

## Appendix D

### Appropriate Assessment Screening

Wicklow County Council

**Bray Sustainable Transport  
Bridge**

**Report for Screening for Appropriate  
Assessment**

RDPTB - ARUP - ZZZ - ZZZ - RP - LE - 0001

P02 | 9 July 2021

This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

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# 1 Introduction

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## 1.1 Introduction

Wicklow County Council (WCC) requires a new bridge with an associated link road over the River Dargle in Bray, County Wicklow. The bridge and road are to cater for public transportation, cyclists and pedestrians, as well as the potential future Luas Line B2 extension to Bray Station.

This report has been prepared by Arup and contains the information required for Wicklow County Council (WCC) to undertake screening for Appropriate Assessment (AA) for the proposed development.

The aims of this report are to:

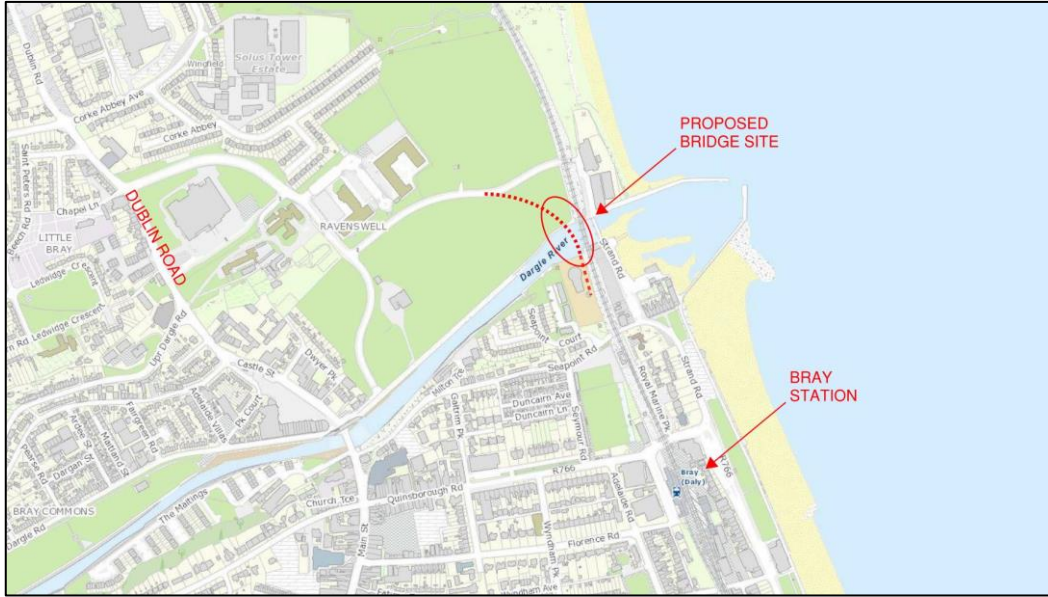
- Provide information on, and assess the potential for the proposed development to significantly impact on Natura 2000 Sites (also known as European sites);
- Determine whether the project is directly connected with, or necessary to, the conservation management of any Natura 2000 sites; and
- Determine whether the project, alone or in combination with other projects, is likely to have significant effects on Natura 2000 sites in view of their conservation objectives.

The screening information presented in this report is as follows:

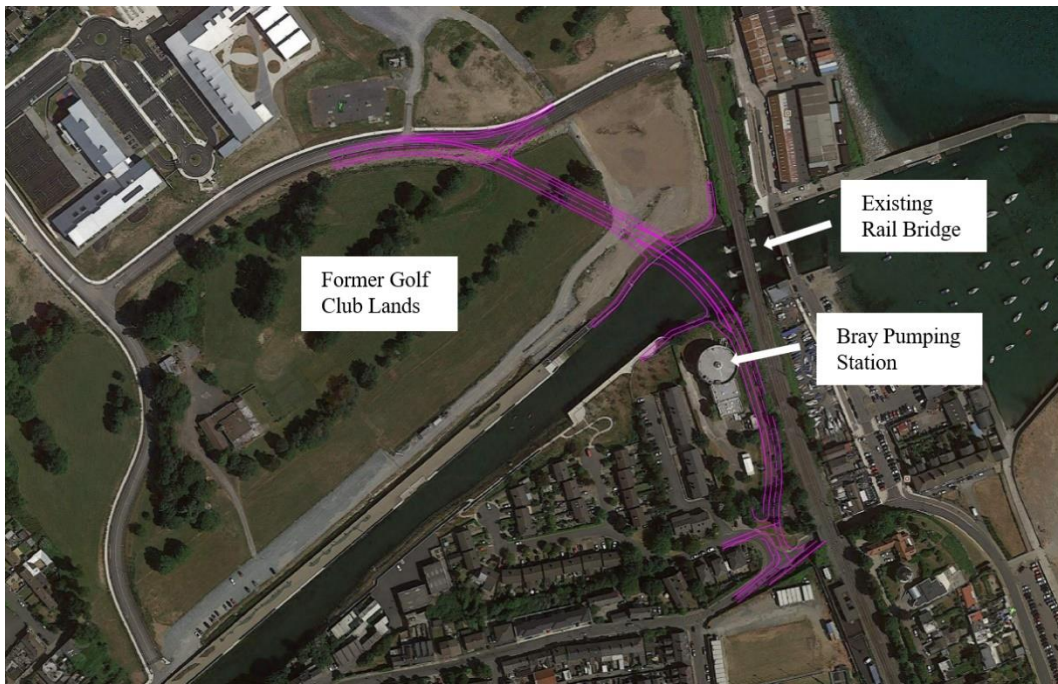
- Methodology and Legislative Background;
- Overview of the proposed development;
- Ecological Overview;
- Identification of potential impacts;
- Screening Assessment; and
- Conclusions.

The Bray Sustainable Transport Bridge is proposed to cross the River Dargle close to the existing railway bridge, providing a pedestrian, cycleway and public transport link between Dublin Road and Bray DART station.

Its associated road link will tie in to the north with Ravenswell Road, which has recently been extended to accommodate new school development in the area, and to the south with Seapoint Road. Refer to **Figure 1** and **Figure 2**. See also **Appendix A** for the relevant drawings which outline the proposed development.



**Figure 1: Site Location**



**Figure 2: Proposed Bridge Site**

## 1.2 Methodology

This section provides details on the methodology and the information gathered to inform the overall assessment process. The ecological baseline of the site and surrounding area is described in **Section 3**. The proposed development is described in **Section 2**.

This report has been prepared with regard to the following guidance documents, where relevant:

- *Managing Natura 2000 Sites: The Provision of Article 6 of the Habitats Directive 92/43/EEC* (EC Environment Directorate-General, 2018); [hereafter referred to as MN 2018];
- *Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodical Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (European Commission Environment Directorate-General, 2001);
- *Guidance Document on Article 6(4) of the Habitats Directive 92/43/EEC*. (European Commission, 2007);
- *Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities* (Department of Environment, Heritage and Local Government, 2010 revision);
- *Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities. Circular NPW 1/10 and PSSP 2/10;*
- *Guidelines for Good Practice Appropriate Assessment of Plans under Article 6(3) Habitats Directive* (International Workshop on Assessment of Plans under the Habitats Directive, 2011); and
- Communication from the Commission on the precautionary principle. European Commission (2000).

A desk study and ecological surveys were carried out. Sources of information utilised for this report and accessed during November 2019 to May 2020 include the following:

- Bing and Google aerial photography;
- BirdWatch Ireland – [www.birdwatchireland.ie](http://www.birdwatchireland.ie);
- DixonBrosnan (2020) – Ecological Impact Assessment for the proposed River Dargle Bridge, Bray, Co. Wicklow;
- EPA Online Environmental Map Viewer (Information on environmental quality data available from [www.epa.ie](http://www.epa.ie));
- Fossit (2000) A guide to Habitats in Ireland. The Heritage Council;
- Inland Fisheries Ireland (2016) Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters;
- National Biodiversity Data Centre – [www.biodiversityireland.ie](http://www.biodiversityireland.ie);
- National Parks and Wildlife Service online data on European Sites including Conservation Objectives, Site Synopses etc. ([www.npws.ie](http://www.npws.ie));
- National Parks and Wildlife Service online data on protected flora and fauna;
- National Parks and Wildlife Service (2019) – Species Conservation Assessments 2019 Volume 3;
- National Parks and Wildlife Service (2019) – Habitats Conservation Assessments 2019 Volume 2;
- Ordnance Survey of Ireland mapping and aerial photography ([www.osi.ie](http://www.osi.ie));

- Wicklow County Council *Wicklow County Development Plan 2016-2022*; and
- Wicklow County Council *Bray Municipal District Local Area Plan 2018-2024*.

Guidance which has assisted in determining whether impacts are likely to be significant include:

- *Guidelines on the Information to be Contained in Environmental Impact Statements* (Environmental Protection Agency, 2002);
- *Revised Guidelines on the Information to be contained in Environmental Impact Assessment Reports* (Draft EPA August 2017);
- *Advice Notes on Current Practice (in the preparation of Environmental Impact Statements)* (EPA, 2003);
- *Draft Advice Notes for preparing Environmental Impact Statements* (EPA September 2015); and
- *Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland: terrestrial, freshwater, coastal and marine* (Institute of Ecology and Environmental Assessment, 2018).

### 1.3 Legislative Background

According to the EU Habitats Directive (92/43/EEC) and the EU Birds Directive (79/409/EEC), Member States are required to establish a Natura 2000 network of sites of highest biodiversity importance for rare and threatened habitats and species across the EU.

In Ireland, the Natura 2000 network of European sites includes Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

SACs are selected for the conservation of Annex I habitats (including priority types which are in danger of disappearance) and Annex II species (other than birds). SPAs are selected for the conservation of Annex I birds and all migratory birds and their habitats. The Annex habitats and species, for which each site is selected, are the *qualifying interests* of the site. *Conservation objectives* for the site are defined for these qualifying interests.

A key requirement of the Directives is that the effects of any plan or project, alone, or in combination with, other plans or projects, on the Natura 2000 site network, should be assessed before any decision is made to allow that plan or project to proceed. This process is known as Appropriate Assessment (AA). The obligation to undertake an Appropriate Assessment derives from Article 6(3) and 6(4) of the Habitats Directive (92/43/EEC), and both involve a number of steps and tests that need to be applied in sequential order.

Article 6(3) is concerned with the strict protection of sites, while Article 6(4) is the procedure for allowing derogation from this strict protection in certain restricted circumstances.

Article 6(3) of the Habitats Directive states:

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

Article 6(4) states:

*“If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted. Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.”*

The competent authority, in this case Wicklow County Council, is required to carry out Appropriate Assessment, as required by Article 6(3) and 6(4) of the Habitats Directive, as follows:

- **Stage 1 - Screening for Appropriate Assessment** – to assess, in view of best scientific knowledge, if the development, individually or in combination with another plan or project is likely to have a significant effect on the Natura 2000 site.
- **Stage 2 - Appropriate Assessment** – This is required if it cannot be excluded, on the basis of objective information, that the development, individually or in combination with other plans or projects, will have a significant effect on a Natura 2000 site. The appropriate assessment must include a final determination by the competent authority as to whether or not a proposed development would adversely affect the integrity of a Natura 2000 site. In order to reach a final determination, the competent authority must undertake examination, analysis and evaluation, followed by findings, conclusions and a final determination.

The appropriate assessment must contain complete, precise and definitive findings and conclusions, and may not have lacunae or gaps.

- **Stage 3 – Assessment of alternative solutions** - the process which examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the Natura 2000 site.



- **Stage 4 - Assessment where no alternative solutions exist and where adverse impacts remain** - an assessment of compensatory measures where, in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the project or plan should proceed.

## 2 The Proposed Development

### 2.1 Overview

The proposed development comprises two parcels of land, north and south of the River Dargle. The former golf club lands form part of the northern application site and comprise a semi-greenfield site. There is also a pedestrian and cycle track running south of this greenfield site, adjacent to the north river bank wall. The proposed northern section of the link road will cross both these areas. A network of below ground services runs approximately parallel to the river bank wall in the location of the existing pedestrian and cycle track.

The River Dargle is approximately 57m wide at the location of the proposed bridge crossing. The river is tidal in this region and outlets into Bray Harbour to the east.

Bray Pumping Station is located to the south of the proposed bridge. Immediately to the west of this is a constrained corridor along which the southern part of the road link is proposed. The main Dublin-Bray railway line forms the eastern boundary of the proposed southern portion of the link road.

The existing rail bridge is located directly downstream (east) of the proposed bridge, with an existing road bridge running parallel immediately east of it. The existing road bridge links Bray Harbour to Bray town.

The proposed bridge and road link will facilitate public transportation and pedestrian/cycle movement over the River Dargle and link with the existing road network. The proposed bridge will be a bowstring arch bridge which crosses the river with a single span of 63m. The proposed bridge is illustrated in **Figure 3** and in further detail in Drawing No. RDPTB-ARUP-ZZZ-ZZZ-SK-CB-1000 in Appendix A.



**Figure 3: Proposed Bowstring Arch Bridge**

The arch itself will comprise of a fabricated steel plated box, potentially composite with a concrete infill depending on the structural demands placed on the arch. The hangers will comprise of alloy steel cables, capable of supporting the structure self-weight and imposed bridge loads.

Options for the superstructure would comprise either a steel and concrete composite deck or a fully post-tensioned concrete deck, depending on structural demand.

## 2.2 Construction

It is expected that construction will commence in Q1 2022, subject to approval. The total duration of all construction works is expected to be approximately 2 years.

Construction and sequencing details are illustrated in Drawing Nos. RDPTB-ARUP-ZZZ-ZZZ-SK-CB-1010 to RDPTB-ARUP-ZZZ-ZZZ-SK-CB-1012 and located in **Appendix A** which accompany this report. **Figure 4** provides an overview of the proposed construction arrangements.

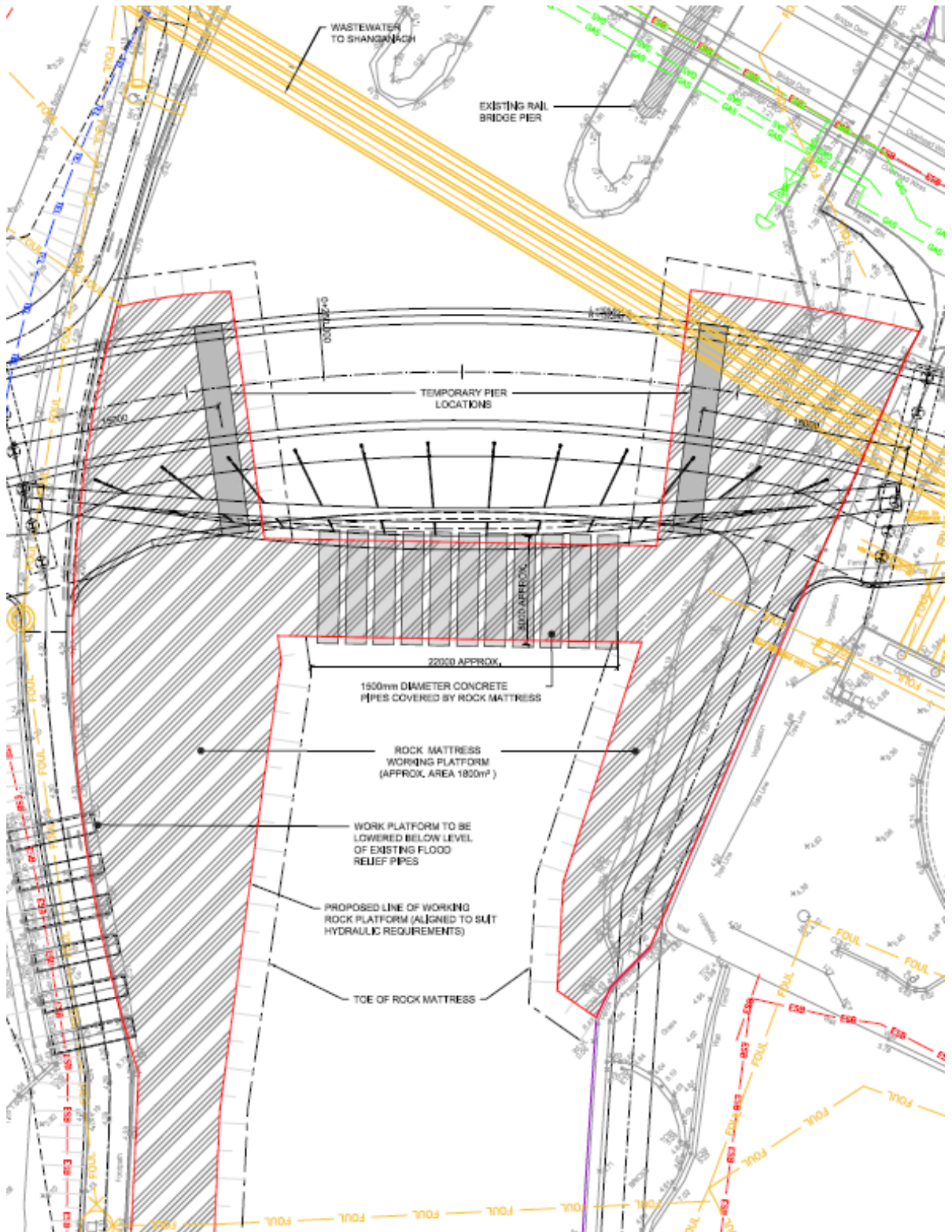
The proposed bridge will require temporary works within the waterway to allow for construction to proceed. Rock materials will be imported to infill northern and southern portions of the river bed, which will represent temporary platforms with a footprint of approximately 750m<sup>3</sup> each. These will enable end span steel girders (a type of steel beam) to be installed on both north and south banks of the river. It is estimated that the quantity of rock infill material required will be in the region of 6,000m<sup>3</sup>. The existing quay wall on the southern bank will be broken out locally, and piling will be required to enable the installation of these girders. Temporary towers will be erected to support the end spans during construction. The central span steel girder will then be installed between the two end span steel girders. Once the bridge is constructed it is proposed that the rock material and temporary towers will be removed from the river bed.

Temporary concrete pipe culverts will be laid onto the river bed between the temporary platforms to facilitate access for machinery. The detailed methodology will be agreed with Inlands Fisheries Ireland in accordance with their Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters (2016).

The following construction materials will be required for the installation of the proposed bridge:

- Concrete;
- Steel;
- Cables; and
- Expansion joints and bearings.

Approval for the works will be also sought from the OPW in accordance with Section 50 of the Arterial Drainage Act 1945.



**Figure 4: Overview of Construction Methodology**

## 3 Ecological Overview

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### 3.1 Introduction

A desk study was carried out to collate the available information on the local ecological environment. Databases maintained by the National Parks and Wildlife Service (NPWS) were consulted in relation to records of designated sites, rare plants and protected species in the vicinity of the proposed development. A habitat and flora survey was carried out on 23<sup>rd</sup> January 2020, and was extended to include a bird count, survey for otters and other protected mammals, as well as an invasive species survey. Further details of that survey are contained within the Ecological Assessment prepared by DixonBrosnan.

Information obtained from the desk study and site surveys is presented in the following sections.

### 3.2 Ecological Baseline

The land use of the proposed development area is a mixture of semi-greenfield (former golf course lands north of the River Dargle), hardstanding (i.e. the pedestrian and cycle track running adjacent to the river bank wall and area south of the River Dargle) and aquatic (i.e. the River Dargle). Please refer to **Figure 2**.

The proposed development will cross the River Dargle near Bray Harbour. The River Dargle is influenced by the tide at this location. The River Dargle flows east into Bray Harbour approximately 350m to the east of the proposed development. The wider area of the former golf course lands, to the north of the proposed development have been partially developed for a school complex.

The former golf club lands within the northern section of the proposed development site comprise semi-greenfield land. There are some mature and semi-mature trees located within this northern route of the proposed link road. A network of below ground services runs approximately parallel to the river bank wall on the northern side of the River. Bray Pumping Station is located to the south of the River, and there is an area of spoil and bare ground and some dense scrub and trees to the east of the pumping station along the southern route of the proposed link road. The railway line embankment of the main Dublin-Bray service forms the eastern boundary. The existing rail bridge is located directly downstream (east) of the proposed bridge, with an existing road bridge adjacent to that. The proposed development is also in close proximity to the Bray Town.

#### 3.2.1 Record of Protected and Invasive Species

The National Biodiversity Data Centre (NBDC) website ([www.biodiversity.ie](http://www.biodiversity.ie)) contains a mapping tool that indicates known records of legally protected species within a selected OS 1km Grid Square. The site is located within the 1km grid square O2619 and data on this square was downloaded from the website on 12 November 2019. It is noted that this list is not exhaustive, and an absence of records does not imply that species are not present within a given area.

The following protected species have been recorded in this 1km grid square – Grey Seal (*Halichoerus grypus*), European Otter (*Lutra lutra*), Daubenton's Bat (*Myotis daubentonii*), Lesser Noctule (*Nyctalus leisleri*), Pipistrelle (*Pipistrellus pipistrellus sensu lato*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), West European Hedgehog (*Erinaceus europaeus*), Artic Tern (*Sterna paradisaea*), Barn Swallow (*Hirundo rustica*), Black Guillemot (*Cepphus grylle*), Black-headed Gull (*Larus ridibundus*), Black-legged Kittiwake (*Rissa tridactyla*), Common Guillemot (*Uria aalge*), Common Kestrel (*Falco tinnunculus*), Common Kingfisher (*Alcedo atthis*), Common Linnet (*Carduelis cannabina*), Common Starling (*Sturnus vulgaris*), Common Tern (*Sterna hirundo*), Eurasian Curlew (*Numenius arquata*), Eurasian Oystercatcher (*Haematopus ostralegus*), European Shag (*Phalacrocorax aristotelis*), Great Black-backed Gull (*Larus marinus*), Great Cormorant (*Phalacrocorax carbo*), Herring Gull (*Larus argentatus*), House Martin (*Delichon urbicum*), House Sparrow (*Passer domesticus*), Lesser Black-backed Gull (*Larus fuscus*), Little Gull (*Larus minutus*), Mallard (*Anas platyrhynchos*), Mediterranean Gull (*Larus melanocephalus*), Mew Gull (*Larus canus*), Mute Swan (*Cygnus olor*), Razorbill (*Alca torda*), Red-throated Diver (*Gavia stellata*), Rock Pigeon (*Columba livia*), Sand Martin (*Riparia riparia*) and Sandwich Tern (*Sterna sandvicensis*).

The following invasive species were also recorded within this 1km grid square – Giant Hogweed (*Heracleum mantegazzianum*), Sycamore (*Acer pseudoplatanus*) and Traveller's-joy (*Clematis vitalba*).

### 3.2.2 Habitats

The habitats surrounding the proposed development were identified through a site survey in January 2020. These (according to Fossitt 2000) include scrub (WS1), scattered trees and parkland (WD5), amenity grassland (GA2), tidal river (CW2), sea walls, piers and jetties (CC1), spoil and bare ground (ED2), recolonising bare ground (ED3) and buildings and artificial surfaces (BL3). No rare species were noted on site survey.

An estimated total of seventeen trees will be removed during the construction phase of the proposed development. These include Poplar, Sycamore, Whitebeam and Lodgepole pine. One semi mature Scots Pine on the south bank will be removed. Adjacent to Seapoint Road there are four semi-mature Norway Maple and Sycamore. The trees which will be removed are semi-mature trees which have been planted in an urban setting. They do not have a natural woodland structure and have a poorly developed ground and shrub layer. These trees have limited value for nesting and roosting habitat for birds due to their size. None of the trees to be removed have the structural elements (cracks, crevices etc) that would make them suitable as bat roosts.

### 3.2.3 Fish

The River Dargle is a designated salmonid watercourse under S.I. No. 293/1988 – European Communities (Quality of Salmonid Waters) Regulations, 1988. Atlantic salmon is listed on Annex II of the EU Habitats Directive.

The River Dargle is one of Ireland's best sea trout rivers and also gets a small run of salmon (grilse). Inland Fisheries Ireland recorded four fish species at seven sites surveyed on the Dargle River Catchment in 2018 (Matson et al. 2018). Brown trout was the most abundant species captured and ranged in length from 5.6 to 21.8 cm. Salmon were recorded at three out of seven sites surveyed. Four age classes for both brown trout and salmon 0+, 1+, 2+ and 3+ were present. European eel was recorded at one site. Stone loach were also present. All sites were assigned a fish ecological status of Good.

The NBDC records 21 species of Actinopterygii fish within the O21 10km Grid Square which the proposed development lies. The Grid Square extends to the marine area and includes the Annex IV species under the EU Habitats Directive, Common Sturgeon. There are no recent records for Common Sturgeon with the most recent sighting dating back to 1966. Basking Shark, classified as a threatened species by the OSPAR convention as well as Lesser Spotted Dogfish, Smooth Hound have also been recorded here, although these are unlikely to be found in the location of the proposed development.

No spawning potential for fish was observed in proximity to the proposed development area. However a number of fish species are likely to migrate through the site including Salmon, Lamprey and European Eel. A number of estuarine species including mullet, bass and flounder are likely to occur within the estuarine section of the River Dargle.

### 3.2.4 Birds

The bird species within the proposed development area are expected to be mostly typical of garden habitats.

The following Annex I bird species have been recorded in the 1km grid square O2619 previously mentioned in Section 3.2.1 – Arctic Tern (*Sterna paradisaea*), Common Kingfisher (*Alcedo atthis*), Common Tern (*Sterna hirundo*), Mediterranean Gull (*Larus melanocephalus*), Red-throated Diver (*Gavia stellata*), Sand Martin (*Riparia riparia*) and Sandwich Tern (*Sterna sandvicensis*).

Bray Harbour has been counted as part of the Irish Wetland Bird Survey (I-WeBS) between winter of 2006/2007 and 2012/2013. No species was recorded in internationally or nationally important numbers. Gulls, including Black-headed Gull and Herring Gull, were the most commonly recorded species. Mallard, Mute Swan and Turnstone were also common. Other waterbirds such as Cormorant, Shag and Moorhen were recorded in low numbers. No wading bird species are recorded reflecting the lack of mudflat/sandflat habitat at the site.

The bird survey undertaken on 23<sup>rd</sup> January indicated that the proposed development site is of local value for terrestrial bird species that are relatively common in the Irish countryside. There are no terrestrial features or habitats of particular value, which would differentiate the proposed development site from large areas of similar habitat in the surrounding countryside. No Annex I species were recorded during the site survey.

### 3.2.5 Mammals

According to the National Biodiversity Data Centre there are records for Grey Seal (*Halichoerus grypus*), European Otter (*Lutra lutra*), Daubenton's Bat (*Myotis daubentonii*), Lesser Noctule (*Nyctalus leisleri*), Pipistrelle (*Pipistrellus pipistrellus sensu lato*), Soprano Pipistrelle (*Pipistrellus pygmaeus*) and West European Hegehog (*Erinaceus europaeus*) in the 1km grid square O2619.

In the 10km grid square O21, there are also records for Bottle-nosed Dolphin (*Tursiops truncatus*), Common Porpoise (*Phocoena phocoena*), Common Seal (*Phoca vitulina*), Risso's Dolphin (*Grampus griseus*), American Mink (*Mustela vison*), Brown Long-eared Bat (*Plecotus auritus*), Brown Rat (*Rattus norvegicus*), Eastern Grey Squirrel (*Sciurus carolinensis*), Eurasian Badger (*Meles meles*), Eurasian Pygmy Shrew (*Sorex minutus*), Eurasian Red Squirrel (*Sciurus vulgaris*), European Rabbit (*Oryctolagus cuniculus*), Fallow Deer (*Dama dama*), Feral Goat (*Capra hircus*), House Mouse (*Mus musculus*), Irish Hare (*Lepus timidus subsp. hibernicus*), Irish Stoat (*Mustela erminea subsp. hibernica*), Natterer's Bat (*Myotis nattereri*), Pine Marten (*Martes martes*), Red Deer (*Cervus elaphus*), Red Fox (*Vulpes vulpes*), Sika Deer (*Cervus nippon*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Whiskered Bat (*Myotis mystacinus*), Wild Boar (*Sus scrofa*) and Wood Mouse (*Apodemus sylvaticus*).

## 3.3 Zone of Influence

The zone of influence comprises the area within which the proposed development may potentially affect the conservation objectives or qualifying interests (QI) of a Natura 2000 site. There is no recommended zone of influence, and guidance from the NPWS recommends that the distance should be evaluated on a case-by-case basis with reference to the nature, size and location of the project, and the sensitivities of the ecological receptors, and the potential for in-combination effects (cumulative).

In ecological and environmental impact assessment, for an impact to occur there must be a risk enabled by having a source (e.g. construction works at a proposed development site), a 'receptor' (e.g. an ecologically sensitive feature), and a pathway between the source and the receptor (e.g. a watercourse which connects the proposed development site to sensitive feature).

Natura 2000 sites (European sites) are only at risk from significant effects where a source-pathway-receptor link exists between a proposed development and a Natura 2000 site(s). This can take the form of a direct impact (e.g. where the proposed development and/or associated construction works are located within the boundary of the Natura 2000 site(s)) or an indirect impact where impacts outside of the Natura 2000 site(s) affect ecological receptors within (e.g. impacts to water quality which can affect riparian habitats at a distance from the impact source).

The purpose of this Appropriate Assessment screening is to assess, in view of best scientific knowledge, if the development, individually or in combination with other plans or projects is likely to have a significant effect on a Natura 2000 site.



In determining whether a significant effect is likely to occur, consideration must be had to the source-pathway-receptor linkage and associated risks between the proposed development and Natura 2000 sites. For a significant effect to occur there needs to be a risk associated with pollutant linkages whereby a source (i.e. contaminant or pollutant arising from construction activities) affects a particular receptor (i.e. Natura 2000 site) through a particular pathway (e.g. a watercourse which connects the proposed development with the Natura 2000 site). Consideration must also be given to mobile species which are a qualifying interest in a Natura 2000 site that may utilise the proposed development site, e.g. for foraging purposes.

The identification of risk does not automatically mean that an effect will occur, nor that it will be significant. The identification of these risks means that there is a possibility of environmental or ecological damage occurring. The level and significance of the effect depends upon the nature of the consequence, likelihood of the risk and characteristics of the receptor.

The precautionary principle is applied for the purposes of screening to ensure that consideration and pre-emptive action is undertaken where there is a lack of scientific evidence.

As a general rule of thumb, it is often considered appropriate to examine all European sites within 15km as a starting point. In some instances, where there are hydrological connections, a whole river catchment or a marine area or a groundwater aquifer may need to be included.

Natura 2000 sites were examined against the potential zone of influence of the proposed development in terms of source-pathway-receptor linkage and associated risks order to determine which sites may experience potential impacts.

Given the limited footprint of the proposed development, its existence in an urbanised area and low level of predicted emissions, it was considered that the zone of influence of the works would not extend beyond 10km. (Refer to **Figure 5**). This zone of influence was chosen to include the South Dublin Bay and River Tolka SPA and the South Dublin Bay SAC as it is hydrologically linked to the proposed development via the Irish Sea. It is not considered that any other ecological corridors exist in the area surrounding the proposed development given its heavily urbanised nature.

Section 3.3.1 and 3.3.2 identifies the Qualifying Interests (QIs) and Conservation Objectives within the SPA and SAC sites within the zone of influence. Section 3.3.3 identifies the NHA/pNHAs within the zone of influence in order to check for a direct source-pathway-receptor link of significance between these areas, the proposed development site and Natura 2000 sites.

### **3.3.1 Special Protection Areas within the Zone of Influence or located within 10km of the proposed development**

A list of the SPA sites within 10km of the study area is outlined in **Table 1** and shown on **Figure 5**. There are no SPAs within the site boundary or within 5km of the proposed development.

**Table 1: SPA sites within Zone of Influence and the features of interest / 10km**

Site Name	Site Code	Distance from closest section of proposed development (km) (as the crow flies)	Qualifying Interests (Bird Species)	Conservation Objectives
Dalkey Islands SPA	004172	6.8km	Roseate Tern ( <i>Sterna dougallii</i> ) [A192] Common Tern ( <i>Sterna hirundo</i> ) [A193] Arctic Tern ( <i>Sterna paradisaea</i> ) [A194]	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.
Wicklow Mountains SPA	004040	8.4km	Merlin ( <i>Falco columbarius</i> ) [A098] Peregrine ( <i>Falco peregrinus</i> ) [A103]	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.
South Dublin Bay and River Tolka Estuary SPA	004024	10.2km	Light-bellied Brent Goose ( <i>Branta bernicla hrota</i> ) [A046] Oystercatcher ( <i>Haematopus ostralegus</i> ) [A130] Ringed Plover ( <i>Charadrius hiaticula</i> ) [A137] Grey Plover ( <i>Pluvialis squatarola</i> ) [A141] Knot ( <i>Calidris canutus</i> ) [A143] Sanderling ( <i>Calidris alba</i> ) [A144] Dunlin ( <i>Calidris alpina</i> ) [A149] Bar-tailed Godwit ( <i>Limosa lapponica</i> ) [A157] Redshank ( <i>Tringa totanus</i> ) [A162] Black-headed Gull ( <i>Chroicocephalus ridibundus</i> ) [A179] Roseate Tern ( <i>Sterna dougallii</i> ) [A192] Common Tern ( <i>Sterna hirundo</i> ) [A193] Arctic Tern ( <i>Sterna paradisaea</i> ) [A194] Wetland and Waterbirds [A999]	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.

The NBDC online database of the 10km Grid Square O21, within which the proposed development is located shows records of QI species Peregrine Falcon, Arctic Tern, Common Tern, Dunlin, Merlin, Black-headed Gull and Redshank.

Irish Wetland Bird Surveys within Bray Harbour between 2006 and 2013 have recorded low numbers of QI species Oystercatcher, Common Tern and Light-bellied Brent Goose in the area.

Therefore there is the potential for these species to visit and forage at the site of the proposed development.

Black-headed Gull was also recorded at the site during site visit in January.

### 3.3.2 Special Areas of Conservation within the Zone of Influence or located within 10km of the proposed development

A list of the SAC sites within 10km of the study area is outlined in **Table 2** and shown on **Figure 5**. The Bray Head SAC is the closest Natura 2000 site to the proposed development.

The Rockabill to Dalkey Island SAC has one mobile QI species:

- Harbour Porpoise (*Phocoena phocoena*).

The Wicklow Mountains SAC has one mobile QI species:

- Otter (*Lutra lutra*).

There is the potential for these mobile species to visit and forage at the site of the proposed development.

**Table 2: SAC sites within Zone of Influence and the features of interest / 10km**

Site Name	Site Code	Distance from closest section of proposed development (km) (as the crow flies)	Qualifying Interests	Conservation Objectives
Bray Head SAC	000714	1.6km	Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] European dry heaths [4030]	To maintain the favourable conservation condition of [1230]. To restore the favourable conservation condition of [4030].
Ballyman Glen SAC	000713	2.6km	Petrifying springs with tufa formation ( <i>Cratoneurion</i> ) [7220] Alkaline fens [7230]	To restore the favourable conservation condition of [7220] and [7230].
Rockabill to Dalkey Island SAC	003000	4.4km	Reefs [1170] Harbour Porpoise ( <i>Phocoena phocoena</i> ) [1351]	To maintain the favourable conservation condition of [1170] and [1351].
Knocksink Wood SAC	000725	4.7km	Petrifying springs with tufa formation ( <i>Cratoneurion</i> ) [7220] Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> ( <i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i> ) [91E0]	To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected [7220] and [91E0].
Glen of the Downs SAC	000719	7.3km	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0].	To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected [91A0].
Wicklow Mountains SAC	002122	7.9km	Oligotrophic waters containing very few minerals of sandy plains ( <i>Littorelletalia uniflorae</i> ) [3110] Natural dystrophic lakes and ponds [3160]	To maintain or restore the favourable conservation condition of the Annex I

Site Name	Site Code	Distance from closest section of proposed development (km) (as the crow flies)	Qualifying Interests	Conservation Objectives
			<p>Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010]  European dry heaths [4030]  Alpine and Boreal heaths [4060]  Calaminarian grasslands of the <i>Violetalia calaminariae</i> [6130]  Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230]  Blanket bogs (* if active bog) [7130]  Siliceous scree of the montane to snow levels (<i>Androsacetalia alpinae</i> and <i>Galeopsietalia ladani</i>) [8110]  Calcareous rocky slopes with chasmophytic vegetation [8210]  Siliceous rocky slopes with chasmophytic vegetation [8220]  Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0]  <i>Lutra lutra</i> (Otter) [1355]</p>	habitat(s) and/or the Annex II species for which the SAC has been selected.
South Dublin Bay SAC	000210	10.2km	<p>Mudflats and sandflats not covered by seawater at low tide [1140]  Annual vegetation of drift lines [1210]  <i>Salicornia</i> and other annuals colonising mud and sand [1310]  Embryonic shifting dunes [2110]</p>	To maintain the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.

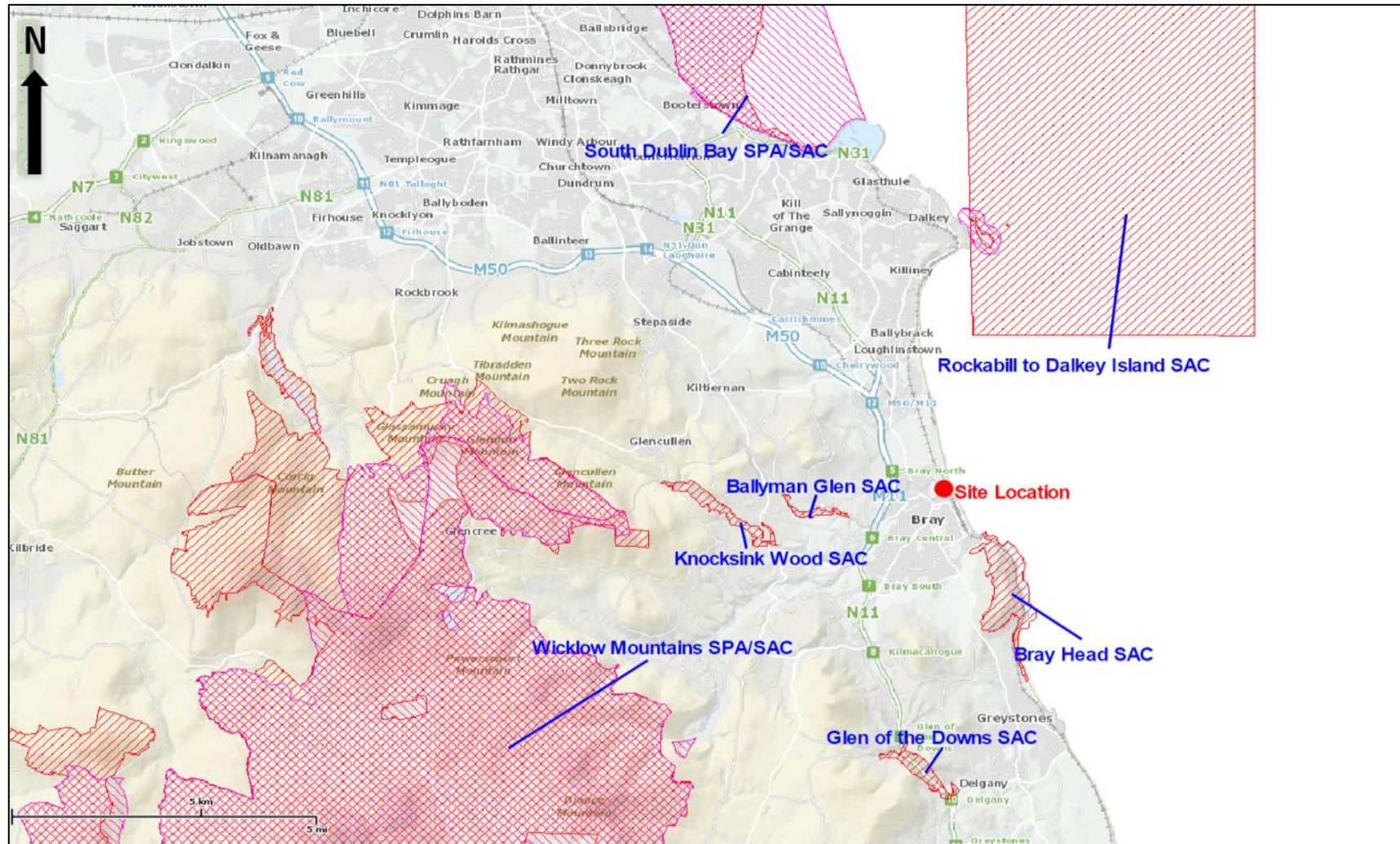


Figure 5: Natura 2000 sites in the vicinity of the proposed development (Source: NPWS)

### 3.3.3 Natural Heritage Areas/proposed Natural Heritage Areas within the Zone of Influence or located within 10km of the proposed development

No Natural Heritage Areas exist within 10km of the study area.

A number of proposed Natural Heritage Areas (pNHAs) exist within 10km of the study area. Some of these have also been designated as SACs as per **Table 3** and include the following:

None of the pNHA sites listed below are considered to be of relevance to the proposed development due to their distance from, and lack of connectivity with the proposed development and due to the nature of the proposed development.

**Table 3: pNHAs within 10km of the Site**

Site Name	Site Code	Distance from closest section of proposed development (km) (as the crow flies)
Bray Head pNHA	000714	1.6km
Ballyman Glen pNHA	000713	2.6km
Dargle River Valley pNHA	001754	3.5km
Loughlinstown Woods pNHA	001211	3.9km
Dalkey Coastal Zone and Killiney pNHA	001206	6km
Knocksink Wood pNHA	000725	4.7km
Powerscourt Woodland pNHA	001768	4.9km
Great Sugar Loaf pNHA	001769	4.9km
Kilmacanoge Marsh	000724	5.1km
Dingle Glen pNHA	001207	5.9km
Ballybetagh Bog pNHA	001202	6.3km
Glen of the Downs pNHA	000719	7.2km
Glencree Valley pNHA	001755	7.9km

No direct source-pathway-receptor link of significance between the area of the proposed development and NHA or pNHA has been identified.



## 4 Identification of Potential Impacts

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The purpose of this section of the screening assessment is to examine the possibility that the proposed works, either individually or in combination with other plans and projects, may result in significant negative effects on the Conservation Objectives of any Natura 2000 site and its qualifying interest (QI).

The potential impacts on Natura 2000 sites or their QIs resulting from the proposed development include:

- Impacts on water quality and soils due to accidental spillages/pollution events during the construction phase.
- Loss of habitat during the construction and operational phase.
- Impacts from habitat disturbance during the construction and operational phase.
- Indirect impacts to QI species.

The proposed development is not within nor adjacent to any Natura 2000, therefore no direct impacts will occur through land take or fragmentation of habitats.

### 4.1 Emissions to Water and Soils

Construction works will take place within the river itself and adjacent to it. Temporary platforms will be constructed on both sides of the river bed and culvert pipes will be temporarily laid across the width of the river. Construction within the waterway will be undertaken in accordance with appropriate guidance and will ensure that upstream and downstream movement of fish and aquatic life will be unhindered.

During construction, there is potential for marine water quality impacts within the river as a result of sediment runoff or accidental spillage of fuels, oils, chemicals or other substances from the construction area. There is also potential for limited run-off and siltation as a result of the construction of the temporary platforms and laying of culvert pipes, as well as during their removal. These effects will be temporary and the volumes will be relatively low, taking into consideration the dilution factor of the wider marine receiving environment. Bray Harbour is subject to large diurnal tidal flows carrying substantial volumes of sediment. Disturbed sediment would disperse quickly. As such any spillages would be quickly diluted. Therefore, it is not expected that there will be a significant effect on water quality as a result of the proposed development.

In addition, the distance between the proposed development site and the nearest hydrologically connected Natura 2000 site is sufficient to conclude that significant impacts to such sites will not occur.

Once operational, the proposed development will tie into the existing drainage network and it is not anticipated that there will be potential for water quality impacts at that stage.

There is potential for minor pollution of soils during construction from polluting substances such as hydrocarbons, but the construction footprint is constrained and any emissions would be confined to the immediate area of the works. In addition it is anticipated that the amount of construction machinery to be present at the site at any given time will be kept to a minimum and no refuelling will occur at the site.

It is not anticipated that ground emissions will occur as a result of the operation of the development.

## 4.2 Habitat Loss

The proposals involve a limited amount of land take. Land take within the river bed will be temporary and the provision of culvert pipes will ensure the passage of aquatic species such as salmon and lamprey. There will be limited land take associated with the proposed development. The habitat that will be lost is commonly available and low value semi-natural. There are seven trees to be lost as a result of the proposals, which have been identified as having limited value for nesting and roosting habitat for birds.

Irish Wetland Survey data do not indicate that the proposed development area and/or the wider harbour is of very high value for more specialised bird species such as waders which are more susceptible to such disturbance. The lack of mudflat/sandflat habitat at the site would also indicate that it is not highly valuable to wading birds.

No signs of otter were recorded along the tidal sections of the River Dargle within the proposed development site, although aquatic habitats within it could potentially provide suitable feeding habitat for this species.

No valuable habitat for cetacean species such as porpoises were identified within the proposed development site.

## 4.3 Habitat Disturbance

Noise and vibration generated during the construction would be mainly from construction traffic and activities associated with the proposals. Noise emissions will be temporary and short-term and construction activities will occur in daylight hours. Aquatic fauna such as fish, seals, cetaceans and birds etc. are already accustomed to a certain level of disturbance along the river channel at this location due to the existing traffic noise, construction and urban nature of the area.

Increased traffic and noise associated with both the construction works and the operational development could potentially increase levels of disturbance.

Noise, disturbance and lighting levels that will be in existence at the proposed development site during operation will be similar to the existing surrounding environment. Birds and mammals are anticipated to habituate to the increased activity within the area.

## 4.4 Indirect Impacts

Possible indirect impacts have the potential to arise from impacts as identified above, which may result in alteration of foraging habitat, potentially reducing the availability and abundance of prey items.

Examples include the potential for bird species associated with SPAs within the zone of influence to be indirectly impacted through reduced availability and abundance of prey items occurring as a result of impacts identified above. Similarly impacts to QIs of the SACs within the zone of influence could be indirectly impacted through disturbances within ecological pathways or impacts to prey of QI species.

Indirect impacts through habitat or species fragmentation is also not likely to occur owing to the localised nature and small scale of the proposed works, as well as the urbanised nature of the surrounding environment.

## 4.5 Cumulative and In-Combination Effects

The Wicklow County Council Development Plan and Wicklow County Council online planning records for the area were consulted in May 2020.

There are no other major proposed projects in the vicinity of the proposed development with which the proposed development will interact and which could result in cumulative impacts upon any Natura 2000 site.

## 5 Screening Assessment

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### 5.1 Designated Sites of Relevance

The analysis of Natura 2000 ‘receptors’, the potential impacts ‘sources’ and potential ‘pathways’ (mobile species dependent on the proposed development site, or ecological connections) has led to the identification of the following Natura 2000 sites/QIs with potential to be impacted by the proposed development.

- Dalkey Islands SPA, Wicklow Mountain SPA and South Dublin Bay and River Tolka Estuary SPA
- Rockabill to Dalkey Island SAC  
Harbour Porpoise (*Phocoena phocoena*)
- Wicklow Mountains SAC  
Otter (*Lutra lutra*)

### 5.2 Impacts on SPAs

There are no SPA sites within 5km of proposed development. The nearest SPA site (Dalkey Islands SPA) is approximately 6.8km from the proposed development.

The sections of scrub, trees and hedgerow which will be affected have potential to provide suitable nesting and feeding resources for common bird species. The vegetation has been planted in an urban setting and does not have a natural woodland structure with a poorly developed ground and shrub layer. These trees have limited value for nesting and roosting habitat for birds due to their size.

The river bed is used for foraging and roosting for birds but these species are already habituated to disturbance, given the existing level of development and activity in the immediate surrounds. No mudflat/sandflat habitat, which would have potential for wading birds, was recorded at the site.

During the construction stage, there may be short-term increases in disturbance but it will not be significant in the context of existing noise levels.

No habitats which could potentially be of high value as feeding habitats for the Qualifying Interest (QI) bird species listed in Table 1 occur within the proposed development area. Desktop and site surveys do not indicate that the proposed development and/or the wider harbour is of very high value for more specialised bird species such as waders which are more susceptible to impacts.

Overall, the habitats to be affected are common and no rare or uncommon habitats or floral species will be directly affected, therefore no direct impacts are expected to occur on SPAs within the zone of influence.

Water quality/siltation impacts in the harbour during construction are predicted to be temporary, short term and restricted to the footprint of the works.

This, in combination with the lack of evidence of valuable feeding potential within the proposed development site leads to the conclusion that there will be no indirect impacts on SPAs within the zone of influence of the proposed development.

## 5.3 Impacts on SACs

None of the SAC sites are located within or near to the proposed development. The nearest SAC site (Bray Head SAC) is approximately 1.6km from the proposed development. Given the small scale of the proposals and their distance from the SACs, there are no predicted impacts on the QI habitats identified in Table 2.

Two mobile QI species occur within the SACs in the zone of influence for the proposed development. The Harbour Porpoise within the Rockabill to Dalkey Island SAC (4.4km) and Otter within the Wicklow Mountains SAC (7.9km). These species have a wide foraging range which could theoretically extend as far as the proposed development and must be considered further.

### 5.3.1 Harbour Porpoise

The Harbour Porpoises may travel sporadically from the SAC to Bray Harbour, and NBDC online database for the 10km Grid Square for the proposed development contains records of them in the wider area. These cetacean species could potentially occur sporadically in the marine waters around Bray Harbour downstream of the proposed development site, but there no valuable habitat has been identified for these species within the proposed development site. Any Harbour Porpoises in this area will be accustomed to a certain level of disturbance due to marine traffic and human presence in the harbour.

Construction of the bridge will be temporary and short term and will not significantly affect porpoises and their prey in the harbour in terms of disturbance given that there is no shortage of similar habitat in the surrounding area. Noise and vibration activities such as piling will be kept to a minimum and restricted to daylight hours. The impacts to water quality potentially arising from siltation are considered to be low considering the dilution and dispersal effect of the receiving coastal environment. Therefore, it is concluded that significant effects on Harbour Porpoises and thus the Rockabill to Dalkey Island SAC will not arise.

### 5.3.2 Otter

It is likely that the proposed development area is frequented by otters. Otters can hold large territory ranges that can span river catchments. Due to their high mobility, otters associated with the Wicklow Mountains SAC could hold a territory within the River Dargle area. The NBDC online database for the 10km Grid Square for the proposed development contains records of them in the wider area. Site survey revealed no signs of otter and no evidence (spraints/footprints) of otter and no potential couches or holts were recorded.

It is noted that otters are largely nocturnal, particularly in areas subject to high levels of disturbance as evidenced by the presence of the species in the centre of Cork and Limerick City. Thus, otters are able to adapt to increased noise and activity levels such as those that will occur predominantly in the short term due to construction, and to a lesser extent during operation of the proposed development.

Aquatic habitats within the proposed development site could potentially provide suitable feeding habitat for otter, however these do not represent critical resources given the availability of alternative habitat and the limited extent of land take proposed. It is noted that the development is limited in scale and within an existing built up area and that otters readily adapt to short-term increases in noise and disturbance.

Reduction in water quality is a potential threat to the otter population if there is an impact on fish populations, which in turn could have a negative impact in terms of food availability for otters. However, impacts to water quality potentially arising from the proposed development are considered to be low considering the dilution and dispersal effect of the receiving coastal environment. Therefore, it is concluded that significant effects on otters and thus the Wicklow Mountains SAC will not arise.

## 5.4 Assessment of Significance

The proposed development will not result in any significant direct, indirect or cumulative impacts on Natura 2000 sites. The following points explain why the proposed development will have no significant impact on Natura 2000 sites and their Qualifying Interest species.

- There are no Natura 2000 sites located within or near the proposed development. The nearest designated sites are Bray Head SAC (1.6km) and Dalkey Islands SPA (6.8km).
- There will be no loss of valuable nesting, foraging or breeding habitats for any QI species from nearby Natura 2000 sites.
- Mobile QI species within the Rockabill to Dalkey Island SAC that may frequent the proposed development site will be accustomed to a certain level of disturbance due to marine traffic and human presence in the harbour and there is no shortage of alternative habitats in the surrounding area.
- Mobile QI species within the Wicklow Mountains SAC that may frequent the proposed development site readily adapt to short-term increases in noise and disturbance.
- There will be no significant impacts on water quality during construction. Water quality impacts in the harbour during construction are predicted to be temporary, short term and restricted to the footprint of the works. Siltation effects will be low considering the dilution and dispersal effect of the receiving coastal environment.

## 6 Conclusions

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The aims of this report were as follows:

- Provide information on and assess the potential for the proposed development to significantly impact on Natura 2000 sites.
- Determine whether the proposed development is directly connected with, or necessary to the conservation management of any Natura 2000 sites.
- Determine whether the proposed development, alone or in combination with other projects, is likely to have significant effects on Natura 2000 sites in view of their conservation objectives.

It has been objectively concluded by Arup that:

- The location of the proposed development is not within or adjacent to any Natura 2000 sites.
- There is no potential for the proposed development to significantly impact on Natura 2000 Sites.
- The proposed development is not directly connected with, or necessary to the conservation management of any Natura 2000 sites.
- The proposed development, alone or in combination with other projects, is not likely to have significant effects on Natura 2000 sites in view of their conservation objectives.

It has been determined by Arup that it is possible to rule out likely significant impacts on any Natura 2000 sites. It is the view of Arup that it is not necessary to undertake any further stage of the Appropriate Assessment process.

Refer to **Appendix B** *Finding of No Significant Effects Report*.

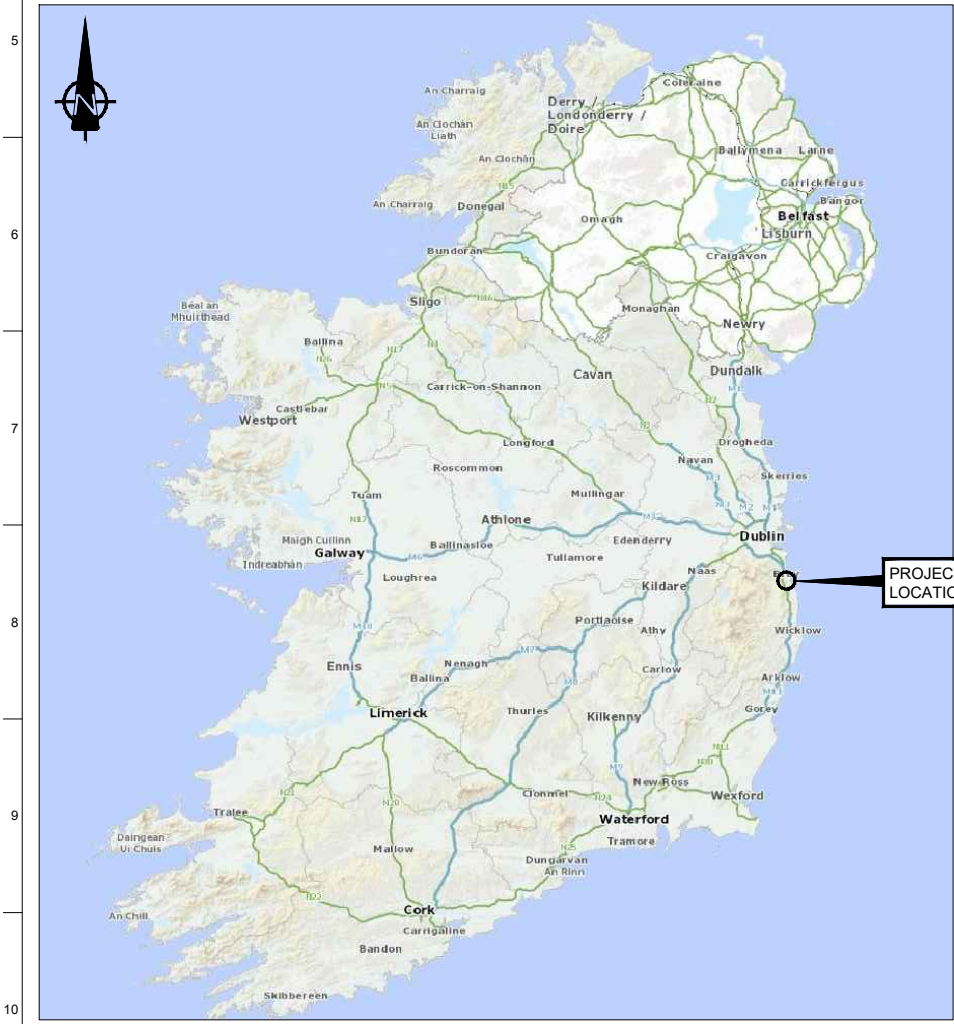
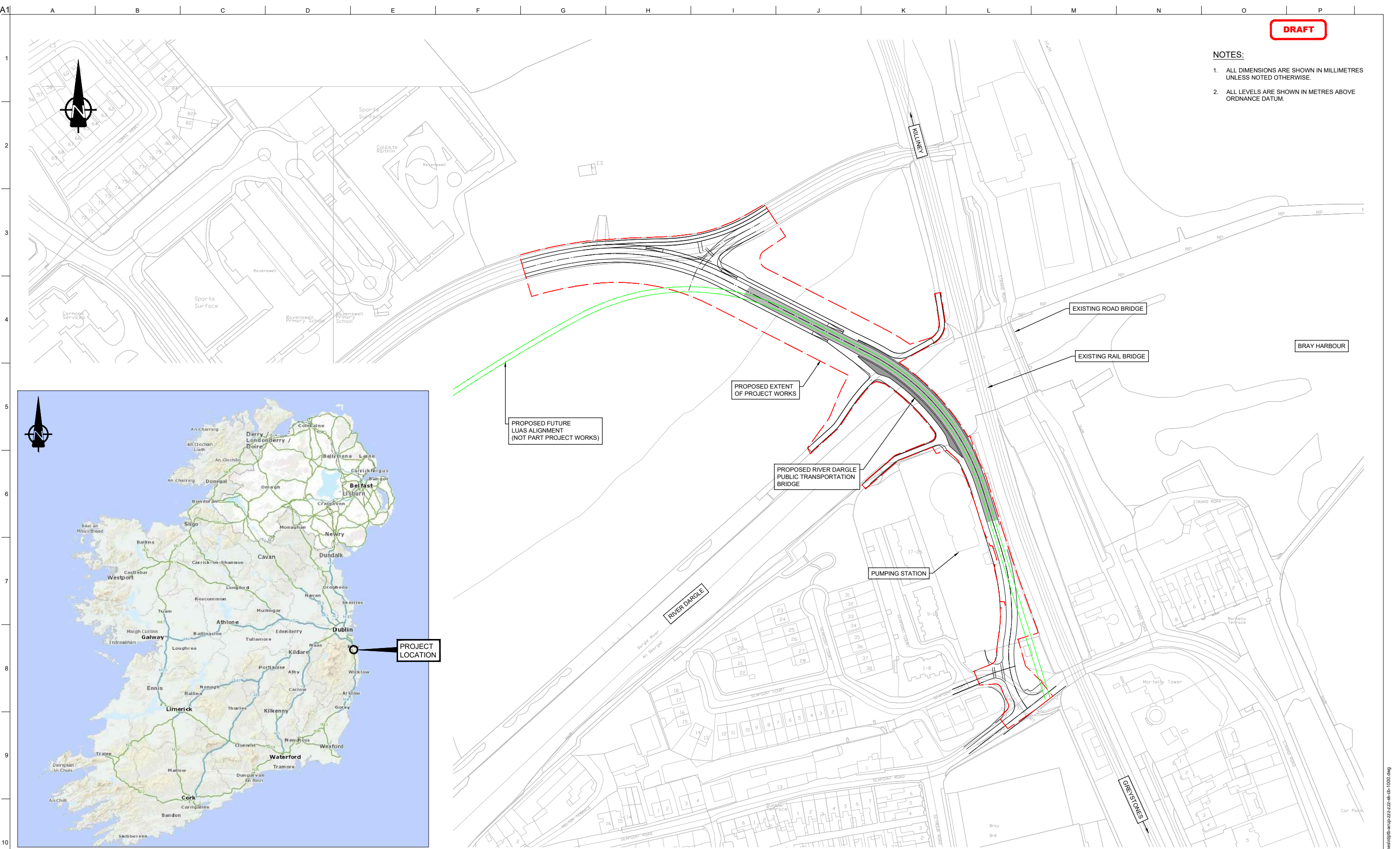
## Appendix A

### Drawings Showing Proposed Development



DRAFT

- NOTES:**
1. ALL DIMENSIONS ARE SHOWN IN MILLIMETRES UNLESS NOTED OTHERWISE.
  2. ALL LEVELS ARE SHOWN IN METRES ABOVE ORDNANCE DATUM.



**MAP OF IRELAND**  
SCALE N.T.S

**PLAN ON PROPOSED BRIDGE LOCATION**  
SCALE 1:1000

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No.	Date	By	Amendment / Issue	App
P01	01/05/20	CG	ISSUED FOR REVIEW AND COMMENT	MS

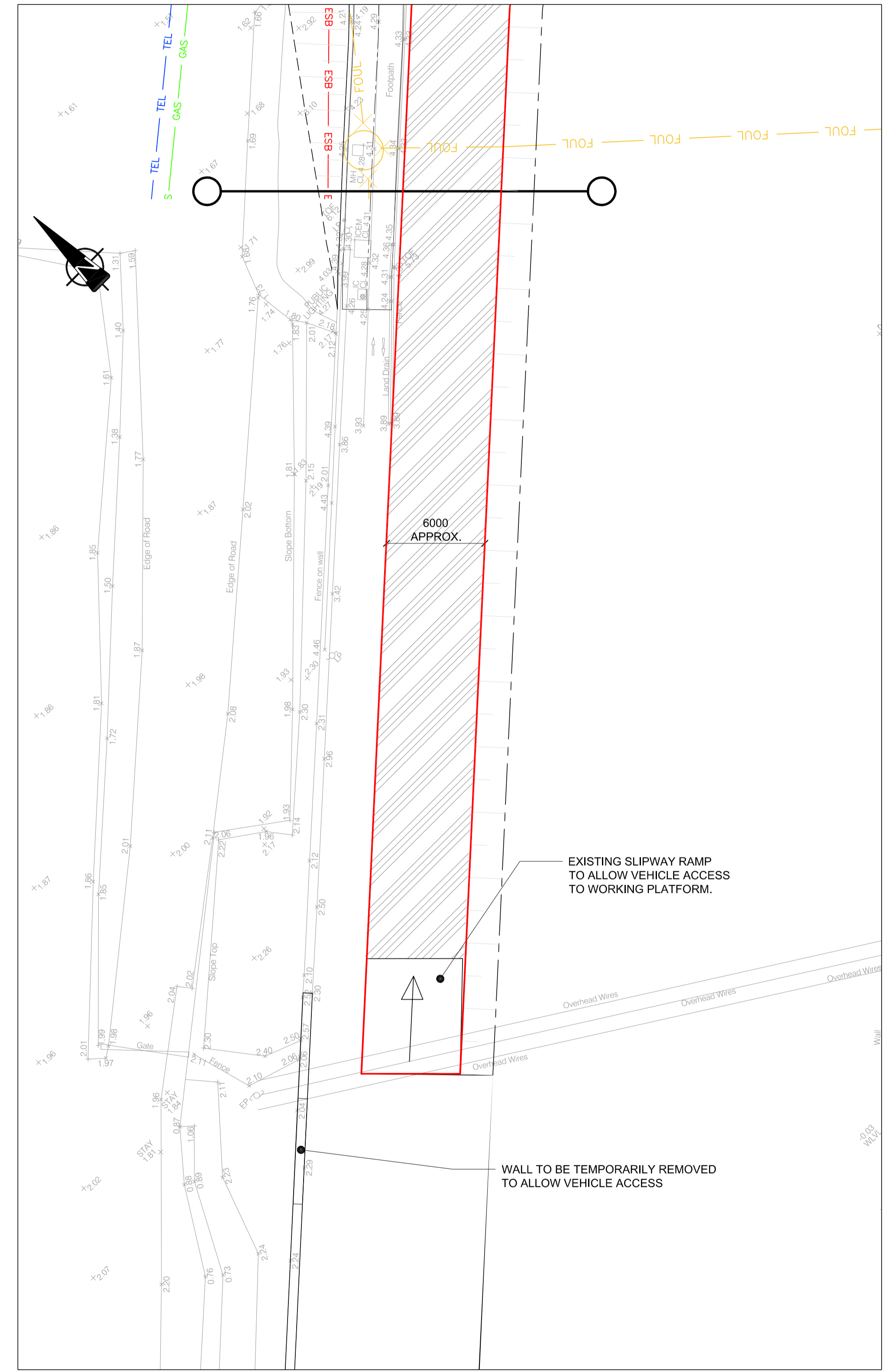
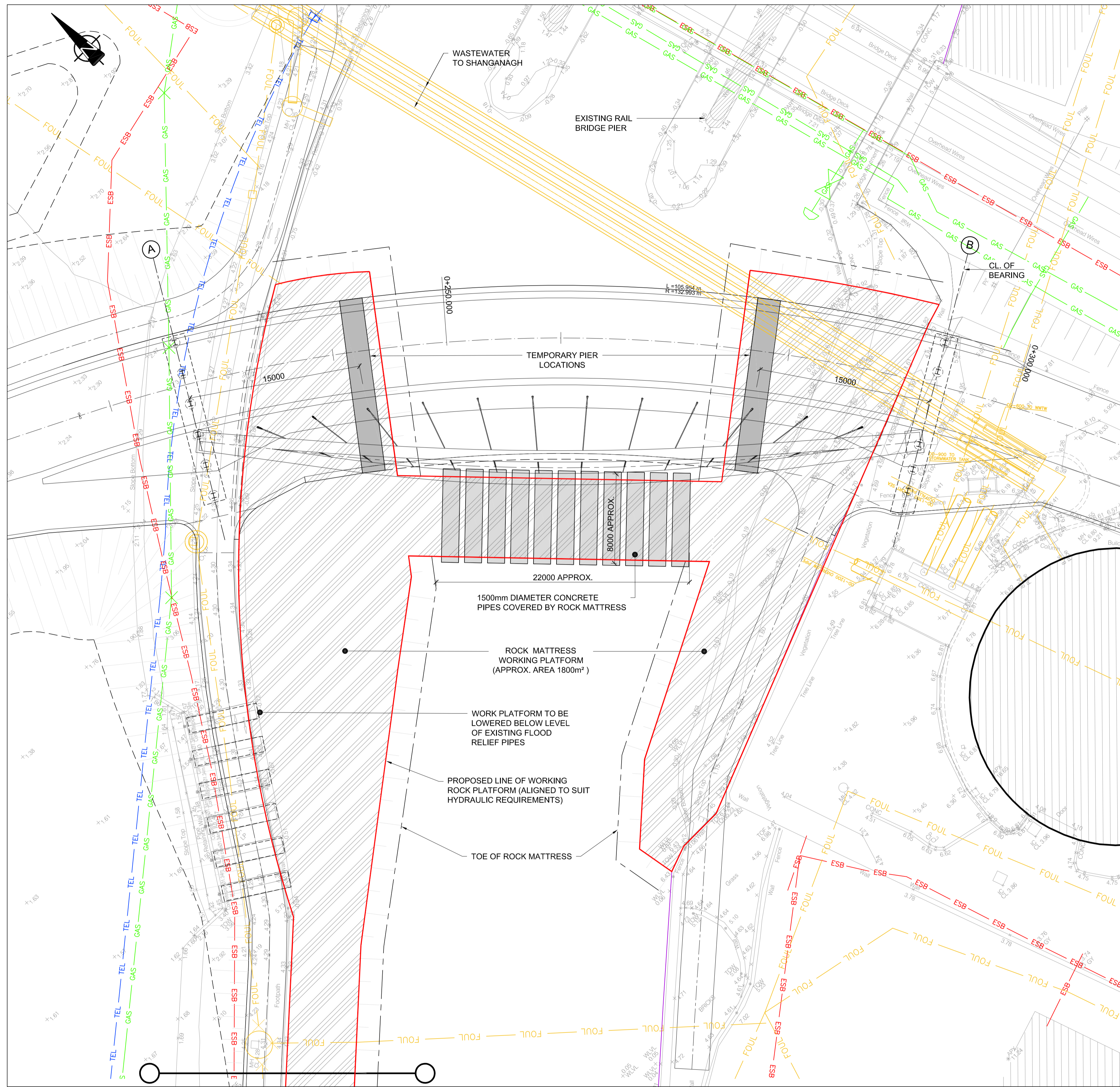


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Drawn: PD	Project: RIVER DARGLE PUBLIC TRANSPORTATION BRIDGE
Checked: CG	Title: BRIDGE SITE LOCATION PLAN
Approved: MS	Drg. No.: RDPTB-ARUP-ZZZ-ZZZ-SK-CB-1000
Date: 20.03.20	Rev: P01
Scale: AS SHOWN @ A1	
Status: S3	
Job No.: 268095	

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- NOTES:**
1. ALL DIMENSIONS ARE SHOWN IN MILLIMETRES UNLESS NOTED OTHERWISE.
  2. ALL LEVELS ARE SHOWN IN METRES ABOVE ORDNANCE DATUM.
  3. ESTIMATED CLEARANCE TO ESB LINES APPROX 8M TO BE CONFIRMED.



**PLAN ON PROPOSED CONSTRUCTION SEQUENCE LAYOUT**  
SCALE 1:200

**PLAN ON PROPOSED CONSTRUCTION SEQUENCE LAYOUT - CONTINUED**  
SCALE 1:200

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No.	Date	By/For	Amendment / Issue	App

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Drawn: PD	Project: RIVER DARGLE PUBLIC TRANSPORTATION BRIDGE
Checked: AR	Title: BRIDGE CONSTRUCTION SEQUENCE SHEET 1
Approved: MS	
Date: 14.04.20	
Status: AS SHOWN @ A1	
Job No: 268095	

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## **Appendix B**

### **Findings of No Significant Effects Report**

## **B1 Finding of No Significant Effects Report**

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### **Name of Project:**

Bray Sustainable Transport Bridge

### **Names of Natura 2000 Sites of relevance to the proposed scheme:**

Rockabill to Dalkey Island SAC – Site Code 003000. The Rockabill to Dalkey Island SAC is considered to be of relevance in this report due to the potential use of the proposed development site by a mobile species which is a QI.

Wicklow Mountains SAC – Site Code 002122. The Wicklow Mountains SAC is considered to be of relevance in this report due to the potential use of the proposed development site by a mobile species which is a QI.

### **Is the project or plan directly connected with or necessary to the management of the site?**

No

### **Are there other projects or plans that together with the project or plan being assessed could affect the site?**

No

## **THE ASSESSMENT OF SIGNIFICANCE OF EFFECTS**

### **Describe how the project or plan (alone or in combination) is likely to affect the Natura 2000 site.**

It has been determined by Arup that it is possible to rule out likely significant impacts on any Natura 2000 sites.

### **Explain why these effects are not considered significant.**

- There are no Natura 2000 sites located within or near the proposed development. The nearest designated sites are Bray Head SAC (1.6km) and Dalkey Islands SPA (6.8km).
- There will be no loss of valuable nesting, foraging or breeding habitats for any QI species from nearby Natura 2000 sites.
- Mobile QI species within the Rockabill to Dalkey Island SAC that may frequent the proposed development site will be accustomed to a certain level of disturbance due to marine traffic and human presence in the harbour and there is no shortage of alternative habitats in the surrounding area.
- Mobile QI species within the Wicklow Mountains SAC that may frequent the proposed development site readily adapt to short-term increases in noise and disturbance.
- There will be no significant impacts on water quality during construction. Water quality impacts in the harbour during construction are predicted to be temporary, short term and restricted to the footprint of the works.

Siltation effects will be low considering the dilution and dispersal effect of the receiving coastal environment.

### **List of Agencies consulted**

It is anticipated that the National Parks and Wildlife Service will be consulted by Wicklow County Council as part of the application process.

### **DATA COLLECTED TO CARRY OUT THE ASSESSMENT**

#### **Who carried out the assessment?**

The assessment was carried out by the Arup in house ecologist.

#### **Sources of Data -**

Sources of data included:

- Bing and Google aerial photography;
- BirdWatch Ireland – [www.birdwatchireland.ie](http://www.birdwatchireland.ie);
- DixonBrosnan (2020) – Ecological Impact Assessment for the proposed River Dargle Bridge, Bray, Co. Wicklow;
- EPA Online Environmental Map Viewer (Information on environmental quality data available from [www.epa.ie](http://www.epa.ie));
- Fossit (2000) A guide to Habitats in Ireland. The Heritage Council;
- Inland Fisheries Ireland (2016) Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters;
- National Biodiversity Data Centre – [www.biodiversityireland.ie](http://www.biodiversityireland.ie);
- National Parks and Wildlife Service online data on European Sites including Conservation Objectives, Site Synopses etc. ([www.npws.ie](http://www.npws.ie));
- National Parks and Wildlife Service online data on protected flora and fauna;
- National Parks and Wildlife Service (2019) – Species Conservation Assessments 2019 Volume 3;
- National Parks and Wildlife Service (2019) – Habitats Conservation Assessments 2019 Volume 2;
- Ordnance Survey of Ireland mapping and aerial photography ([www.osi.ie](http://www.osi.ie));
- Wicklow County Council *Wicklow County Development Plan 2016-2022*; and
- Wicklow County Council *Bray Municipal District Local Area Plan 2018-2024*.

### **OVERALL CONCLUSIONS**

Based on the information provided above, and by applying the precautionary principle, it has been determined by Arup that it is possible to rule out likely significant impacts on any Natura 2000 sites and therefore it is the view of Arup that it is not necessary to undertake any further stage of the Appropriate Assessment process.