaining Walls

52 Retaining walls with a retained height greater than 1.5m are classed as principal structures. There are five principal retaining walls along the Proposed Scheme, as detailed in Table 3, as are the miscellaneous retaining walls.

53 Retaining walls are typically installed to cater for level differences between the road and adjoining lands. RW07-A and RW07-B are the pedestrian ramps at Mill Road and these ramp structures include principal retaining walls.

54 Retaining walls will generally be constructed of reinforced concrete, with railing and clad as required, with suitable materials depending on the local environs. Retaining walls will generally be constructed by first isolating the site of the retaining wall using fencing, as appropriate, to the location. The existing ground will then be stripped to formation level. Existing services will be diverted as required to enable wall construction. A side slope will be battered back to enable construction. Blinding will be installed at formation level. Formwork and reinforcing steel for the wall will be fixed in place. Then concrete will be poured in sections and formwork removed after initial curing of concrete. After a sufficient curing period the area behind the wall will be backfilled.

55 Retaining walls are typically installed to cater for level differences between the road and adjoining lands. RW07-A and RW07-B are the pedestrian ramps at Mill Road and these ramp structures include principal retaining walls.

56 Retaining walls with a retained height less than 1.5m are classed as miscellaneous retaining walls. There are 15 miscellaneous retaining walls along the Proposed Scheme, as detailed in Table 3. Retaining walls are typically installed to cater for level differences between the road and adjoining lands.

Table 3: Principal and Miscellaneous Retaining Walls along the Proposed Scheme

Retaining Wall Reference	Structure Type	Chainage (m)	Length (m)	Maximum Retained Height (m)	Section Reference
Principal retaining walls					
RW01	Spreadfoot Cantilever Wall	Blanchardstown Road South Ch. 453 to A0040	270	3.0	Section 1c, 1i
RW07-A	Spreadfoot Cantilever Wall	A1604 to A1653	100	1.5	Section 2d
RW07-B	Spreadfoot Cantilever Wall	A1540 to A1609	250	3.0	Section 2e

Retaining Wall Reference	Structure Type	Chainage (m)	Length (m)	Maximum Retained Height (m)	Section Reference
RW09	Spreadfoot Cantilever Wall	A2219 to A2305	90	4.0	Section 2f
RW03	Soil Nail Wall	A2926 to A3027	100	4.0	Section 3a
Miscellaneous Retaining walls					
RW10	Spreadfoot Cantilever Wall	Blanchardstown Road South Ch0304	241	0.3	Section 1c
RW11	Spreadfoot Cantilever	A0140	16	0.3	Section 1c
RW12-1	Spreadfoot Cantilever Wall	A0229	27	0.5	Section 1i
RW12-2	Spreadfoot Cantilever Wall	A0269	24	0.6	Section 1j
RW12-3	Spreadfoot Cantilever Wall	A0302	25	0.6	Section 1j
RW12-4	Spreadfoot Cantilever Wall	A0339	36	0.4	Section 1j
RW13	Spreadfoot Cantilever Wall	A0703	36	0.9	Section 1l
RW14	Spreadfoot Cantilever Wall	A1475	66	0.7	Section 2b
RW15	Spreadfoot Cantilever Wall	A1854	26	0.4	Section 2b
RW16	Spreadfoot Cantilever Wall	A2205	107	0.9	Section 2b
RW17	Spreadfoot Cantilever Wall	A3939	41	1.3	Section 2f
RW18	Spreadfoot Cantilever Wall	A2308 to A2342	34	1.3	Section 2f
RW19	Spreadfoot Cantilever Wall	A3939 to A3979	41	1.3	Section 3b
RW20	Spreadfoot Cantilever Wall	A5542 to A5548	6	0.3	Section 4a
RW21	Spreadfoot Cantilever Wall	A6658 to A6693	35	0.5	Section 4b

3.1.3 Surface Water Drainage Infrastructure

57 The surface water drainage system is managed by the Local Authority, whilst combined sewer systems are managed by Irish Water. Surface water flows are typically collected in standard gully grates and routed via a gravity network to outfall points. The drainage design of the Proposed Scheme assumes that there are

generally no SuDS/attenuation measures on the existing drainage networks to treat or attenuate run-off from the existing carriageway.

58 The drainage design aims to sustain flow levels within the existing pipe network after a rainfall event by controlling the discharge rate within each catchment. Flows will be controlled by the implementation of SuDS techniques, where practicable. During the Operation Phase, the overall net increase in impermeable area for the Proposed Scheme will be 27,737m² which equates to a 6.6% net increase. It is proposed to connect the drainage infrastructure for the Proposed Scheme into existing surface water infrastructure which is assumed to discharge to the following waterbodies: Tolka_040 (via surface water drainage), Royal Canal (Mainline (Liffey and Dublin Bay)) (via surface water drainage), Liffey Estuary Upper (via combined sewer) and Dublin Zoo Ponds (via surface water drainage).

59 The SuDS solutions are summarised in Table 4.

Table 4: Summary of Impermeable areas and SuDS proposed by waterbody

Waterbody	Approximate Impermeable Surface Area m ²			SuDS Measures Proposed
	Existing impermeable area	Additional permeable area	Percentage change	
Tolka_040	58432	19679	34	Bio retention areas, tree pits, OSP, FD, green roof, permeable paving
Tolka_050	4126	1892	46	Bio retention areas, FD, swale
Royal Canal	23266	5376	23	Bio retention areas, tree pits, OSP, FD
Dublin Zoo Ponds	17577	2679	15	Bio retention areas, Tree pits, FD, OSP
Liffey Estuary Upper	N/A	0	0	Bio retention areas
Ringsend	7856	767	10	Bio retention areas, Tree Pits, FD

3.1.4 Lighting

60 The majority of the Proposed Scheme is already artificially lit. During Construction, temporary lighting will be required at times along the Proposed Scheme at certain locations, as necessary. Where it is necessary to disconnect public lighting during the construction works or to undertake works outside of daylight hours where existing lighting is low, appropriate temporary lighting will be provided. Temporary lighting will also be installed at the Construction Compounds for the duration of the Construction Phase. The standard of temporary lighting installed during the Construction Phase will meet the standard of the existing carriageway and will be appropriate to the speed and volume of traffic during construction. Temporary construction lighting will generally be provided by tower mounted floodlights, which will be cowed and angled downwards to minimise spillage of light from the site.

61 A review of the existing lighting provision along the extent of the route has been carried out to understand the impact of the Proposed Scheme on lighting columns and associated infrastructure. Where existing lighting columns conflict with the Proposed Scheme, they will be relocated. In some areas which are currently artificially lit, there are approximately 21 additional new lighting columns provided as part of the Proposed Scheme. Light Emitting Diode (LED) lanterns will be the light source for all lighting columns provided. All lighting columns will aim to minimise the effects of obtrusive light at night and reduce visual impact during daylight. Lighting schemes will comply with the 'Guidance notes for the Reduction of Light Pollution' issued by the Institution of Lighting Professionals (ILP).

62 New low-level lighting is proposed at BR02 Mill Road Bridge, as well as at RW07A & B Pedestrian Ramps which will provide pedestrian access between Mill Road and the N3 Dual Carriageway. It is anticipated that the new low level lighting either integrated into the handrails or another part of the structure. Due to the nature of this approach the lighting levels will be under 3 lux within a short distance of the structure which will result in extremely limited light spill.

3.1.5 Landscaping and Public Realm

63 The Proposed Scheme includes a planting strategy which includes replacement of street trees and groups of trees that may be impacted by the Proposed Scheme, but also the introduction of new tree planting and street trees within other spaces and along streets..

64 The Proposed Scheme includes a new Bus Interchange at Blanchardstown Shopping Centre. The Bus Interchange will be a covered area where various transport routes will connect and allow for efficient change to other services. Reinforcement of green infrastructure along the route will improve the overall amenity, character and appeal of the route corridor and localities along it, as well as enhancing biodiversity.

65 The Bus Interchange at Blanchardstown Shopping Centre will require roof canopies of two heights. Up-lighting on the canopies will be provided to create a safe environment for members of the public. The canopies comprise of a concrete clad steel frame supported on circular columns. Drainage off each roof will be directed through the columns to a below ground rainwater drainage system, eased by the presence of green roofs incorporated into the roof of each canopy.

3.1.6 Construction Compounds

66 The locations of the Construction Compounds has been based on areas with most space availability in close proximity to the Proposed Scheme major works. The Construction Compounds will be located at the following sites:

67 The location of the Construction Compounds in relation to the Proposed Scheme are shown in Images 2,3 and 4. The Construction Compound locations have been selected due to the amount of available space, its location near the majority of the Proposed Scheme major works and its access to the National and Regional Road network. The Construction compounds will be located at the following sites:

- Construction Compound BL1: Old Navan Road Car Park;
- Construction Compound BL2: Junction 6, Castleknock, west of M50; and
- Construction Compound BL3: R147 East of the M50. It is divided into two sections by the Navan Slip Road.

68 As shown in Image 2, Image 3 and Image 4, the Construction Compounds will contain a site office, and welfare facilities for NTA personnel and contractor personnel. Limited car parking will be allowed at the Construction Compounds. Materials such as topsoil, subsoil, concrete, rock etc., will be stored at the Construction Compounds for reuse as necessary. Items of plant and equipment will also be stored within the Construction Compounds. The Construction Compounds will be in place for the duration of the Construction Phase of the Proposed Scheme, estimated at approximately 24 months. The compounds will be dismantled, and the site returned to its existing condition on completion of the Construction Phase.

69 The Construction Compounds will be engineered with appropriate services. Water, wastewater, power, and communications connections will be organised by the appointed contractor. At work areas along the Proposed Scheme, where permanent provisions (for the duration of the construction programme) are not practicable, appropriate temporary provisions will be made including the use of generators if required. Temporary welfare facilities will need to be used, for example, portable toilets in the vicinity of works. Wastewater from temporary welfare facilities will be collected and disposed of to a suitably licenced facility.

- 70 Appropriate environmental management measures will be implemented at the Construction Compounds for example, to minimise the risk of fuel spillage, and to ensure that the Construction Compounds and the approaches to it are appropriately maintained.
- 71 Following completion of the construction works, the Construction Compound areas will be cleared and reinstated to match pre-existing conditions.
- 72 The Construction Compound BL1 will be located in Corduff Park, in an existing car park along the Old Navan Road, as shown in Image 2. The area of Construction Compound BL1 is approximately 1,200m².

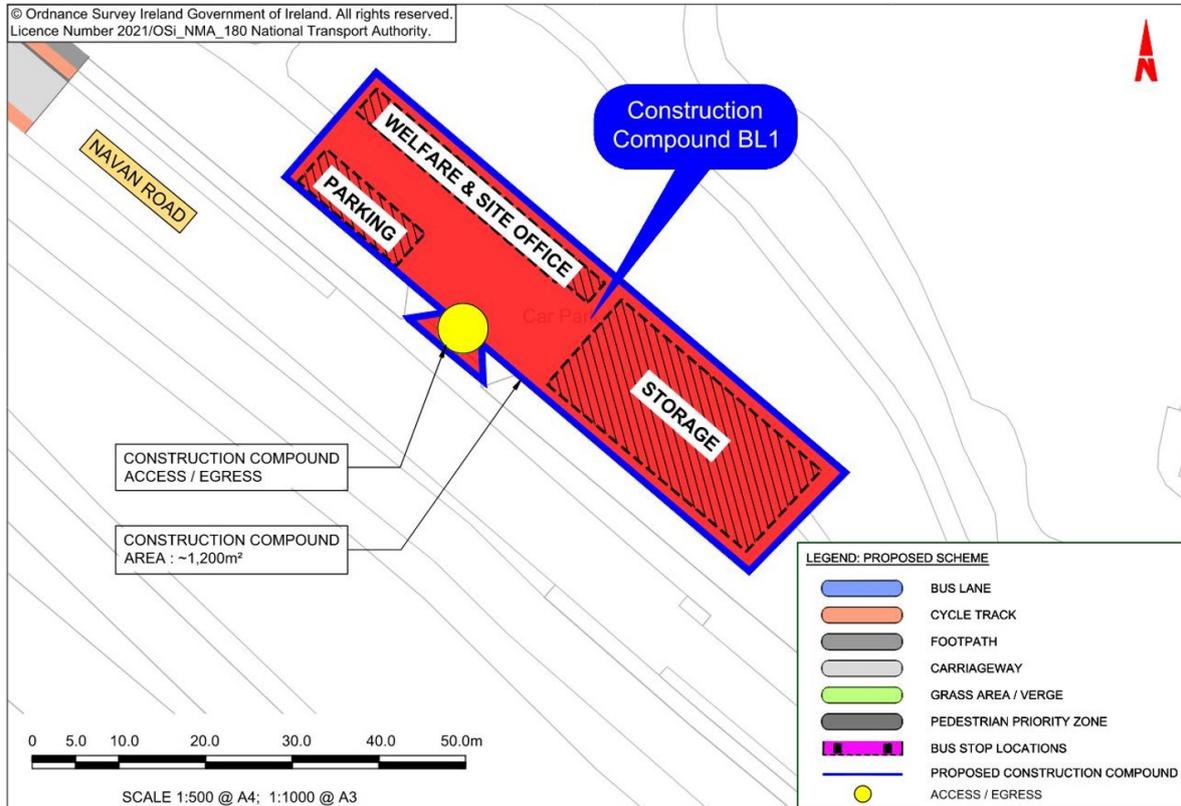


Image 2: Location, Extent and Layout of Construction Compound BL1

- 73 The Construction Compound BL2 will be located at Junction 6, Castleknock, west of the M50, as shown in Image 3. The area of Construction Compound BL2 is approximately 1,400m².

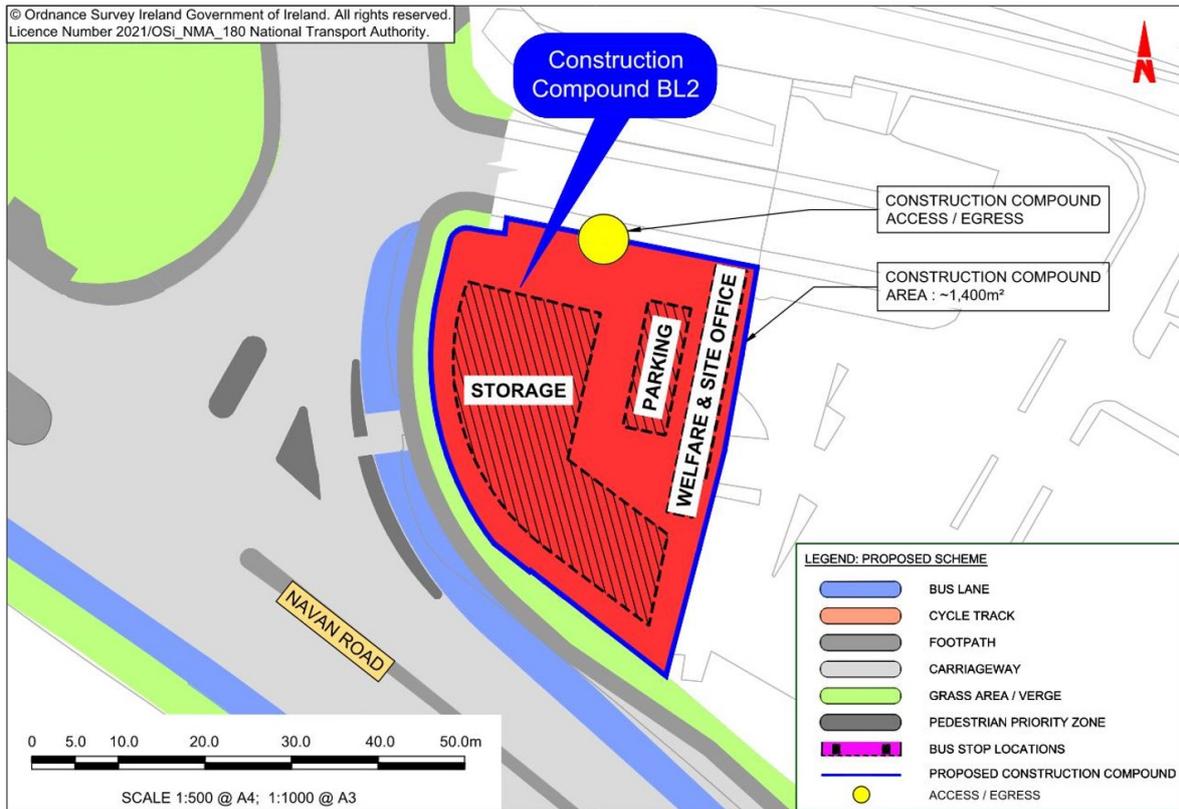


Image 3: Location, Extent and Layout of Construction Compound BL2

74 The Construction Compound BL3 will be located along the R147, east of the M50, as shown in Image 4. The Construction Compound will be divided by the Navan Road slip road, and a proposed road as part of the Proposed Scheme. The area of Construction Compound BL3 is approximately 5,200m².

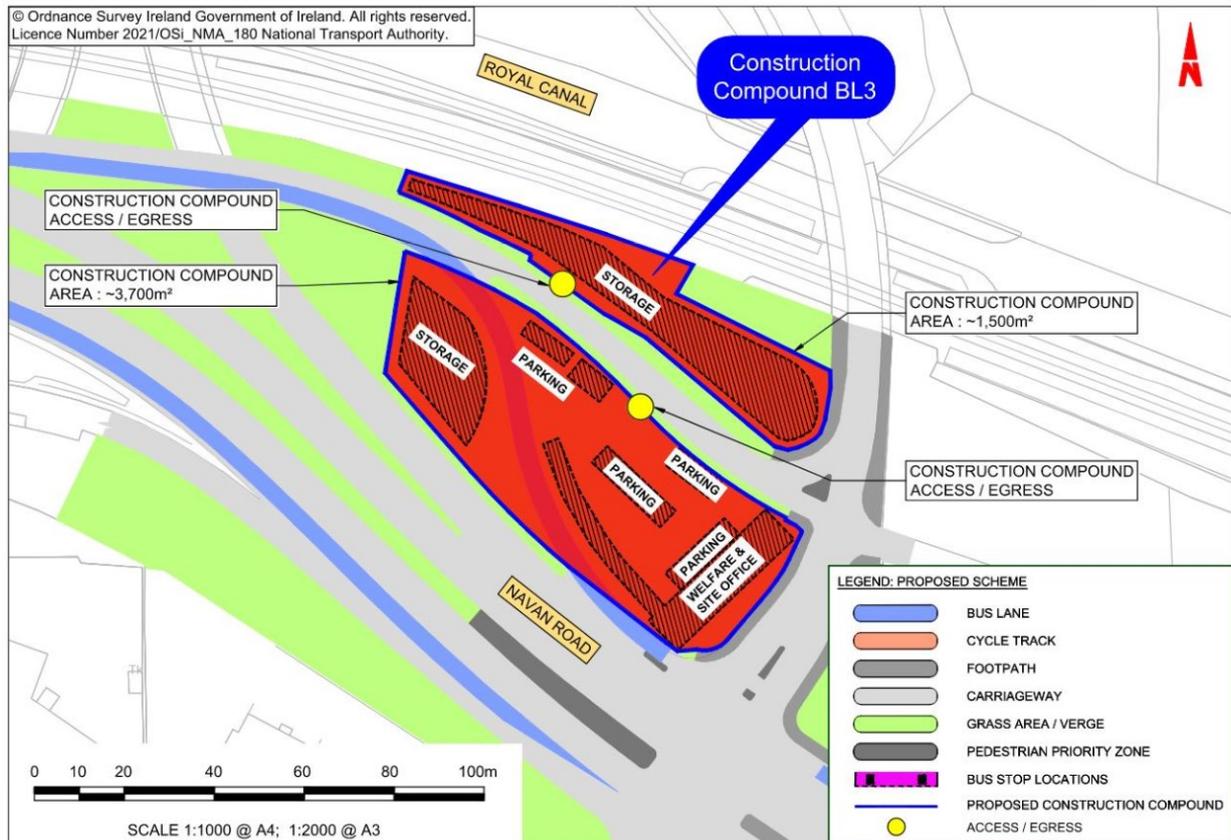


Image 4: Location, Extent and Layout of Construction Compound BL3

3.1.7 Offline Works

75 A number of isolated or offline sections of work, not attached to the main corridor are proposed. Typically works entail works, sign installation and the provision of a new road layout in discrete areas for example along the Cabra Road / North Circular Road junction and R147 / R805 / R804.

3.1.8 Estimated Project Duration

76 The duration of the Construction Phase is estimated to be 24 months.

3.1.9 Operational Phase

77 The main characteristics of the operational stage 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 relocated lighting and some new low-level lighting associated with Structures; and
- Routine maintenance.

3.2 Overview of the Receiving Environment

3.2.1 European sites

- 78 The Proposed Scheme does not overlap with any European site. The nearest European site is South Dublin Bay and River Tolka Estuary SPA followed by South Dublin Bay SAC, which are both located approximately 2.89km and 4.6km east of the Proposed Scheme, respectively as the crow flies.
- 79 The nearest European sites with a hydrological connection to the Proposed Scheme are North Bull Island SPA is also located in Dublin Bay, approximately 5.8km from the Proposed Scheme and South Dublin Bay and River Tolka Estuary SPA which is located approximately 6km downstream of the terminus at Ellis Quay, via the Liffey Estuary Upper. South Dublin Bay SAC is located approximately 6.8km downstream of the terminus at Ellis Quay, via the Liffey Estuary Upper. The Rye Water Valley / Carton SAC is located approximately 6.7km east of the Proposed Scheme.
- 80 There are eight European sites located in Dublin Bay which are hydrologically connected to the Proposed Scheme, via the following watercourses i.e. the River Tolka (Tolka-040), Tolka_050, the Royal Canal, the Liffey Estuary Upper. In addition to this, the Proposed Scheme is hydrologically connected to Dublin Bay via the existing surface water sewer which discharges to Ringsend WWTP. These European Sites include North Dublin Bay SAC, South Dublin Bay SAC, North Bull Island SPA, South Dublin Bay and River Tolka SPA, Howth Head SAC, Howth Head Coast SPA, Rockabill to Dalkey Island SAC and Dalkey Island SPA.
- 81 There are twelve SPAs designated for SCI species that are known to forage and / or roost at inland sites across Dublin City and / or utilise Dublin Bay: Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, Skerries Islands SPA, North Bull Island SPA, South Dublin Bay and River Tolka SPA, Ireland's Eye SPA, Lambay Island SPA, Howth Head Coast SPA, Dalkey Islands SPA, Rockabill SPA, and The Murrrough SPA.
- 82 In addition, Lambay Island SAC and Rockabill to Dalkey Island SAC are designated for mobile QI species known to utilise Dublin Bay and the Liffey Estuary.
- 83 All of the 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

- 84 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);
 - Canals (FW3);
 - Amenity Grassland (Improved) (GA2);
 - Dry calcareous and neutral grassland (GS1);
 - Dry meadows and grassy verges (GS2);
 - Residential;

- (Mixed) broadleaved woodland (WD1);
- Mixed broadleaved / conifer woodland (WD2);
- Scattered trees and parkland (WD5);
- Hedgerows (WL1);
- Treelines (WL2);
- Wet willow-alder-ash woodland (WN6);
- Scrub (WS1);
- Immature woodland (WS2); and,
- Ornamental/ non-native shrub (WS3).

85 No Annex I habitats were recorded inside the boundary of the Proposed Scheme. However, small fragmentary sections of priority Annex I Alluvial woodland (corresponding to Fossitt classification category Wet willow-alder-ash woodland (WN6) and following on from Perrin *et al.* (2008), which described the habitat as degraded WN6 aligned Annex I alluvial woods (91E0), with were recorded along the River Tolka valley north of the N3 road. The example of Alluvial woodland along the River Tolka is not part of any SAC resource. The nearest European site for this habitat is Knocksink Wood SAC [000725] to south of the Proposed Scheme and the River Boyne and River Blackwater SAC [002162], to the North-west, both of which are in separate catchments and for which no groundwater linkage is known.

3.2.3 Flora and Fauna Species

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

87 There were five areas of the non-native invasive plant species, specifically Himalayan balsam listed on the Third Schedule of the (Birds and Natural Habitats) Regulations identified along or adjacent to the Proposed Scheme. These locations are summarised below in Table 5.

88 The desk study returned records of a total of seven species listed on the Third Schedule of the (Birds and Natural Habitats) Regulations, 2011 across the wider study area (i.e. Grid Squares O03 and O14). Records within close proximity to the Proposed Scheme include American skunk-cabbage *Lysichiton americanus*, Canadian waterweed *Elodea canadensis*¹⁴, giant hogweed *Heracleum mantegazzianum*, bohemian knotweed *Reynoutria japonica x sachalinensis = R. x bohémica*, Japanese knotweed *Reynoutria japonica*, three-cornered garlic *Allium triquetrum*, and water fern *Azolla filiculoides*. These species were not found to be present within the footprint of the Proposed Scheme during field surveys.

89 There were five areas of the non-native invasive plant species, Himalayan balsam 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 in Table 5.

90 The presence of Himalayan balsam, previously recorded at a location south of Old Corduff road was visually reconfirmed in October 2020.

¹⁴ Canadian waterweed *Elodea canadensis* which often occurs alongside *E. nuttalli*, was delisted as a third schedule non-native species by virtue of SI 355/2015.

Table 5: 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

Reference	Species	Location
CBC0005IAPS001	Himalayan balsam <i>Impatiens glandulifera</i>	Scattered along the banks of the River Tolka adjacent to the junction with Snugborough Road R843 (Grid Ref: O 07773 39220).
CBC05IAPS002	Himalayan balsam <i>Impatiens glandulifera</i>	Scattered along the banks of the River Tolka adjacent to the junction of the N3 and the M50 (Grid Ref: O 07886 39091).
CBC05IAPS003	Himalayan balsam <i>Impatiens glandulifera</i>	Scattered along the banks of the River Tolka adjacent to the junction of the N3 and the M50 (Grid Ref: O07896 39403).
CBC05IAPS004	Himalayan balsam <i>Impatiens glandulifera</i>	Scattered along the banks of the River Tolka adjacent to the junction with Snugborough Road R843 (Grid, Ref: O 08776 38503).
CBC05IAPS005	Himalayan balsam <i>Impatiens glandulifera</i>	Scattered along the banks of the River Tolka adjacent to the junction of the N3 and the M50 (Grid, Ref: O 08913 38537).

3.2.3.1 Otter

- 91 The desk study found that otter are known to occur within 1km of the Proposed Scheme, and across the wider study area. Records of otter were returned from the River Tolka at New Dunsink Lane R102 and Waterville Park adjacent to the M50 Blanchardstown Bypass downstream of the junction with Snugborough Road. There are also records of otter along the River Liffey and the Royal Canal ¹⁵.
- 92 Signs of otter, an Annex II species, were recorded during surveys within the footprint of the Proposed Scheme, along the River Tolka, where it flows under the Blanchardstown Bypass, east of Blanchardstown Garda Station. An otter spraint and a gelatinous otter spraint were recorded on the Blanchardstown Bypass underpass. Signs of mammal activity i.e. disturbance of the riverbank and footprints were also recorded in this area. A potential (degraded) otter spraint was observed at the Tolka river road bridge underpass (structure BC1), although the footprints were of small mammals. A gelatinous spraint was also noted on the upstream side of structure BC1. The 2022 resurvey along the River Tolka noted two additional records alongside CBC0005AR001, where a single otter footprint and a degraded spraint -possibly otter were recorded. The surveys carried out by Triturus Environmental Ltd. in October and November 2020 also recorded regular otter sprainting at both survey sites on the River Tolka.
- 93 The nearest European site for which this species is designated is the Wicklow Mountains SAC, which is located approximately 12km south of the Proposed Scheme. The SAC is located within a different sub-catchment (Dodder_SC_010) to the Proposed Scheme which falls within (Tolka_SC_10 and Tolka_SC_020). As such, populations of otter within the footprint of the Proposed Scheme are not deemed to be connected to the SAC population.

¹⁵ 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.*

3.2.3.2 Marine mammals

94 The Proposed Scheme terminates at Ellis Quay at the Liffey Estuary Upper. The Proposed Scheme is hydrologically connected to the Tolka Estuary and discharges into the Liffey Estuary Lower following treatment at Ringsend WWTP.

95 Harbour seal, grey seal, and harbour porpoise are known to be present in Dublin Bay. Both seal species are listed on Annex II of the habitats directive and harbour porpoise are listed on Annex IV of the Habitats Directive. The nearest European site for which harbour seal and grey seal have been designated is Lambay Island SAC located approximately 22.4km from the Proposed Scheme. The nearest European site for which harbour porpoise has been designated is Rockabill to Dalkey Island SAC located approximately 12.6km from the Proposed Scheme.

3.2.3.3 Kingfisher

96 The 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 and the River Tolka are known to support populations of kingfisher¹⁶.

97 Habitat suitability assessments surveys carried out in October 2020 recorded suitable nesting habitat for kingfisher along the River Tolka, adjacent to the Blanchardstown Bypass, north of Snugborough Road. The riverbanks in this section of the River Tolka were bare and therefore, suitable for nesting kingfisher. A kingfisher was observed flying along the River Tolka during field surveys, less than 70m from the Proposed Scheme. It is therefore likely that kingfisher nest, forage and roost in the vicinity of the Proposed Scheme, although no suitable nesting habitat was noted at any watercourse intersected by the Proposed Scheme.

98 The nearest European site for which this species is designated is River Boyne and River Blackwater SPA, which is located approximately 28.8km from the Proposed Scheme. Kingfisher populations within close proximity to the Proposed Scheme are not deemed to be SCI species.

3.2.3.4 Other Birds

99 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*.

100 The desk study returned records of a total of 110 birds -some of which protected vagrants that are not Red listed (i.e. Grid Squares O03 and O13). Fifty four (54) species listed as SCIs for SPAs, five Birds Directive Annex I species, 13 Red list and 16 Amber list.

101 The majority of wintering birds identified in the desk-based review are typically found in coastal, estuarine and intertidal habitats including the Liffey Estuary and Dublin Bay. A desk-based review of lands within 300m of the Proposed Scheme returned records of six SCI wintering bird species which may use inland amenity grassland feeding sites, including light-bellied brent goose, lapwing, oystercatcher, black-headed gull, herring gull and lesser black-backed gull.

102 A review of a study into light-bellied brent goose inland feeding sites⁸ has identified no known inland wintering bird feeding sites in the footprint of the Proposed Scheme. There are three known inland wintering bird feeding sites within approximately 300m of the Proposed Scheme i.e. the disturbance ZoI¹⁷.

¹⁶ DCC (2015) *Dublin City Biodiversity Action Plan 2015-2020*.

¹⁷ Major importance site 401+ geese; high importance site 51-400 geese; and, moderate importance site 1-50 geese as defined by Benson's study in 2009.
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.

There were no known inland feeding sites within 800m of major works (i.e. sheet piling) at Structures BR01 and BR02¹⁸.

- Belvedere Sports Ground Cabra (Importance Unknown) approximately 25m from the Proposed Scheme;
- Cabra/Pope John Paul II Park (High Importance) approximately 100m from the Proposed Scheme; and
- Ashtown Playing Pitches (Major Importance) approximately 132m from the Proposed Scheme.

103 A number of SPAs have on a precautionary basis been included for assessment. as it cannot with certainty be confirmed that their Special Conservation Interest species do not use areas in the vicinity of the Proposed Scheme as *ex-situ* habitat.

3.2.4 Hydrology

104 The Proposed Scheme crosses two watercourses at three locations: the River Tolka and the Royal Canal, as well as a tie-in to the River Liffey at Ellis Quay. The drainage system for the Proposed Scheme will discharge to the following surface water receptors; Tolka_040, Tolka_050, Royal Canal, Dublin Zoo ponds, Liffey Estuary, and to Ringsend WwTP (which ultimately discharges to Liffey Estuary Lower, Dublin Bay, post treatment). At Kinvara Avenue the surface water begins to drain to towards the Liffey Estuary Upper, including via some ponds at Dublin Zoo. A sub-catchment assessment identifies that inefficient drainage systems and misconnections as well as diffuse urban runoff are causing most issues relating to water quality. The drainage along the route of the Proposed Scheme is a mixture of foul, surface and combined sewers.

105 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.

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 Tolka (Tolka_030)	Outside study area – assessed in water chapter owing to fact that displaced traffic (>10,000 AADT) on short sections of some roads drain to Tolka_030	Q2-3 (Mulhuddart bridge) Poor 'At Risk'	Hydrologically connected to the Tolka Estuary and North Dublin Bay SAC, however this is >5km (17km) from the downstream extent of the waterbody

¹⁸ Rees *et al.* (2005) found that impulsive noise disturbance (e.g. airport bird scaring) alerted Whooper swans at distances of up to c.800m. Methods using sheet piling and / or blasting would be expected to be similar to those described above for general construction related disturbance—i.e. greater than 60dB. As a precautionary approach, 800m is used as the zone within which some level of disturbance may occur from construction activities involving high disturbance works.

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 Tolka (Tolka_040; Tolka 050)	Two existing crossing points at the Blanchardstown Bypass, to the east of Blanchardstown Garda Station and the north of Herbert Road	Q3 (Old Corduff Road Bridge u/s Blanchardstown, Abbotstown Bridge) Poor 'At risk'	It flows for approximately 11.8km, from the crossing point north of Herbert Road, until it reaches the Tolka Estuary transitional waterbody (classified as "Potentially Eutrophic"), which ultimately drains to Dublin Bay coastal waterbody (classified as "Unpolluted").
Royal Canal	One existing crossing point where the Royal Canal flows under the junction of the M50 and the Navan Road.	Not applicable	It flows for approximately 9.5km, from the crossing point at the M50 junction, until it reaches the Liffey Estuary Lower transitional waterbody (classified as "Unpolluted") at North Wall Quay, which ultimately drains to Dublin Bay coastal waterbody (classified as "Unpolluted").
Dublin Zoo Ponds	Hydrologically connected to the Proposed Scheme via existing surface water drainage.	Not applicable	The outlet from these ponds is connected into the combined sewer system for treatment at Ringsend WWTP. It flows into the Liffey Estuary Lower transitional waterbody (classified as "Unpolluted") at Grand Canal Dock.
Liffey Estuary Upper	The terminus of the Proposed Scheme at Ellis Quay is located adjacent to the Liffey Estuary Upper.	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	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").

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
Dublin Bay	Hydrologically connected to the Proposed Scheme via the River Tolka, Royal Canal, Liffey Estuary Upper, Liffey Estuary Lower and the Ringsend Wastewater Treatment Plant	Q-Value Score not applicable Good <i>'Not at risk'</i>	The Dublin Bay coastal waterbody is classified as <i>"Unpolluted"</i> .

3.2.5 Hydrogeology

106 The 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)"*.

107 The Proposed Scheme transverses one ground waterbody. Environmental data sourced from the EPA for each of these ground waterbodies is presented below:

Dublin Ground Waterbody

- For the majority of this area, it is considered to be of *"Good"* Ground Waterbody WFD Status (2013-2018) and *"not at risk"* of failing the WFD groundwater quality objectives for the majority of its area; and
- The aquifers located within this ground waterbody and where the Proposed Scheme transverses are classified as *"locally important aquifer - moderately productive only in local zones"* and *poor aquifer - bedrock which is generally unproductive except for local zones*.

108 The vulnerability of the Dublin ground waterbody 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 and Geology

109 The 1:100,000 GSI bedrock geology map of the area indicates that the underlying bedrock along the Proposed Scheme comprises the Lucan Formation- (Calp) dark limestone and shale, and the Tober Colleen formation- Calcareous shale, limestone conglomerate. The GSI Quaternary soils map shows the footprint of the Proposed Scheme is predominantly underlain by till derived from limestone along with areas of gravels derived from limestone, alluvial deposits and bedrock subcrop / outcrop. Urban fill is recorded from Kings Street North to the River Liffey in the City Centre.

3.3 Assessment of Effects on European Sites

110 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 any risk of the Proposed Scheme resulting in a significant effect on any European site, either alone or in combination with other plans or projects.

111 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 this Stage One Screening appraisal.

112 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*

113 The Proposed Scheme does not overlap with any European site. 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 6km downstream of the southern end of the Proposed Scheme at Ellis Quay, via the Liffey Estuary Upper. This is followed by South Dublin Bay SAC which is located approximately 6.8km downstream of the southern end of the Proposed Scheme at Ellis Quay, via the Liffey Estuary Upper. The Rye Water Valley / Carton SAC is located approximately 6.7km east of the Proposed Scheme. Therefore there is no potential for direct habitat loss and fragmentation to occur.

114 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, Rockabill SPA, Ireland's Eye SPA and Lambay Island SPA and The Murrrough). The Proposed Scheme will not result in the loss of sites suitable to support breeding gull and wintering bird species. This includes the permanent land take at Belvedere Sports Ground Cabra, as the land take is along the roadside boundary of the facility and is separated from likely foraging territory by long established buildings.

115 Therefore, there is no potential for impacts on SCI species associated with SPAs to occur as a result of habitat loss / fragmentation. Therefore, there is no potential for in combination effects to occur.

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

116 The Proposed Scheme is hydrologically connected to Dublin Bay via the River Tolka, Liffey Estuary Upper and the Royal Canal, as well as a network of interconnecting and established surface or combined sewer/surface water pipes. The general proposed construction works within the footprint of the Proposed Scheme largely include works to existing pavements and road surfaces, and proposed drainage works. The construction of the culvert extension at the Tolka Bridge (BR01), Road widening of the N3 with an extension of the existing Mill Road Bridge (BR02), and the construction of pedestrian ramps accessing the N3 from Mill Road (RW07) will include vegetation clearance, excavations, structural works, and the operation of machinery. 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.

117 Such a potential pollution event may include: the release of sediment into receiving waters and the subsequent increase in mobilised suspended solids; and, the accidental spillage and/or leaks of contaminants into receiving waters. The associated effects of a reduction of surface water quality could potentially extend for a considerable distance downstream of the location of the accidental pollution event or the discharge point and therefore impact downstream waterbodies, i.e., Dublin Bay, within which European sites are located: North Dublin Bay SAC, South Dublin Bay SAC, Howth Head SAC, Rockabill to Dalkey Island SAC, North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA and Dalkey Islands SPA. This reduction in water quality (either alone or in combination with other pressures on water quality) could result in the degradation of sensitive habitats present within these European sites, which in turn would negatively affect the SCI bird species 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. Such an occurrence, of a sufficient magnitude, either alone or in combination with other pressures on water quality, could undermine the conservation objectives of the North Dublin Bay SAC, South Dublin Bay SAC, Howth

Head SAC, Rockabill to Dalkey Island SAC, North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA and Dalkey Islands SPA are undermined.

118 In a potential 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 and Lambay Island SPA, Baldoyle Bay SPA, Ireland's Eye SPA, North Dublin Bay SPA, South Dublin Bay and River Tolka Estuary SPA, Malahide Estuary SPA, Rogerstown Estuary SPA, Howth Head Coast SPA, Dalkey Islands SPA, The Murrough 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. In a worst case scenario these potential impacts could occur to such a degree that the conservation objectives of the Skerries Islands SPA, Rockabill SPA and Lambay Island SPA, Ireland's Eye SPA, North Dublin Bay SPA, South Dublin Bay and River Tolka Estuary SPA, Baldoyle Bay SPA, Malahide Estuary SPA, Rogerstown SPA, Dalkey Islands SPA, Murrough SPA, Rockabill to Dalkey Island SAC and Lambay Island SAC are undermined.

119 As the Proposed Scheme has the potential to result in habitat degradation and effects on the qualifying/special conservation interest species of European sites as the result of hydrological impacts, there is the potential for in combination effects to occur.

3.3.3 *Habitat degradation as a result of hydrogeological impacts*

120 During surveys for the Proposed Scheme fragmentary parcels of Priority Annex I Alluvial Woodland habitat were identified on the alluvial floodplain of the River Tolka within Corduff Park, Waterville Park and in the grounds of Connolly Hospital Blanchardstown, all outside the Boundary of the Proposed Boundary. It is an *ex-situ* habitat and the nearest European sites for its presence are Knocksink Wood SAC to the South and the River Boyne and River Blackwater SAC to the north west, both of which are in different sub-catchments and for which no hydrogeological pathway is identified.

121 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 ground water 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.

122 The underlying aquifers are either Locally Important Bedrock Aquifer, Moderately Productive only in Local Zones or Poor Bedrock Aquifer, generally unproductive except in Local Zones.

123 The potential for hydrogeological impacts are highly variable depending on the nature of the proposed works at specific locations and the receiving environment ground conditions. Although none is predicted, any drawdown from excavations is expected to be limited, localised, not extending into the boundary of the pNHA site, and temporary. There is a risk of pollutants entering the groundwater as a result of spillages or accidents where mitigation measures are not implemented. Therefore, the magnitude of this impact is considered small adverse. As the importance of the *ex-situ* alluvial woodland is very high the resulting significance of the impact is moderate. The unmitigated hydrogeological Zol of the Proposed Scheme does not extend to any groundwater dependent terrestrial ecosystems linked to European sites. This Zol is determined by the professional judgement of the hydrogeology specialists.

124 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*

- 125 There are five areas of Himalayan balsam, a species listed on the Third Schedule of the (Birds and Natural Habitats) Regulations present in close proximity to, the Proposed Scheme. The desktop review returned records of seven species listed on the Third Schedule of the Birds and Natural Habitats) Regulations, in the vicinity of the Proposed Scheme. Therefore, there is potential for invasive species to spread or be introduced, during construction and/or routine maintenance / management works, to terrestrial habitat areas in European sites downstream in Dublin Bay via watercourses (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.
- 126 It is considered unlikely that invasive species could spread to European sites which are located a significant distance from the outfall locations of the Royal Canal, River Tolka and Liffey Estuary Upper (i.e. Howth Head SAC, Howth Head Coast SPA, Rockabill to Dalkey Island SAC and Dalkey Islands SPA).
- 127 As the Proposed Scheme has the potential to result in habitat degradation of the qualifying/special conservation interest species of European sites as the result of the spread of invasive species, there is the potential for in combination effects to occur in association with other activities / plans / projects.

3.3.5 *Habitat degradation as a result of Air Quality impacts*

- 128 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 a reduction in photosynthesis due to smothering from dust on the plants and chemical changes such as acidity to soils. Furthermore, emission 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.
- 129 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 the Proposed Scheme boundary during the operational phase. There are no European sites present within these distances.
- 130 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*

- 131 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 150m¹⁹. For wintering birds, disturbance effects would

¹⁹ This is consistent with Transport Infrastructure Ireland (TII) guidance (Guidelines for the Treatment of Otters prior to the Construction of National Road Schemes and Guidelines for the Treatment of Badgers prior to the Construction of National Road Schemes) documents. This is a precautionary distance, and likely to be moderated by the screening effect provided by surrounding vegetation and buildings, with the actual Zol of construction related disturbance likely to be much less in reality.

not be expected to extend beyond a distance of approximately 300m²⁰, 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.

- 132 Signs of otter were recorded during field surveys of the Proposed Scheme, on the River Tolka. Additionally, the River Tolka, River Liffey, and the Royal Canal are known to support populations of otter, an Annex II and IV mammal species. However, these populations are not considered to be associated with the QI populations of any European site. The nearest SAC to the proposed development site for which otter has been designated is Wicklow Mountains SAC which is located approximately 12km south. 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. While the Proposed Scheme is within the potential home range of male otter, the Proposed Scheme is located in a different sub-catchment to the Wicklow Mountains SAC, any otter present in the vicinity of the Proposed Scheme are not associated with QI populations of any European site.
- 133 Although marine mammals associated with European sites may commute and forage within the Liffey Estuary, it is not considered to be likely that there will be any impacts on these species as a result of the Proposed Scheme whose southern boundary is located at Ellis Quay approximately 6.7km upstream of Dublin Bay, in a highly urbanised environment. This is because of the terrestrial nature of the Proposed Scheme along urbanised transport corridor and the In addition to this, the scale of works proposed in the vicinity of the Liffey Estuary which are considered to be minor.
- 134 Signs of kingfisher were recorded during field surveys of the Proposed Scheme, on the River Tolka, and populations of kingfisher, an Annex I bird species, are known to be present in the wider study area, in particular, along the River Liffey and the River Tolka. 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 to 5km of a river catchment²¹. The nearest SPA for which kingfisher has been designated is the River Boyne and Blackwater SPA which is located approximately 28.8km away, therefore kingfisher present in the vicinity of the Proposed Scheme are not associated with an SPA population.
- 135 There are a number of SPAs which are designated for SCI species that are known to forage and / or roost at inland sites across Dublin, such as amenity grassland playing pitches (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 and Lambay Island SPA). These species included include light-bellied brent goose, lapwing, oystercatcher, blacked-headed gull, herring gull and lesser black-backed gull. Suitable inland foraging / roosting sites, which these bird species utilise, are located within the potential Zol of the Proposed Scheme (See Section 3.2.3 above). Therefore, there is potential for the Proposed Scheme to result in the disturbance/displacement of SCI bird species associated with SPA populations.
- 136 In summary therefore the Proposed Scheme has the potential to result in the disturbance / displacement of the qualifying / special conservation interest species of European sites.

3.3.7 Summary

- 137 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

²⁰ 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.

²¹ RSPB. *Kingfisher breeding, feeding and territory webpage*. Available from: <https://www.rspb.org.uk/birds-and-wildlife/wildlife-guides/bird-a-z/kingfisher/breeding-feeding-territory/>

potential to affect the conservation objectives supporting the qualifying interest/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.

138 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.

139 The potential impacts of the Proposed Scheme on the receiving environment, their Zol, and the European sites at risk of likely significant effects are summarised in Table 7. 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 7: 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 no potential for loss of <i>ex situ</i> inland feeding sites used by SCI wintering bird species.	No There are no European sites at risk of habitat loss impacts associated with the Proposed Scheme.
Habitat degradation / effects on QI / SCI species as a result of hydrological impacts Habitats and species downstream of the Proposed Scheme and the associated surface water drainage discharge points, and downstream of offsite wastewater treatment plants.	Yes There are European sites at risk of hydrological effects associated with the Proposed Scheme. North Dublin Bay SAC, South Dublin Bay SAC, Howth Head SAC, 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 and The Murrough 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 Although no non-native invasive species were recorded within the boundary of the Proposed Scheme, there are non-native invasive species present adjacent to the Proposed Scheme and, therefore, a risk associated with the Proposed Scheme to downstream European sites from the spread/introduction of non-native invasive species. North Dublin Bay SAC, South Dublin Bay SAC, North Bull Island SPA and South Dublin Bay and River Tolka Estuary SPA.
Air quality impacts	No

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?
Potentially up to 200m from the Proposed Scheme boundary.	There are no European sites at risk of air quality effects associated with the Proposed Scheme.
Disturbance and displacement impacts Potentially up to several hundred metres from the Proposed Scheme, dependent upon the predicted levels of noise, vibration and visual disturbance associated with the Proposed Scheme, taking into account the sensitivity of the qualifying interest species to disturbance effects	Yes There are no European sites within the potential 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

3.4 In- Combination Effects

140 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.

141 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; 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.

142 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.

143 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.

144 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 8 and Table 9.

Table 8: Land Use Plans and Programmes Considered for the In-Combination Assessment

National Plans
National Energy & Climate Plan 2021-2030
National Development Plan 2021-2030
Project Ireland 2040 – Building Ireland’s Future ²²
National Transport Authority Integrated Implementation Plan 2019-2024

²² Together the National Development Plan and the National Framework are referred to as Project Ireland 2040: Building Ireland’s Future

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) 2021

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

- 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

- 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

- Tallaght Town Centre Local Area Plan 2020
- Liffey Valley Town Centre Local Area Plan 2008

Dún Laoghaire- Rathdown Development Plan 2022-2028

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 9: Projects Considered for the In-Combination Assessment

Projects
<ul style="list-style-type: none"> • 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 • 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 • 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: • 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 • 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. • 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

Projects
<ul style="list-style-type: none"> • 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 wastewater 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 • Clongriffin to City Centre Core Bus Corridor Scheme • Swords to City Centre Core Bus Corridor Scheme • Ballymun / Finglas to City Centre Core Bus Corridor Scheme • Lucan to City Centre Core Bus Corridor Scheme • Liffey Valley to City Centre Core Bus Corridor Scheme
<ul style="list-style-type: none"> • Tallaght / Clondalkin to City Centre Core Bus Corridor Scheme
<ul style="list-style-type: none"> • Templeogue / Rathfarnham to City Centre Core Bus Corridor Scheme
<ul style="list-style-type: none"> • Kimmage to City Centre Core Bus Corridor Scheme
<ul style="list-style-type: none"> • Bray to City Centre Core Bus Corridor Scheme
<ul style="list-style-type: none"> • Belfield / Blackrock to City Centre Core Bus Corridor Scheme
<ul style="list-style-type: none"> • Ringsend to City Centre Core Bus Corridor Scheme
<ul style="list-style-type: none"> • Strategic Housing Developments (SHDs) <i>(Impact dependent on proximity to Proposed Scheme.)</i>
<ul style="list-style-type: none"> • Strategic Infrastructure Development (SIDs) - Park development project at the Racecourse Park
<ul style="list-style-type: none"> • Strategic Infrastructure Development (SIDs) - 2 no. 110kV transmission lines and a 110kV Gas Insulated Switchgear (GIS) substation
<ul style="list-style-type: none"> • Irish Water Projects <i>(Impact dependent on proximity to Proposed Scheme.)</i> Larger scale Irish Water infrastructure projects are described separately under major projects
<ul style="list-style-type: none"> • IW02 Blanchardstown Regional Drainage Scheme
<ul style="list-style-type: none"> • IW01 Lower Liffey Valley Regional Sewerage Scheme – Leixlip transfer pipeline and Wastewater Network Upgrade

145 There is the potential for developments listed in Table 9, or those implemented under a range of land use and other plans listed in Table 8, 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.

- 146 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.
- 147 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 6 for the Proposed Scheme (i.e. hydrological, invasive species, and disturbance and displacement effects) which could act in combination with similar effects and pathways arising from the various plans.
- 148 Therefore the potential for the following in combination effects arising from plans cannot be ruled out:
- 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, and The Murrough SPA);
 - Habitat degradation as a result of introducing / spreading non-native invasive species; and,
 - Disturbance and displacement impacts (for example *ex-situ* inland feeding sites which are utilised by SCI wintering bird species within the potential disturbance ZoI of the Proposed Scheme for 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.

4 Conclusions of Screening Assessment Process

- 149 Following an examination, analysis and evaluation of all the 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 hydrological impacts, invasive species and disturbance and displacement impacts: North Dublin Bay SAC, South Dublin Bay SAC, Howth Head SAC, Lambay Island SAC, Rockabill to Dalkey 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, Rockabill SPA, Ireland’s Eye SPA and The Murrough SPA.
- 150 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.
- 151 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 number European sites (5 no. SACs and 12no. SPAs) and consequently the preparation of a Natura Impact Statement (NIS).

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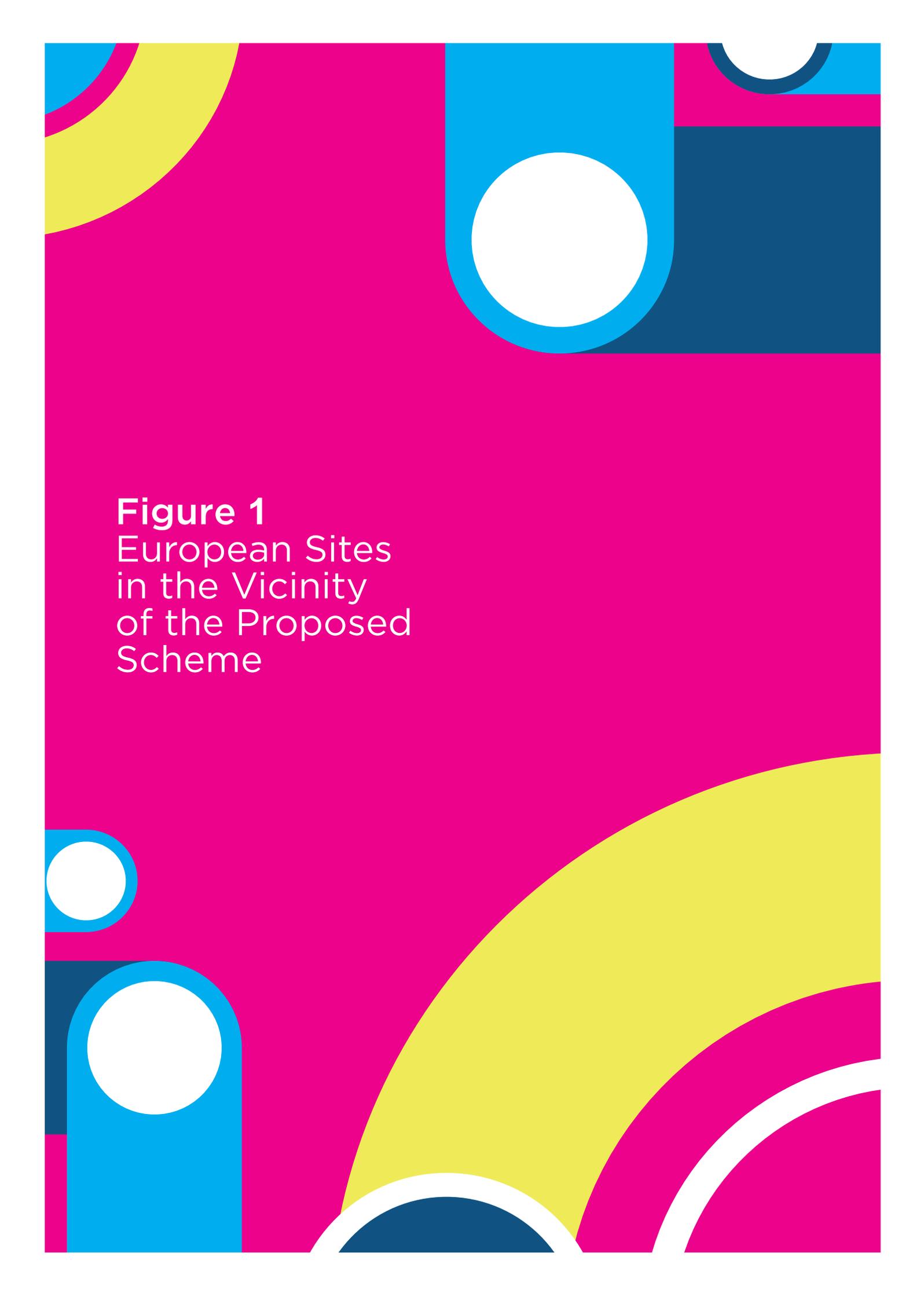
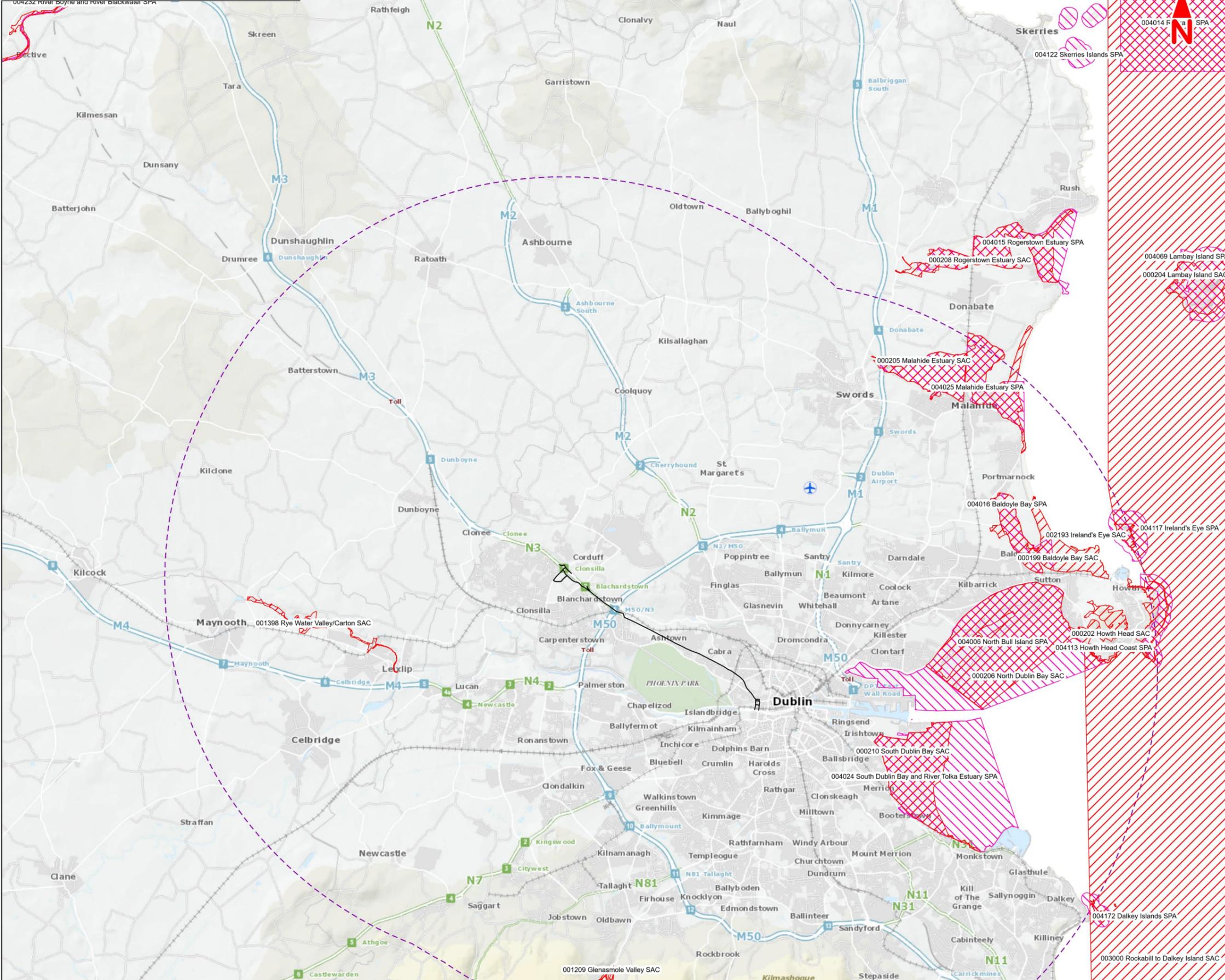


Figure 1
European Sites
in the Vicinity
of the Proposed
Scheme



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

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BAR SCALE

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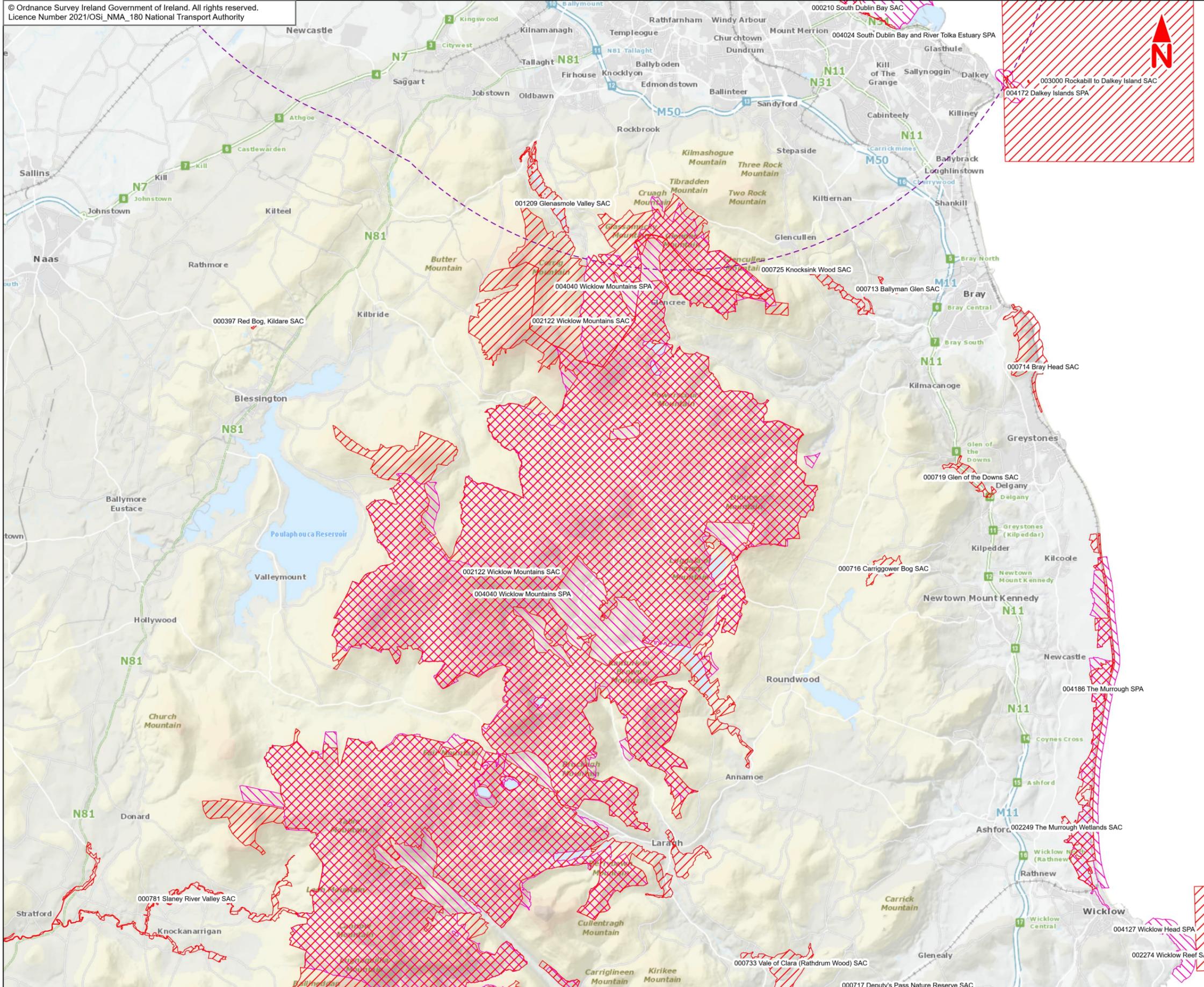
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National Transport Authority

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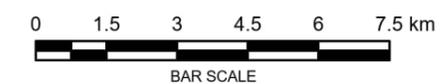
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Programme Title: BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS			
Drawing Title: Blanchardstown to City Centre Core Bus Corridor Scheme Figure 1 European sites in the Vicinity of the Proposed Scheme			
Drawing File Name: BCIDE-JAC-ENV_BD-0005_XX_00-DR-GG-2090	Sheet Number: 1 of 2	Status: A	Rev: M01



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

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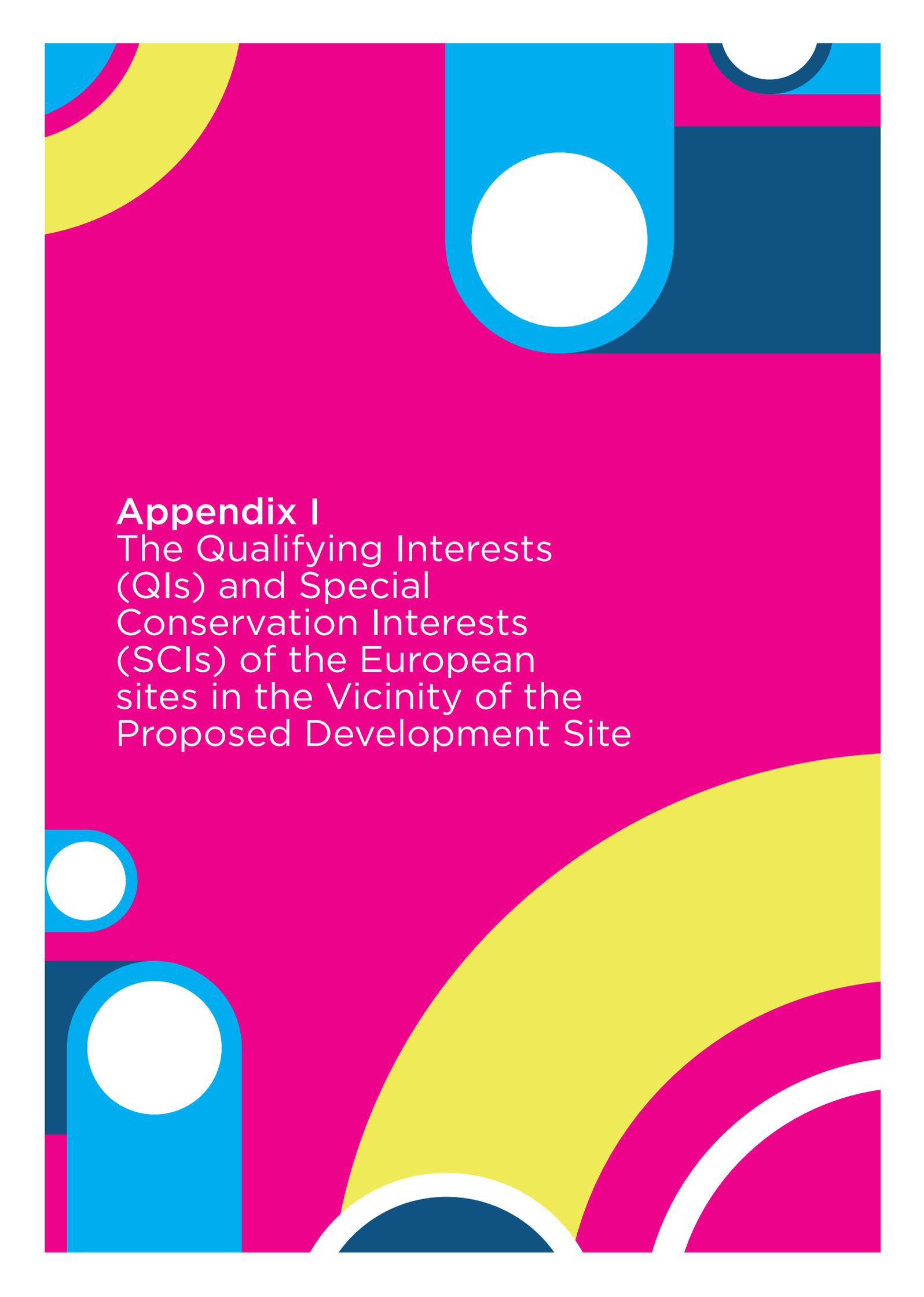
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Originator Code: JAC

Drawn: EK
Checked: PW
Approved: DK

Programme Title: **BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS**

Drawing Title: **Blanchardstown 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-0005_XX_00-DR-GG-2091	Sheet Number: 2 of 2	Status: A	Rev: M01
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Appendix I
The Qualifying Interests
(QIs) and Special
Conservation Interests
(SCIs) of the European
sites in the Vicinity of the
Proposed Development Site

Appendix I

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

European Site Name [Code] and its Qualifying Interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Scheme
Special Area of Conservation (SAC)	
<p>Rye Water Valley / Carton SAC [001398] 7220 Petrifying springs with tufa formation (Cratoneurion)* 1014 Narrow-mouthed Whorl Snail <i>Vertigo angustior</i> 1016 Desmoulin's Whorl Snail <i>Vertigo moulinsiana</i></p> <p><i>S.I. No. 494/2018 - European Union Habitats (Rye Water Valley / Carton Special Area of Conservation 001398) Regulations 2018</i> NPWS (2021) <i>Conservation objectives for Rye Water Valley / Carton SAC [001398]</i>. Version 1.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 6.65km South West of the Proposed Scheme</p>
<p>North Dublin Bay SAC [000206] 1140 Mudflats and sandflats not covered by seawater at low tide 1210 Annual vegetation of drift lines 1310 <i>Salicornia</i> and other annuals colonising mud and sand 1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) 1395 Petalwort <i>Petalophyllum ralfsii</i> 1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>) 2110 Embryonic shifting dunes 2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)* 2190 Humid dune slacks</p> <p><i>S.I. No. 524/2019 - European Union Habitats (North Dublin Bay Special Area of Conservation 000206) Regulations 2019</i> NPWS (2013) <i>Conservation Objectives: North Dublin Bay SAC 000206</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 6.03km East of the Proposed Scheme</p>
<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 (2013) <i>Conservation Objectives: South Dublin Bay SAC 000210</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 4.62km South East of 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
<p>Baldoyle Bay SAC [000199] 1140 Mudflats and sandflats not covered by seawater at low tide 1310 <i>Salicornia</i> and other annuals colonizing mud and sand 1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) 1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>)</p> <p><i>S.I. No. 472/2021 - European Union Habitats (Baldoyle Bay Special Area of Conservation 000199) Regulations 2021</i> NPWS (2012) <i>Conservation Objectives: Baldoyle Bay SAC 000199</i>. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht</p>	<p>Approximately 10.14km North -East of the Proposed Scheme</p>
<p>Malahide Estuary SAC [000205] 1140 Mudflats and sandflats not covered by seawater at low tide 1310 <i>Salicornia</i> and other annuals colonising mud and sand 1320 <i>Spartina</i> swards (<i>Spartinion maritimae</i>)²³ 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> NPWS (2013) <i>Conservation Objectives: Malahide Estuary SAC 000205</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 12.2km North East of the Proposed Scheme</p>
<p>Howth Head SAC [000202] 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts 4030 European dry heaths</p> <p><i>S.I. No. 524/2021 - European Union Habitats (Howth Head Special Area of Conservation 000202) Regulations 2021.</i> NPWS (2016) <i>Conservation Objectives: Howth Head SAC 000202</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.</p>	<p>Approximately 11.72km East of the Proposed Scheme</p>
<p>Rockabill to Dalkey Island SAC [003000] 1170 Reefs 1351 Harbour porpoise <i>Phocoena phocoena</i></p> <p><i>S.I. No. 94/2019 - European Union Habitats (Rockabill To Dalkey Island Special Area of Conservation 003000) Regulations 2019</i> NPWS (2013) <i>Conservation Objectives: Rockabill to Dalkey Island SAC 003000</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 12.19km East of the Proposed Scheme</p>

²³ 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
<p>Lambay Island SAC [000204] 1170 Reefs 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts 1364 Grey seal <i>Halichoerus grypus</i> 1365 Harbour seal <i>Phoca vitulina</i></p> <p><i>S.I. No. 294/2019 - European Union Habitats (Lambay Island Special Area of Conservation 000204) Regulations 2019</i> NPWS (2013) <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 21.28km North East of the Proposed Scheme</p>
<p>Glenasmole Valley SAC [001209] 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) 6410 <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) 7220 Petrifying springs with tufa formation (Cratoneurion)*</p> <p><i>S.I. No. 345/2021 - European Union Habitats (Glenasmole Valley Special Area of Conservation 001209) Regulations 2021</i> NPWS (2021) <i>Conservation objectives for Glenasmole Valley SAC [001209]. Version 1.0.</i> Department of Housing, Local Government and Heritage</p>	<p>Approximately 11.33km South of the Proposed Scheme</p>
<p>Wicklow Mountains SAC [002122] 3110 Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) 3160 Natural dystrophic lakes and ponds 4010 Northern Atlantic wet heaths with <i>Erica tetralix</i> 4030 European dry heaths 4060 Alpine and Boreal heaths 6130 Calaminarian grasslands of the Violetalia calaminariae 6230 Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)* 7130 Blanket bogs (* if active bog) 8110 Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani) 8210 Calcareous rocky slopes with chasmophytic vegetation 8220 Siliceous rocky slopes with chasmophytic vegetation 91A0 Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles 1355 <i>Lutra lutra</i> (Otter)</p> <p>NPWS (2017) <i>Conservation Objectives: Wicklow Mountains SAC 002122. Version 1.</i> National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.</p>	<p>Approximately 11.97km South of the Proposed Scheme</p>
<p>Special Protection Area (SPA)</p>	
<p>North Bull Island SPA [004006] A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i></p>	<p>Approximately 6.02km East of 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
<p>A048 Shelduck <i>Tadorna tadorna</i> A052 Teal <i>Anas crecca</i> A054 Pintail <i>Anas acuta</i> A056 Shoveler <i>Anas clypeata</i> A130 Oystercatcher <i>Haematopus ostralegus</i> 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 (2015) <i>Conservation Objectives: North Bull Island SPA 004006</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	
<p>South Dublin Bay and River Tolka Estuary SPA [004024] A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i> A130 Oystercatcher <i>Haematopus ostralegus</i> A137 Ringed Plover <i>Charadrius hiaticula</i> A141 Grey Plover <i>Pluvialis squatarola</i> A143 Knot <i>Calidris canutus</i> A144 Sanderling <i>Calidris alba</i> A149 Dunlin <i>Calidris alpina</i> A157 Bar-tailed Godwit <i>Limosa lapponica</i> A162 Redshank <i>Tringa totanus</i> A179 Black-headed Gull <i>Chroicocephalus ridibundus</i> A192 Roseate Tern <i>Sterna dougallii</i> A193 Common Tern <i>Sterna hirundo</i> A194 Arctic Tern <i>Sterna paradisaea</i> A999 Wetland and Waterbirds</p> <p><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> NPWS (2015) <i>Conservation Objectives: South Dublin Bay and River Tolka Estuary SPA 004024</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 2.89km East of 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
<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 (2013) <i>Conservation Objectives: Baldoyle Bay SPA 004016. Version 1.</i> National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 10.56km North East of the Proposed Scheme</p>
<p>Malahide Estuary SPA [004025] A005 Great Crested Grebe <i>Podiceps cristatus</i> A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i> A048 Shelduck <i>Tadorna tadorna</i> A054 Pintail <i>Anas acuta</i> A067 Goldeneye <i>Bucephala clangula</i> A069 Red-breasted Merganser <i>Mergus serrator</i> A130 Oystercatcher <i>Haematopus ostralegus</i> A140 Golden Plover <i>Pluvialis apricaria</i> A141 Grey Plover <i>Pluvialis squatarola</i> A143 Knot <i>Calidris canutus</i> A149 Dunlin <i>Calidris alpina</i> A156 Black-tailed Godwit <i>Limosa limosa</i> A157 Bar-tailed Godwit <i>Limosa lapponica</i> A162 Redshank <i>Tringa totanus</i> A999 Wetland and Waterbirds</p> <p><i>S.I. No. 285/2011 - European Communities (Conservation of Wild Birds (Malahide Estuary Special Protection Area 004025)) Regulations 2011.</i> NPWS (2013) <i>Conservation Objectives: Malahide Estuary SPA 004025. Version 1.</i> National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 12.2km North East of the Proposed Scheme</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 (2022) <i>Conservation objectives for Wicklow Mountains SPA [004040].</i> Generic Version 9.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 13.66km South of the Proposed Scheme</p>
<p>Ireland's Eye SPA [004117] A017 Cormorant <i>Phalacrocorax carbo</i> A184 Herring Gull <i>Larus argentatus</i></p>	<p>Approximately 14.29km East of 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
<p>A188 Kittiwake <i>Rissa tridactyla</i> A199 Guillemot <i>Uria aalge</i> 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> NPWS (2022) <i>Conservation objectives for Ireland's Eye SPA [004117].</i> Generic Version 9.0. Department of Housing, Local Government and Heritage.</p>	
<p>Rogerstown Estuary SPA [004015] 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 (2013) <i>Conservation Objectives: Rogerstown Estuary SPA 004015.</i> Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 16.54km North East of the Proposed Scheme</p>
<p>Howth Head Coast SPA [004113] A188 Kittiwake <i>Rissa tridactyla</i></p> <p><i>S.I. No. 185/2012 - European Communities (Conservation of Wild Birds (Howth Head Coast Special Protection Area 004113)) Regulations 2012.</i> NPWS (2022) <i>Conservation objectives for Howth Head Coast SPA [004113].</i> Generic Version 9.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 14.46km East of the Proposed Scheme</p>
<p>Dalkey Islands SPA [004172] A192 Roseate Tern <i>Sterna dougallii</i> A193 Common Tern <i>Sterna hirundo</i> A194 Arctic Tern <i>Sterna paradisaea</i></p> <p><i>S.I. No. 238/2010 - European Communities (Conservation of Wild Birds (Dalkey Islands Special Protection Area 004172)) Regulations 2010</i> NPWS (2022) <i>Conservation objectives for Dalkey Islands SPA [004172].</i> Generic Version 9.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 14.45km South East of the Proposed Scheme</p>
<p>Lambay Island SPA [004069] A009 Fulmar <i>Fulmarus glacialis</i> A017 Cormorant <i>Phalacrocorax carbo</i></p>	<p>Approximately 21.22km North East of 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
<p>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 (2022) <i>Conservation objectives for Lambay Island SPA [004069]. Generic Version 9.0.</i> Department of Housing, Local Government and Heritage.</p>	
<p>Skerries Islands SPA [004122] A017 Cormorant <i>Phalacrocorax carbo</i> A018 Shag <i>Phalacrocorax aristotelis</i> A046 Brent Goose <i>Branta bernicla hrota</i> A148 Purple Sandpiper <i>Calidris maritima</i> A169 Turnstone <i>Arenaria interpres</i> A184 Herring Gull <i>Larus argentatus</i></p> <p><i>S.I. No. 245/2010 - European Communities (Conservation of Wild Birds (Skerries Islands Special Protection Area 004122)) Regulations 2010.</i> NPWS (2022) <i>Conservation objectives for Skerries Islands SPA [004122]. Generic Version 9.0.</i> Department of Housing, Local Government and Heritage.</p>	<p>Approximately 26.16km North East of the Proposed Scheme</p>
<p>Rockabill SPA [004114] 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 004114)) Regulations 2012.</i> NPWS (2013) <i>Conservation objectives for Rockabill SPA [004114]. Generic Version 1.0.</i> Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 27.6km North East of 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>Approximately 31.13km South East of 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
<p><i>S.I. No. 298/2011 - European Communities (Conservation of Wild Birds (The Murrrough Special Protection Area 004186)) Regulations 2011.</i></p> <p>NPWS (2022) <i>Conservation objectives for The Murrrough SPA [004186].</i> Generic Version 9.0. Department of Housing, Local Government and Heritage.</p>	



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