

ENVIRONMENTAL IMPACT ASSESSMENT SCREENING REPORT

TURVEY AVENUE ENHANCEMENT, DONABATE, CO.

DUBLIN

FINGAL COUNTY COUNCIL

PROJECT NO. F463

JUNE 2019



OCSC

O'CONNOR | SUTTON | CRONIN

Multidisciplinary
Consulting Engineers



EIA Screening Report

Turvey Avenue Enhancement

Donabate, Co. Dublin

For

Fingal County Council.



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NOTICE

This document represents the findings from an Environmental Impact Assessment Screening conducted at the above referenced site. Best practice was followed at all times and within the limitations stated. This document has been produced by O'Connor Sutton Cronin & Associates for its client Fingal County Council.

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1. INTRODUCTION

1.1 Project Contractual Basis & Parties Involved

This report has been prepared by O'Connor Sutton Cronin & Associates Ltd. (OCSC) at the request of their Client Fingal County Council. A footpath enhancement scheme has been proposed for a section of Turvey Avenue and include the following:

- Providing a footpath of minimum width 2.0m on the northern side of Turvey Avenue. This section of the footpath will run between Turvey Drive and a previous upgrade scheme to the East of the study area; and
- Re-surfacing of the carriageway for the extent of the works.

Land take is required on the north side of the road. The Regulating Authority for the site is Fingal County Council.

The report was completed by Eleanor Burke who is the OCSC Environmental Division Manager. The Project Director is Brian O'Rourke CEng, Chartered Engineer and Director with OCSC.

1.2 Site Location

The site is located on Turvey Avenue which connects the R132 to the R126 in Donabate, Co. Dublin. It runs from the Turvey Drive junction for 120m in an east to west direction towards the town of Donabate. The site is in an urban location which is surrounded by agricultural land. The site is immediately northeast of Newbridge Demense, south of Rogerstown Estuary SAC and SPA and north of the Malahide Estuary SAC and SPA.

The closest surface water feature is the Turvey River located approximately 680m south of the site which flows into the Malahide Estuary.

The regional site location is illustrated in Figure 1.1.

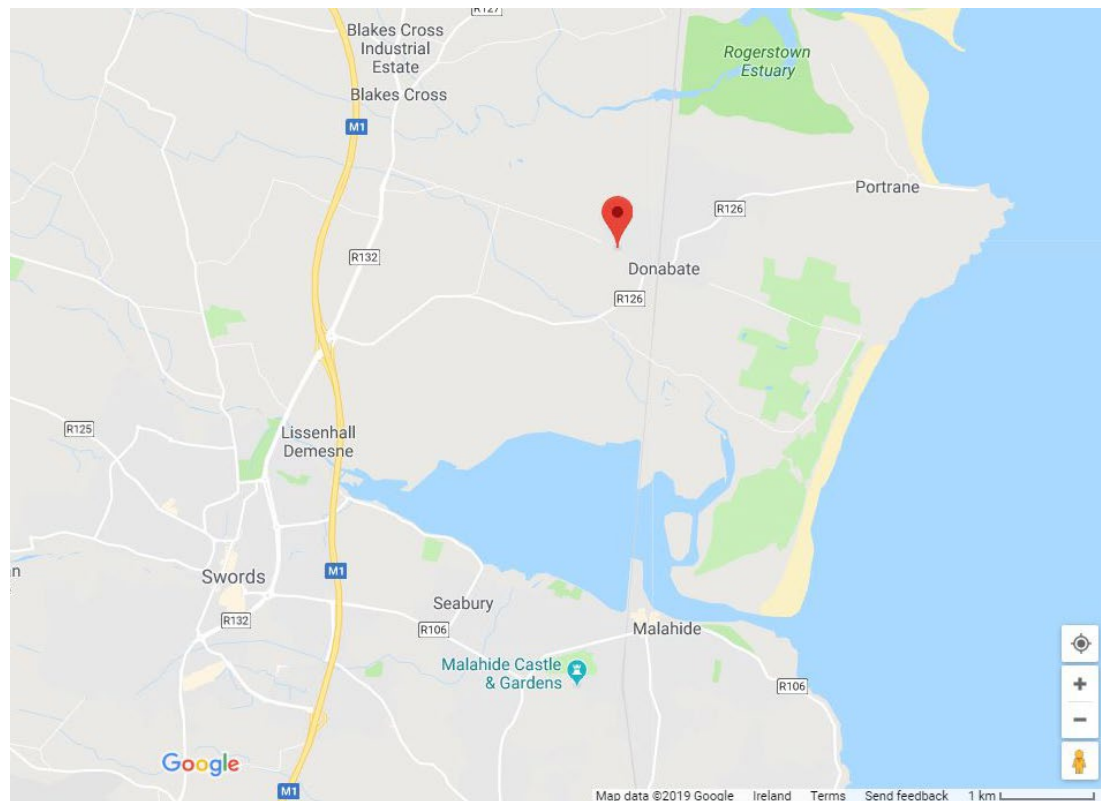


Figure 1.1 Regional Site Location

The Ordnance Survey of Ireland (OSI) Easting Northing coordinates for the centre of the road site are 722445, 750051.

1.3 Project Description

This EIA Screening report has been prepared for the proposed project which the Turvey Road Enhancement project. An Engineering Options report by O'Connor Sutton Cronin (OCSC) identified a preferred solution to remedy this issue which include the following:

- Providing a footpath of minimum width 2.0m on the northern side of Turvey Avenue. This section of the footpath will run between Turvey Drive and a previous upgrade scheme to the East of the study area; and
- Re-surfacing of the carriageway for the extent of the works.

The location of the subject site is shown in Figure 1.1.

1.3.1 Provision of Footpath

As part of the construction of footpaths the following will take place:

- All walls and blockages in the way of the planned footpath location will be demolished or removed to make way for the paths. Demolished walls will be replaced with new walls;
- Any road signage along the roadside of the proposed footpath will be removed and stored for placement after completion of the footpath; and
- An ESB pole located along the roadside of the proposed footpath will be moved back.

1.3.1 Road Surface Works

As part of the road surface works the following will take place:

- Cold milling will take place on the road surface in sections;
- The installation of new covers, frames and gulleys; and
- A new road surface will be laid.

The Regulating Authority for the site is Fingal County Council.

Documents referred to as part of this assessment include:

- Screening Report in support of the Appropriate Assessment of the Turvey Avenue Enhancement, Donabate, Co. Dublin (Date May 2019) Environmental Impact Services (EIS)
- Turvey Avenue Enhancement Options Report OCSC F463-OCSC-XX-XX-RP-C-0002-S2-P04
- Outline Construction Environmental Management Plan May 2019 OCSC F463-OCSC-XX-XX-RP-C-0004-S2-P01

The local site location is visible on Figure 1.2 below.



Figure 1.2 Site Location

1.4 Project Objectives

The overall project objectives include:

- a description of the physical characteristics of the whole project;
- a description of the location of the project, with particular regard to the environmental sensitivity of geographical areas likely to be affected;
- description of the aspects of the environment likely to be significantly affected by the project; and
- A description of any likely significant effects, to the extent of the information available on such effects, of the project on the environment resulting from: a) the expected residues and emissions and the production of waste, where relevant; b) the use of natural resources, in particular soil, land, water and biodiversity.

1.5 Methodology and Approach

The methodology and approach used in the preparation of this report will follow:

- Guidelines on the Information to be contained in Environmental Impact Assessment Reports, Irish Environmental Protection Agency, Draft Edition, August 2017.
- European Commission (2015) Environmental Impact Assessment – EIA, Over, Legal Context
- European Union EIA Directive (85/337/EEC) and its amendments in 1997, 2003 and 2009;
- Directive 2014/52/eu of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment;
- Planning and Development Act 2000 (as amended);

- Planning and Development Regulations 2001 (as amended);
- Directive 2014/52/EU;
- Transposition of 2014 EIA Directive (2014/52/EU) in the Land Use Planning and EPA Licensing Systems – Key Issues Consultation Paper (2017; DoHPCLG);
- Preparation of guidance documents for the implementation of EIA directive (Directive 2011/92/EU as amended by 2014/52/EU) – Annex I to the Final Report (COWI, Milieu; April 2017)
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (August 2018)
- Environmental Impact Assessment – Guidance for Consent Authorities regarding Sub-threshold Development (2003; DoEHLG)

Using the above documents it has been possible to carry out a desktop EIAR Screening using the best available guidance and operating within the applicable legislation. The methodology employed in this screening exercise updates previous guidance in line with the new Directive 2014/52/EU.

1.6 Scope of Works

To meet the project objectives the following scope of works were completed:

- Present a discussion of the current site status and key environmental influences around the site;
- Undertake and present a historical site and area review, primarily referring to old Ordnance Survey Maps but utilising other sources as appropriate and readily available;
- Present a discussion of the general soil and groundwater conditions within the topographical and area context;
- Present an overview if any significant negative environmental impacts can arise from the proposed project.

1.7 Limitations

This Environmental Impact Assessment Screening Report has been prepared for the sole use of Fingal County Council (“the Client”). No other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by OCSC.

This assessment is based on a review of available historical information, environmental records, consultations, relevant guidance information and reports from third parties. All information received has been taken in good faith as being true and representative.

This report has been prepared in line with best industry standards. The methodology adopted and the sources of information used by OCSC in providing its services are outlined in this Report. The assessment undertaken by OCSC and described was undertaken in May 2019 and is based on the information available during that period. The scope of this Report and the services are accordingly factually limited by these circumstances.

OCSC disclaim any undertaking or obligation to advise any person of any change in any matter affecting the Report, which may come or be brought to OCSC’s attention after the date of the Report.

The conclusions presented in this report represent OCSC’s best professional judgement based on review of the relevant information available at the time of writing. The opinions and conclusions presented are valid only to the extent that the information provided was accurate and complete.

2. EIA SCREENING PROCESS

2.1 Introduction

This section of the report discusses the legislative basis for screening so as to decide whether or not the proposed project requires an Environmental Impact Assessment Report (EIAR) to be prepared. It also sets out the project in terms of planning context.

2.2 EIA Applicable Legislations

Across the European Union, The Environmental Impact Assessment (EIA) Directive 85/337/EEC is in force since 1985 and applies to a wide range of defined public and private projects, which are defined in Annexes I (Mandatory EIA) and II (Screening-Discretion of Member States) of the directive. The EIA Directive of 1985 has been amended three times, 97/11/EC, 2003/35/EC and 2009/31/EC. These amended directives have been coded and replaced by Directive 2011/92/EU of the European Parliament and Council on the assessment of the effects of certain public and private projects on the environment (and as amended by Directive 2014/52/EU). Directive 2014/52/EU have been transposed recently in 2018 in Irish law under the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (SI 296 of 2018).

2.3 Mandatory EIAR Review

Annex I of the European Communities (EIA) Directive lists the activities for which a mandatory EIA is required. The proposed project is not listed in Annex I and hence it is not mandatory for an EIA to be carried out.

The Proposed road enhancement is also not on the mandatory list of road projects requiring mandatory EIA as outlined in Section 50 of the Roads Act, 1993 (as amended) and in Article 8 of the Roads Regulations, 1994. The list of road projects requiring mandatory EIA is listed below in Table 2.1.

Table 2.1 Roads projects requiring mandatory EIA

| Mandatory Threshold | Reference |
|--|--|
| Construction of a Motorway | S. 50(1)(a) of the Roads Act, 1993, as substituted by S. 9(1)(d)(i) of the Roads Act, 2007 |
| Construction of a Busway | S. 50(1)(a) of the Roads Act, 1993, as substituted by S. 9(1)(d)(i) of the Roads Act, 2007 |
| Construction of a Service Area | S. 50(1)(a) of the Roads Act, 1993, as substituted by S. 9(1)(d)(i) of the Roads Act, 2007 |
| Prescribed type of proposed road development <ol style="list-style-type: none"> 1. The construction of a new road of four or more lanes, or the realignment or widening of an existing road so as to provide four or more lanes, where such new, realigned or widened road would be eight kilometres or more in length in a rural area, or 500 metres or more in length in an urban area 2. The construction of a new bridge or tunnel which would be 100 metres or more in length | Article 8 of the Roads Regulations, 1994 (Road development prescribed for the purposes of S. 50(1)(a) of the Roads Act, 1993 |

Annex II of the Directive lists the activities for which each member state is permitted to exercise discretion to decide whether an EIA is necessary. The project is also not listed specifically on Annex II.

Sub-threshold EIS (123A.) 2, of the Planning and Development Regulations 2001 – 2015.

(g) a place or site which has been included by the Minister for Arts, Heritage and the Gaeltacht in a list 151 of proposed Natural Heritage Areas published on the National Parks and Wildlife Service website, the State authority shall, in determining whether the development would or would not be likely to have significant effects on the environment, have regard to the likely significant effects of the development on such site, area, land, place or feature as appropriate.

Where a project is listed on Annex II or is a development that is not exempted, the national authorities of the member state have to decide whether an EIA is needed for a proposed project. This is done by the "screening procedure", which determines the effects of projects on the basis of thresholds/criteria or a case by case examination. Annex III of the Directive outlines the specific criteria that must be taken into account when a sub-threshold project is being examined for Environmental Impact Assessment. The screening procedure investigates whether the project has significant negative impact on the environment using different criteria including:

- Characterisation of the proposed development
- Location of proposed development
- Type and Characteristics of the potential impact

The relevant information to be provided Information for the Purposes of Screening Sub-threshold Development for Environmental Impact Assessment include:

1. A description of the proposed development, including in particular—
 - (a) a description of the physical characteristics of the whole proposed development and, where relevant, of demolition works, and
 - (b) a description of the location of the proposed development, with particular regard to the environmental sensitivity of geographical areas likely to be affected. 120 [296]
2. A description of the aspects of the environment likely to be significantly affected by the proposed development.
3. A description of any likely significant effects, to the extent of the information available on such effects, of the proposed development on the environment resulting from—
 - (a) the expected residues and emissions and the production of waste, where relevant, and
 - (b) the use of natural resources, in particular soil, land, water and biodiversity.
4. The compilation of the information at paragraphs 1 to 3 shall take into account, where relevant, the criteria set out in Schedule 7.”.

3. CHARACTERISTICS OF PROPOSED DEVELOPMENT

Schedule 7 of SI 296 of 2018 requires that the characteristics of proposed development are identified. In particular, it references the following sections:

3.1 Size and Design

The site runs from the Turvey Drive junction on Turvey Avenue for 120m, in a west to east direction towards the town of Donabate. Details on the design are included in Sections 1.3.

3.2 Cumulation with other existing development/ development the subject of a consent

A review of Fingal County Council planning records for the area was undertaken and are documented in the OCSC document 'Turvey Avenue Enhancement Options Report' reference F463-OCSC-XX-XX-RP-C-0002-S2-P02. The review covered projects which are in receipt of a grant of planning within the last 7 years.

Residential development is proposed immediately to the south west (F18A/0403); a mixture of commercial (F16A/0605) and residential (F16A/0268, F17A/0192/, F04A/1163/E21, F15A/0175, F15A/017) and mixed use (F15A/0181) to the north; and residential to the east (F16A/0179).

These applications have been further assessed in terms of potential cumulative impacts. Taking into account of the site-specific details it is considered unlikely that any of the proposed developments will result in a cumulative impact (including potential cumulative traffic impacts, surface water quality, etc) with the proposed development which by its very nature is short term and improves the vehicular and pedestrian traffic. Hence no significant cumulative impacts have been identified to the proposed development (either during the construction or operational phases), arising from committed developments (i.e. those granted permission but have not yet been constructed) in the immediate vicinity.

3.3 The nature of any associated demolition works

All walls and blockages in the way of the planned footpath location will be demolished or removed to make way for the paths. Demolished walls will be replaced with new walls. Please refer to Section 1 for a full description of the works.

3.4 The use of natural resources, in particular land, soil, water and biodiversity

There will be no longterm use of any natural resource as this project by its very nature is of short-term duration and required to improve the vehicular and pedestrian traffic.

3.5 The production of waste

Any waste generated during the construction will firstly be reused on site where possible e.g. topsoil generated will be reused to provide landscaping. However, in the event that offsite disposal is required for any material it will be managed in accordance with all relevant waste management legislation. There will be no generation of waste following the completion of the works.

3.6 Pollution and nuisances

There is the potential that there will be a temporary increase in noise during the proposed works. However, they will not exceed levels typical of construction works and are short-term in nature.

There will be a slight increase in traffic disturbance during the construction activities i.e. bringing supplies to site, removal of material if required, however these will be short term in duration.

Some dust will likely be generated during the works, however, this nuisance will be managed in line with best practice.

Surface water pollution via runoff including silt or hydrocarbons is an unlikely potential source and pathway given the distance to the River. However, the appointed contractor will prepare a site-specific Construction Environmental Management Plan (CEMP) which will clearly set out all of the required environmental control measures needed.

There will be no pollution or nuisance during operations i.e. following the completion of works.

3.7 The risk of major accidents, and/or disasters including those caused by climate change

There is minimal risk of major accidents or disasters including those caused by climate given the small-scale and temporary nature of the construction works. Any risks that are present are associated with typical construction risks including working with machinery. The CEMP will be prepared by the appointed Contractor to ensure all risks are addressed.

There will be no risks following construction.

3.8 Risks to human health – e.g. water contamination or air pollution

Risks to water will be minimised via construction in line with best practice. From a human health perspective, there are no reported source protection zones (SPZs) (groundwater) within a 2km radius of the proposed site. While there is reportedly 1No. well in close proximity, it dates back to 1899 and is likely no longer in service. Irish Water indicate that the area is within Fingal Zone 1 and therefore it is likely that the majority of properties are on mains water.

Air pollution will be limited to typical construction nuisance such as dust given the short term nature of the works and that the works will be conducted in accordance with best practice guidance. The same best practice guidelines will be applied to noise nuisance. Overall, the risk to human health is low.

4. LOCATION OF THE PROPOSED DEVELOPMENT

4.1 Information Sources

An understanding of the site setting and history was gained by undertaking a review of the following primary sources including:

- A review of available extracts of historical Ordnance Survey of Ireland (OSI) maps;
- National Monuments Service (NMS) viewer;
- A review of information held by the Environmental Protection Agency (EPA) EnVision online Mapping;
- Aerial images available of the site (OSI, Google and Bing);
- The Geological Survey of Ireland (GSI) online map tool;
- The National Parks and Wildlife Service online map tool;
- Screening Report in support of the Appropriate Assessment of the Turvey Avenue Enhancement, Donabate, Co. Dublin (May 2019) Environmental Impact Services (EIS)
- Turvey Avenue Enhancement Options Report OCSC F463-OCSC-XX-XX-RP-C-0002-S2-P02

4.2 Abundance, availability, quality and regenerative capacity of natural resources.

Limited natural resources will be required to complete the works. It is proposed that material generated during the works is reused on site. The relevant natural resources have been looked at in more detail in the following sections.

4.3 The absorption capacity of the natural environment

In the description of the site, the absorption capacity of the natural environment has, in accordance with Regulations, been screened paying particular attention to:

- (i) wetlands, riparian areas, river mouths;
- (ii) coastal zones and the marine environment;
- (iii) mountain and forest areas;
- (iv) nature reserves and parks;
- (v) areas classified or protected under legislation, including Natura 2000 areas designated pursuant to the Habitats Directive and the Birds Directive and;
- (vi) areas in which there has already been a failure to meet the environmental quality standards laid down in legislation of the European Union and relevant to the project, or in which it is considered that there is such a failure;
- (vii) densely populated areas;
- (viii) landscapes and sites of historical, cultural or archaeological significance.

4.3.1 Surrounding Land Use

As shown on Figure 1.2, the site's surrounding area is generally mixed use in nature with the primary use of residential. The adjacent land uses are listed in Table 4.1 below. Refer to Figure 4.1.

Table 4.1 – Adjacent Land Uses

| BOUNDARY | LAND USE |
|--------------|--|
| North | Mixed use, commercial and mainly residential, Turveyland Adventure Centre to the north west. |
| South | Field, beyond which lie residential properties and Hearse Road |
| East | Residential & town of Donabate |
| West | Some Residential, Newbridge House and Demense, Turveyland Adventure Centre. |



Figure 4.1. Adjacent site use (OpenStreetMap, 2019)

4.3.2 Site Development

Aerial images of the road from 2000 typically show the road layout similar at it is today. Significant residential development has increased significantly to the north. The 1995 aerial photograph shows the surrounding area generally undeveloped.

The 6" historical map (1837-1842) shows the presence of a church, Glebe house and tower to the south of Turvey Avenue with a police station to the north. Refer to Figure 4.2.



Figure 4.2. Approximate location of Turvey Avenue on 1837-1842 6 inch OS Map (Source: Ordnance Survey Ireland)

Very little change occurred within the proximity of the site throughout the 1800's. Glebe House and St Patrick's Church remain with the Tower in ruins. Refer to Figure 4.3.

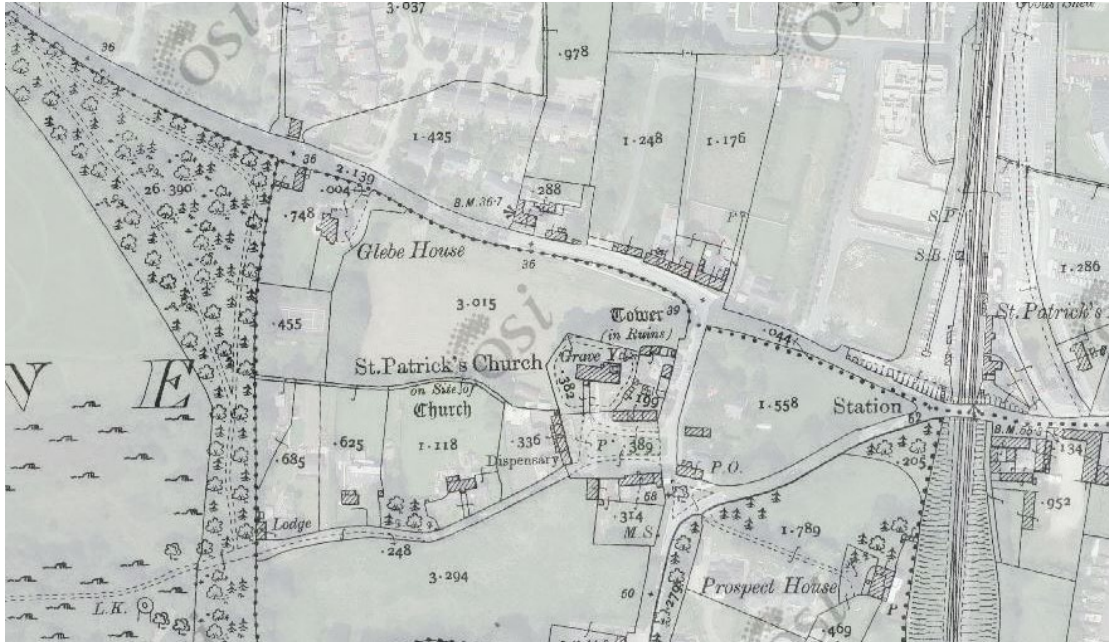


Figure 4.3 Approximate location of the proposed development on 1888-1913 25 Inch OS Map (Source: Ordnance Survey Ireland)

4.3.3 Site Physical Setting

Information regarding the site topography, hydrology, geology, hydrogeology and ecology of the area has been obtained from records held by the Geological Survey of Ireland (GSI), Environmental Protection Agency (EPA) Envision online mapping tool, Ordnance Survey of Ireland (OSI), Water Framework Directive Maps and National Parks and Wildlife Service (NPWS) databases.

4.3.4 Topography

The regional topography of the area is generally level with some slopes rising to the south of Turvey Avenue. According to the Fingal County Council development plan (2017-2023) Donabate is an area 'characterised by a mix of pasture and arable farming on low lying land with few protected views or prospects. The Low Lying Character Type has an open character combined with large field patterns, few tree belts and low roadside hedges.'

4.3.5 Biodiversity

No designated sites have been identified adjacent to the site. An Appropriate Assessment Screening Report was prepared by EIS which concluded '...that the project is not foreseen to give rise to any significant adverse effects on any designated European sites, alone or in combination with other plans or projects. This evaluation is made in view of the conservation objectives of the habitats or species for which these sites have been designated. Consequently, a Stage Two is not required.'

In summary, the appropriate assessment screening report attached stated the following:

- The nearest designated sites include Malahide Estuary SAC (1.18km), Malahide Estuary SPA (1.19km) and Rogerstown Estuary SAC (1.25km) and Rogerstown Estuary SPA (1.25km). The AA states that for all that the small-scale temporary nature of the enhancements combined with the indirect hydrological pathway and significant dilution potential of the system ensure that there will be no significant effect to the trophic structure or water quality of the sites. All of the developments within the receiving environment are also small in scale with negligible effects to water quality and therefore there are no in combination effects observed.

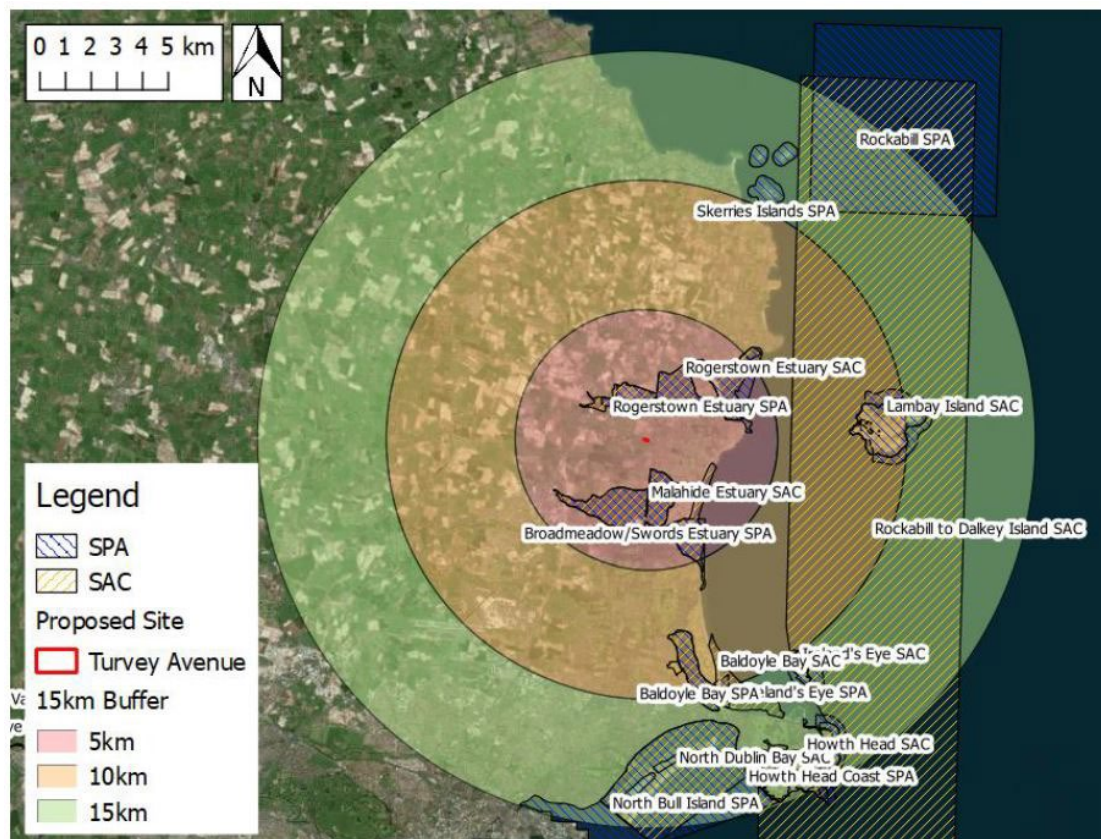


Figure 4.4 pNHA identification (EIS, 2019)

4.3.6 Area of Geological Interest

The Geological Survey of Ireland (GSI) online mapping service was consulted regarding areas of geological interest in the area of the site. The nearest area of geological heritage are dunes and a sand/shingle beach at Malahide Point (DF020) approximately 2.7km from the site.

The reason for the listing of the Malahide Point as a County Geological Site (CGS) is indicated as 'A large dune system and beach formed by a long sand and shingle spit'. The site code is DF020 under theme IGH13. CGSs may be recommended for Geological NHA.

Geology is recognised as an intrinsic component of natural heritage in three separate pieces of legislation or regulations, which empower and require various branches of Government and statutory agencies to consult and take due regard for conservation of geological heritage features. These are:

- Planning and Development Act 2000 [e.g. Sections 212 (1)f; Part IV, 6; First Schedule Condition 21],
- Planning and Development Regulations 2001,
- Wildlife (Amendment) Act 2000 [enabling Natural Heritage Areas]

The Planning and Development Act 2000 and the Planning Regulations, in particular, place responsibility upon Local Authorities to ensure that geological heritage is protected. The Fingal County Council Development Plan (2017-2023) identified the following objectives:

Objective NH28 Protect and enhance the geological and geomorphological heritage of the County Geological Sites listed in Table GH01 and indicated on Green Infrastructure maps.

Objective NH29 Protect and promote safe and sustainable public access to County Geological Sites where appropriate and feasible subject to the requirements of Article 6 of the Habitats Directive.

Implementation of the Heritage Act 1995, through Heritage Officers and Heritage Plans, and the National Heritage Plan 2002, recognise County Geological Sites and allow them to be integrated into County Development Plans. The overall impact of the proposed project on Malahide Point will be negligible due to the distance and nature of the proposed enhancement works.

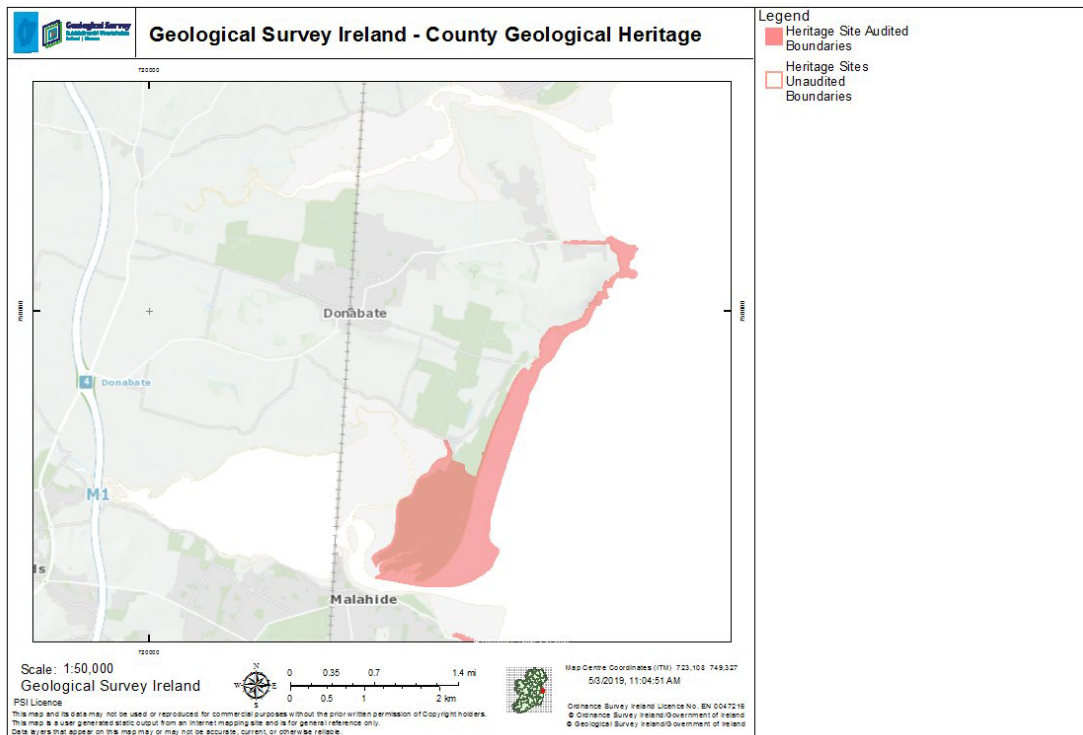


Figure 4.5 Approximate location of the proposed development with nearest area of Geological Heritage

4.3.7 Soils and Subsoils

According to the Teagasc Soil Information System, the subsoil beneath the site has been classified into two categories, Poorly drained peaty material and Made Ground. Refer to Figure 4.6 from the GSI online mapping for further information.

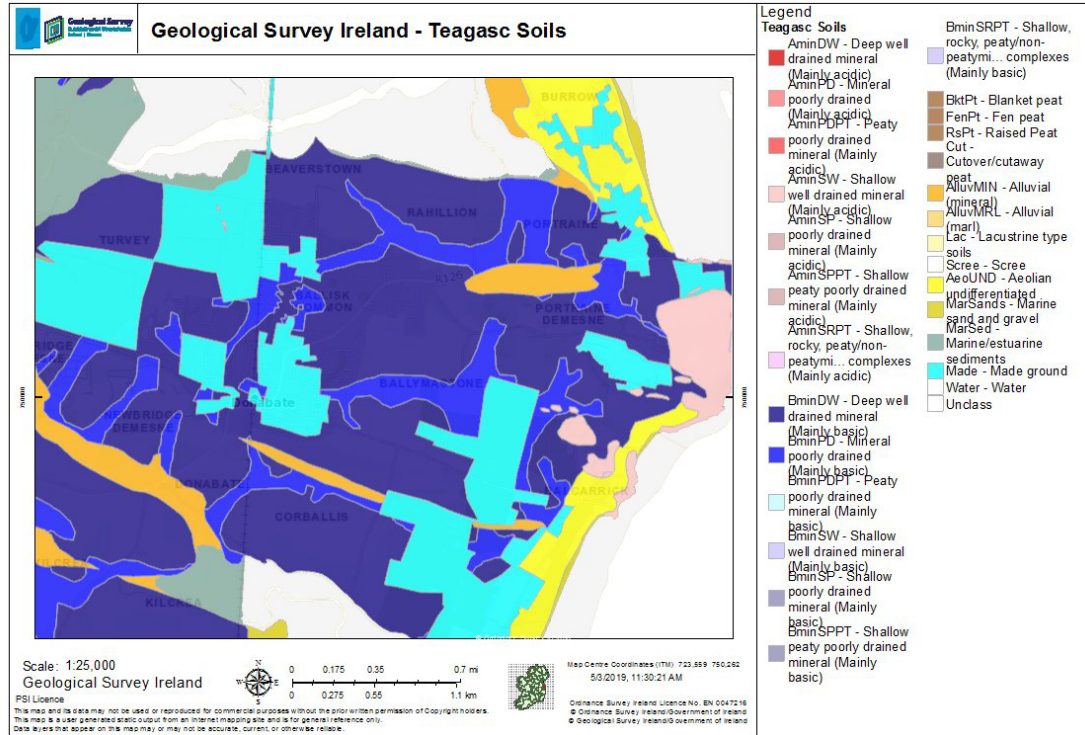


Figure 4.6 Teagasc Topsoils and Subsoils

The Quaternary geology map from the GSI identify the material as ‘Irish Sea Till derived from Lower Palaeozoic sandstones and shales’ with pockets of ‘Eskers comprised of gravels of basic reaction’. The GSI Physiographic map (2019) identifies the classification beneath the site as ‘Rolling ice-moulded sediments’.

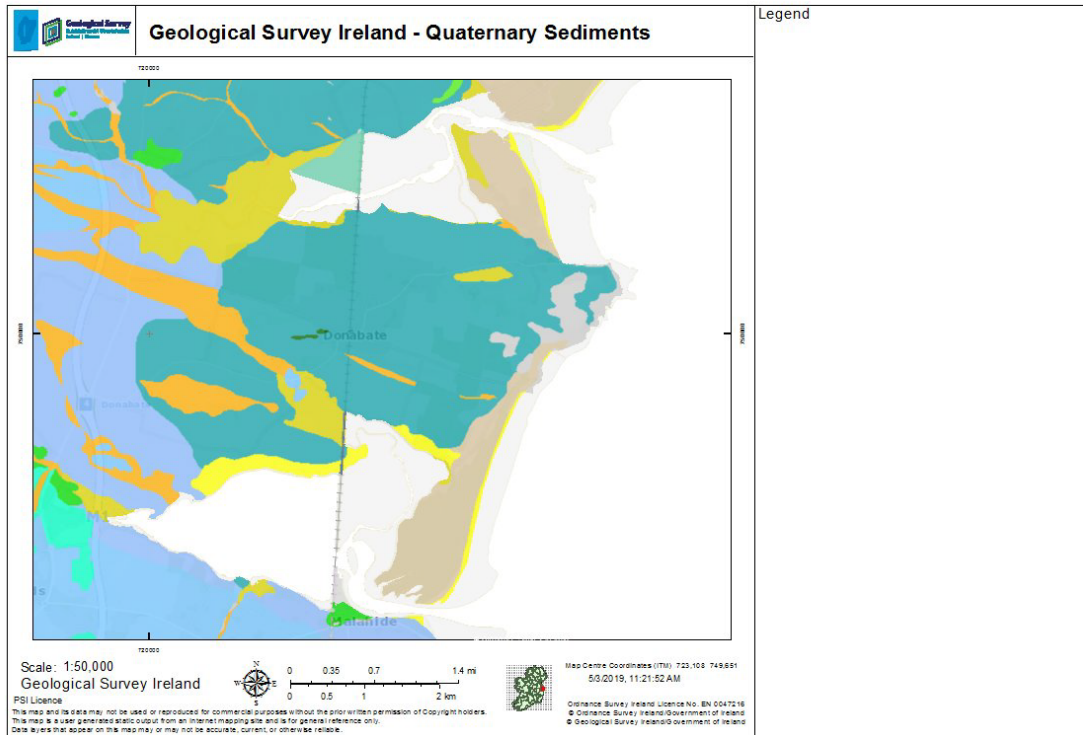


Figure 4.7 Quaternary Sediments

The expected generated residues in the form of soil waste is expected to be minimal/negligible due to the nature of the works. However, if offsite disposal is required material will be sent for reuse off-site, sent for recovery in a licensed waste recovery facility or as a last resort disposed in a suitably licenced waste facility (landfill) in accordance with the Waste Management Act. Written confirmation will be obtained from the proposed Receiver (either under an Article 27 Declaration or Waste Permission) in advance of materials being removed from site.

4.3.8 Geology

The bedrock of the greater Donabate area consists of Continental redbed facies; Sandstone, conglomerate & siltstone (in places extends into the Carboniferous) of the Palaeozoic, Upper Devonian – Carboniferous of the Donabate Formation.

To the north and south of the site lie Marine shelf & ramp facies; Argillaceous dark-grey bioclastic limestone, subsidiary shale of Palaeozoic, Carboniferous, Mississippian era of the Malahide Formation.

The local bedrock geology mapped by the GSI is illustrated in Figure 4.8.

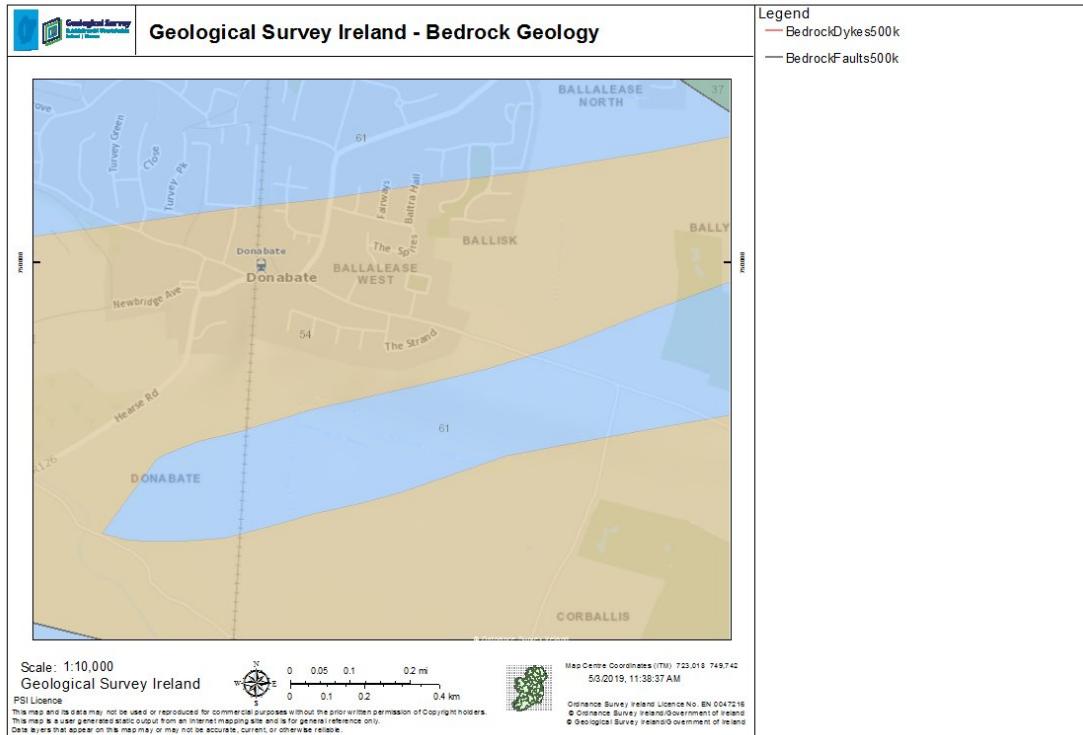


Figure 4.8 Geology

There are some conformities and faults located to the south of the site.

4.3.9 Aquifers

The site is underlain by a Bedrock Aquifer. There is no designated gravel aquifer. The GSI provides a methodology for aquifer classification based on resource value (Regionally Important, Locally Important and Poor). Resource value refers to the scale and production potential of the aquifer whilst vulnerability refers to the ease with which groundwater may be contaminated by human activities (vulnerability classification primarily based on the permeability and thickness of subsoils). The site is underlain by a Locally Important Aquifer - Bedrock which is Generally Moderately Productive. To the north of the site lies a Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones. (Refer to Figure 4.9). There is no gravel aquifer.

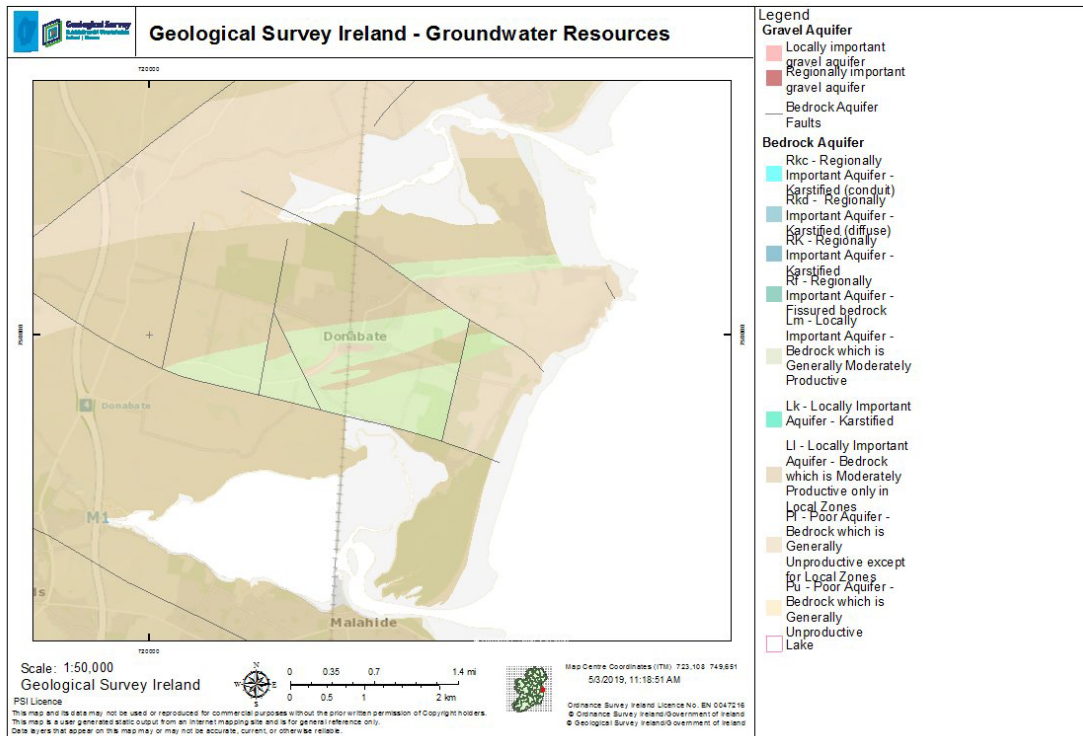


Figure 4.9 Groundwater Resources

4.3.10 Aquifer Vulnerability

The GSI provides a methodology for aquifer classification based on vulnerability (Extreme, High, Moderate or Low). Vulnerability ratings are related to a function of overburden thickness and permeability which might offer a degree of protection and/or attenuation to the underlying aquifer from surface activities and pollution.

The site is underlain by a Low vulnerability aquifer increasing to Moderate to the North. Refer to Figure 4.10.

The impact of the proposed project on the aquifers beneath the site will be negligible due to the nature of the works which will not alter or impede groundwater flow.

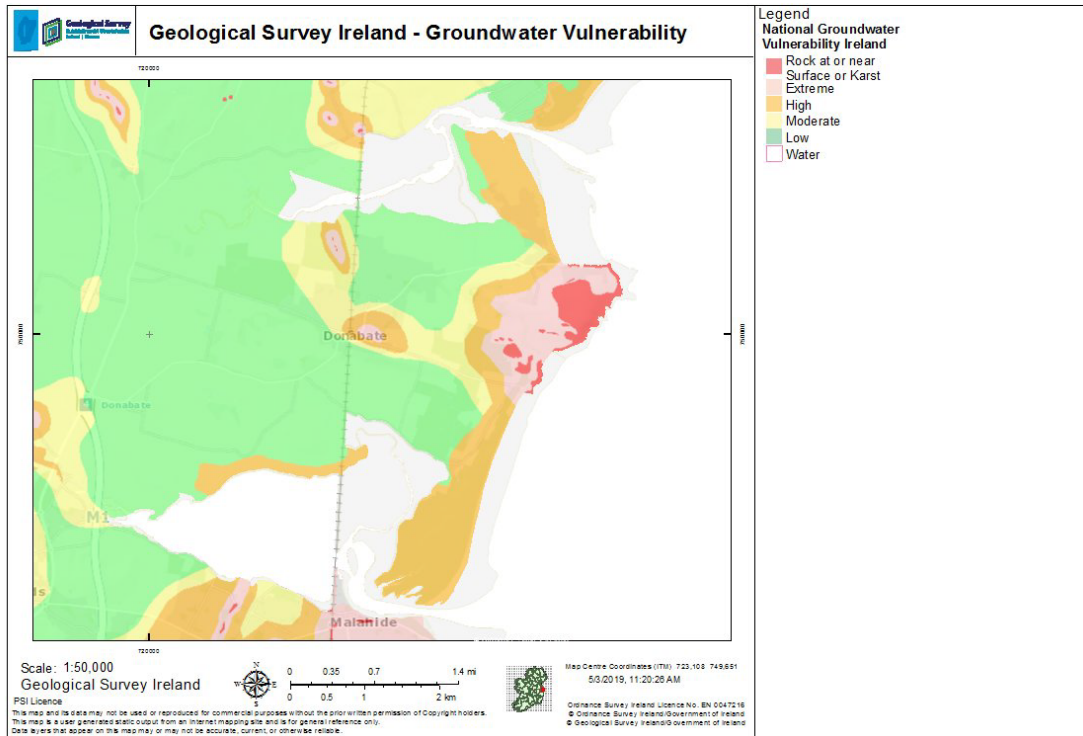


Figure 4.10 Aquifer Vulnerability

4.3.11 Groundwater Status

An assessment carried out under the Water Framework Directive (WFD) 2010-2015 groundwater body (EPA, 2019) has concluded that the groundwater within the bedrock aquifer is presently of “Good Status”. The objective is to protect the “Good Status” by recognizing that the quality of groundwater is at risk due to point and diffuse sources of pollution (see Figure 4.9). Note, the green colour within the area on the figure is ‘Good Status’.

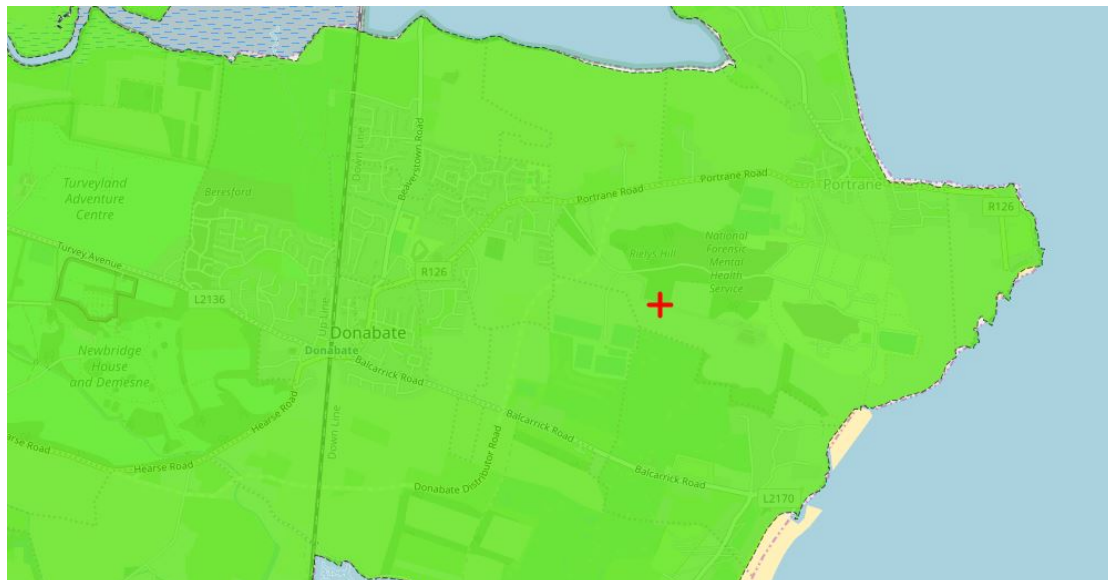


Figure 4.11 WFD Status 2010-2015

As part of this assessment, the risk status of the bedrock aquifer was also assessed. The groundwater bodies risk status is described as ‘Not at Risk’ for the bedrock aquifer.

4.3.12 Groundwater Recharge

Diffuse recharge generally occurs via rainfall percolating through the subsoil with its rate being higher in areas where the subsoil is thinner and/or more permeable. The proportion of effective rainfall that recharges the aquifer is largely determined by the thickness and permeability of the soil and subsoil, and by the slope. The impact of the proposed enhancement works will not be significant. The GSI's groundwater recharge model parameters for the site are summarised in Table 4.2. Figure 4.12 contains the drawing from the GSI indicating the recharge rate.

Table 4.2 GSI Groundwater Recharge Parameters

| Groundwater Recharge Parameters | |
|--------------------------------------|-------------|
| Average Recharge (mm/yr): | 65 |
| Hydrogeological Setting: | 4m |
| Hydrogeological Setting Description: | Made Ground |
| Recharge Coefficient (%) | 20.00 |
| Effective Rainfall | 327 |
| Recharge Cap Apply | N |
| rech_mm/yr_*PRE-CAP | 65 |

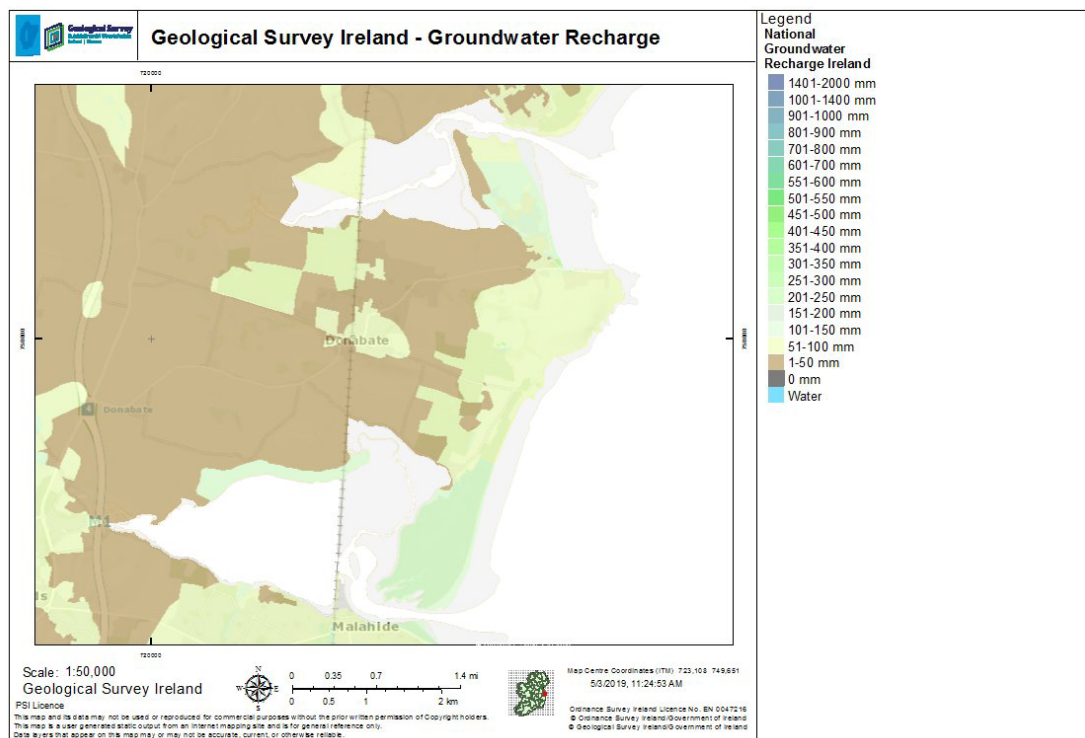


Figure 4.12 Groundwater Recharge

4.3.13 Wells & Springs

A search of the GSI groundwater well database was conducted to identify registered wells in the surrounding area. One well is identified close to the site - refer to figure 4.13. The associated well data is outlined in Table 4.3.

Table 4.3 Nearby GSI Groundwater Wells

| | |
|-----------------------------|---------------------|
| GSI Name | 3223NWW001 |
| Distance to site (m) | ~150m |
| Well Type | Borehole |
| Drill Date | December 30, 1899 |
| Depth (m) | 41.1 |
| Location | to 500m, DONABATE |
| Easting | 322,540.00 |
| Northing | 249,450.00 |
| Well use | Agri & domestic use |
| Yield class | Good |
| Yield m³d | 130 |

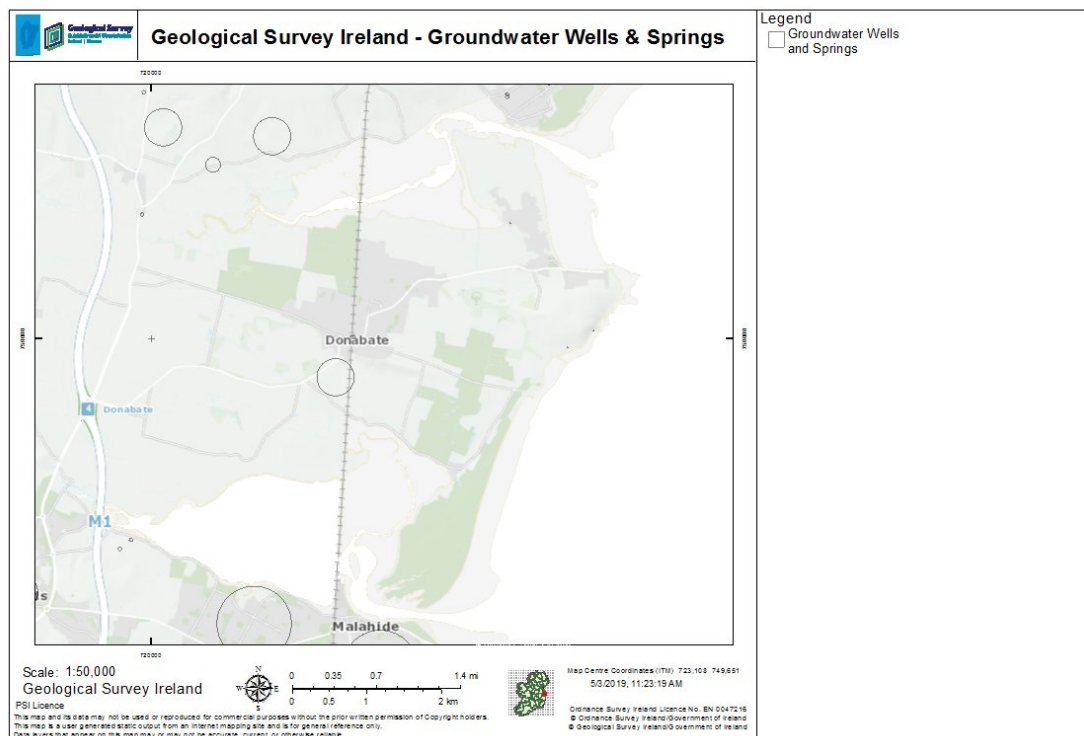


Figure 4.12 Wells and Springs

The GSI (1999) also provides a framework for the protection of groundwater source zones (e.g. areas of contribution to water supply bores). There are no reported source protection zones (SPZs) within a 2km radius of the proposed site.

Based on a review of available information, local groundwater flow is expected to the east.

4.3.14 Hydrology

The closest surface water feature is the Turvey River which is approximately 685 m south of the site, and flows into the Malahide Estuary. Its status is currently unassigned by the EPA.

Maps of the risk of fluvial flooding and coastal flooding were viewed as part of the OCSC Turvey Avenue Enhanced Options Report (F463-OCSC-XX-XX-RP-C-0002-S2-P02). The flood risk assessment maps do not show Turvey Avenue at risk of either coastal or fluvial flooding.

There are two locations for reported flood events recorded within the environs of the study area. In 2002, 4No. Houses were flooded on Hearse Road, while there is records of recurring flooding in Ballisk Lane to the east. Neither of the locations identified are within the study area.

4.3.15 Protected Structures and Landscape

National Monuments Service (NMS) maps show that there are protected structures located adjacent to the site and its neighbouring areas as shown in Figure 4.17.

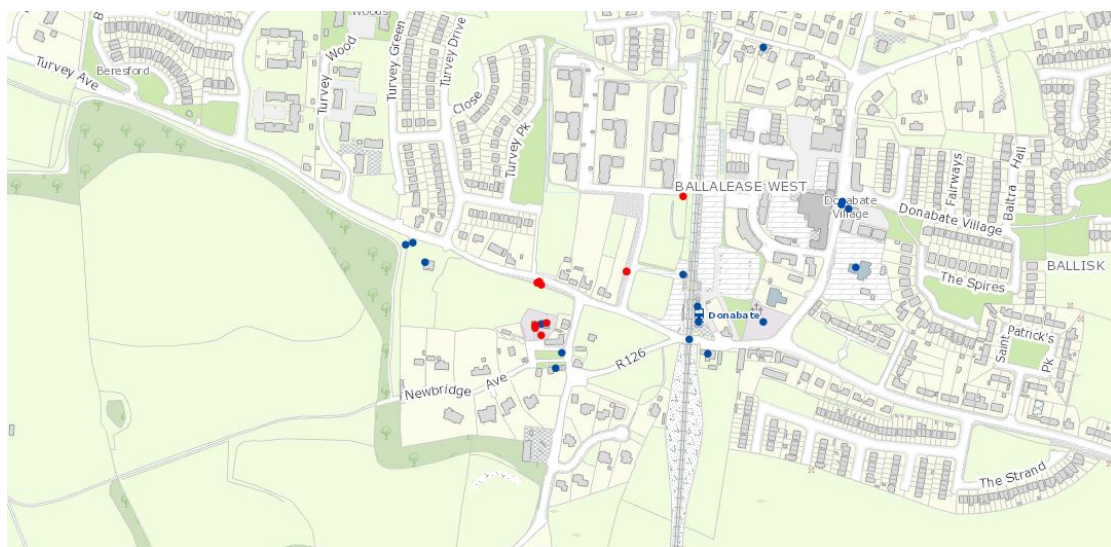


Figure 4.17 Protected structures within and surrounding site's boundary

Four closest structures adjacent to the study area include:

DU012-082003-

Class: Structure

Townland: DONABATE

Scheduled for inclusion in the next revision of the RMP: No

Description: This monument was excavated (Licence no. 08E0155) in advance of road widening. Uncovered at the base of a hill where Donabate church (DU012-005001-) and tower house (DU012-005002-) are located, this was one of two adjacent structures situated on the edge of an early medieval ditch (DU012-082001-). Defined by a rubble-wall collapse, a flagstone floor and the remains of a dry-stone wall (3m E-W) the structure was located immediately E of the second structure (DU012-082002-). Associated with N – S drainage ditches from which a significant quantity of 12th-14th century pottery was recovered (Kavanagh 2011, 14).

DU012-082004-

Class: Structure

Townland: DONABATE

Scheduled for inclusion in the next revision of the RMP: No

Description: This monument was excavated (Licence no. 08E0155) in advance of road widening. Uncovered at the base of a hill where Donabate church (DU012-005001-) and tower house (DU012-005002-) are located, this structure overlay the backfilled early medieval ditch (DU012-082001-). Defined by an L-shaped dry-stone wall (4.7m E-W x 2.7m N-S) the structure was associated medieval activity including a large sub-rectangular rubbish pit (2m diam.) from which 12th – mid-14th century and a silver farthing from the reign of Edward III (AD 1335-43) were recovered. (Kavanagh 2011, 14)

DU012-082001-

Class: Excavation – miscellaneous

Townland: DONABATE

Scheduled for inclusion in the next revision of the RMP: Yes

Description: This monument was excavated (Licence no. 08E0155) in advance of road widening. Three phases of archaeological activity were identified, the earliest of which was a wide linear ditch (exposed for 99m E-W) that ran along the base of the hill where Donabate church (DU012-005001-) and tower house (DU012-005002-) are located. Radiocarbon analysis of a sample of animal bone from the ditch fill returned an early medieval date (661-778 cal. AD). The second phase consisted of structures (DU012-082002-), drainage ditches and pits dated to the 13th – 14th centuries. An E-W ditch cut into the early medieval ditch and returned a later medieval date from an animal bone sample (1429-1473 cal. AD). The final phase consisted of a post-medieval circular building with a substantial stone footing (interpreted as a possible dovecote), ditches and a metalled path (Kavanagh 2011, 32).

DU012-082002-

Class: Structure

Townland: DONABATE

Scheduled for inclusion in the next revision of the RMP: No

Description: This monument was excavated (Licence no. 08E0155) in advance of road widening. Uncovered at the base of a hill where Donabate church (DU012-005001-) and tower house (DU012-005002-) are located, this was one of two adjacent structures situated on the edge of an early medieval ditch (DU012-082001-). Defined by an L-shaped dry-stone wall (5m E-W) the structure was associated with N – S drainage ditches from which a significant quantity of 12th – 14th century pottery was recovered (Kavanagh 2011, 13).

5. TYPES AND CHARACTERISTICS OF POTENTIAL IMPACTS

The likely significant effects on the environment of proposed development in relation to the following criteria:

5.1 Magnitude and spatial extent of impact

This project relates to the enhancement of a 120m length of footpath/road and is small in magnitude and extent. Any potential impacts are not likely to be significant.

5.2 The nature of the impact

This project relates to the enhancement of a 120m length of footpath/road and is small in extent and nature. Any potential impacts are not likely to be significant.

5.3 The transboundary nature of the impact

There is no potential for transboundary impacts.

5.4 The intensity and complexity of the impact

The project involves a small area affected which has been limited to that required to enhance the pedestrian and vehicular access in the area. Any potential impacts are not likely to be significant.

5.5 The probability of the impact

The probability of impacts is low taking into account the following considerations:

- A project specific CEMP will be prepared by the appointed contractor.
- The receiving environment is not considered significantly sensitive.

5.6 The expect onset, duration, frequency and reversibility of the impact

Small area affected which has been limited to the enhancement works identified. Required to facilitate safe passage of pedestrian and improve sightlines.

5.7 The cumulation of the impact with the impact of other existing and/or development

As previous detailed there are no cumulative impacts arising from this or existing/proposed projects.

5.8 The possibility of effectively reducing the impact

An options appraisal report was undertaken and the best option selected. It involves the enhancement of approximately 120m of footpaths and minor road changes. It is expected that this proposal will have a positive impact on human beings, population and human health by providing employment opportunities during the works, providing safe pedestrian passage and improved sight lines.

Potential exists, particularly at the construction stage for an amount of nuisance associated with localised traffic disruption and construction noise and dust. However, for the most part construction works related to this project are likely to be 'low-key' and temporary.

5.9 Screening Decision

Having regard to the above, and in particular to the nature, scale and location of the proposed project, by itself and in combination with other plans and projects, it is considered that the overall impact on the receiving environment is considered low.

Therefore, it is not considered that an EIA is required at this time. Please refer to the completed Screening Checklist identified in European Commission publication Environmental Impact Assessment of Projects, Guidance on Screening (2017).

| Checklist | Response |
|---|--|
| Will there be a large change in environmental conditions? | No |
| Will new features be out-of-scale with the existing environment? | No |
| Will the impact be unusual in the area or particularly complex? | No |
| Will the impact extend over a large area? | No |
| Will there be any potential for transboundary impact? | No |
| Will many people be affected? | Minor temporary impacts. Overall positive impact in improving pedestrian access. |
| Will many receptors of other types (fauna and flora, businesses, facilities) be affected? | No (refer to AA screening) |
| Will valuable or scarce features or resources be affected? | No (refer to AA screening) |
| Is there a risk that environmental standards will be breached? | No (refer to AA screening) |
| Is there a risk that protected sites, areas, features will be affected? | No (refer to AA screening) |
| Is there a high probability of the effect occurring? | No |
| Will the impact continue for a long time? | Temporary short term. |
| Will the effect be permanent rather than temporary? | No (refer to AA screening) |
| Will the impact be continuous rather than intermittent? | Temporary short term during construction. No impact following. |
| If it is intermittent will it be frequent rather than rare? | - |
| Will the impact be irreversible? | - |
| Will it be difficult to avoid, or reduce or repair or compensate for the effect? | - |

Respectfully submitted

On behalf of OCSC Multidisciplinary Consulting Engineers



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