
Chapter 1

Introduction

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Introduction

1.1 Introduction to this Document

This Environmental Impact Assessment Report (EIAR) is prepared for the proposed Waterford City Public Infrastructure Project, Flood Defences West, hereafter referred to as the 'proposed development'. The EIAR has been prepared in accordance with the requirements of Annex IV of Directive 2011/92/EU (as amended by Directive 2014/52/EU), and comprises "A statement of the effects, if any, which the proposed development, if carried out, would have on the environment" (Draft Guidelines on the Information to be contained in Environmental Impact Assessment Reports, (EPA, 2017)).

This EIAR has been prepared by Roughan & O'Donovan Consulting Engineers and a team of specialist sub-consultants on behalf of the applicant Waterford City and County Council (WCCC). This EIAR forms part of the application that will be submitted by Waterford City and County Council to An Bord Pleanála for their approval of the proposed development.

This EIAR for the proposed development is presented in three volumes. Volume 1 provides a Non-Technical Summary of the EIAR. Volume 2 contains the main text of the EIAR, and Volume 3 contains the associated figures including the proposed development drawings. The Volume and Chapter layout is presented below.

Volume 1: Non – Technical Summary

Volume 2: EIAR - Main Text

Non – Technical Summary

Chapter 1: Introduction

Chapter 2: Need for the Proposed Development

Chapter 3: Alternatives Considered

Chapter 4: Description of the Proposed Development

Chapter 5: Traffic Analysis

Chapter 6: Population and Human Health

Chapter 7: Biodiversity

Chapter 8: Soils and Geology

Chapter 9: Hydrogeology

Chapter 10: Hydrology

Chapter 11: The Landscape

Chapter 12: Noise and Vibration

Chapter 13: Air Quality and Climate

Chapter 14: Archaeology and Cultural Heritage

Chapter 15: Architectural Heritage

Chapter 16: Material Assets and Land

Chapter 17: Interactions and Cumulative Impacts

Chapter 18: Major Accidents and Disasters

Chapter 19: Mitigation Measures

Volume 3: Figures

1.1.1 Natura Impact Statement

A Natura Impact Statement (NIS) has also been prepared and is provided as a separate document accompanying the application. The NIS contains an examination of the implications of the proposed development, on its own or in combination with other plans or projects, for Natura 2000 sites. The NIS has also been prepared in accordance with the provisions of Part XAB of the Planning and Development Act 2000 to facilitate the carrying out of an Appropriate Assessment by An Bord Pleanála.

1.2 Background and Context

1.2.1 Background to the Proposed Development

Roughan & O'Donovan Consulting Engineers were appointed by Waterford City and County Council to lead the Waterford City Public Infrastructure Project. The Project is being carried out in order to improve the public infrastructure in Waterford's North Quay area to enable the redevelopment within a Strategic Development Zone (SDZ). The redevelopment of SDZ is outside the scope of this project.

The Waterford City Public Infrastructure Project consists of several separate parts, such as rock face stabilisation, access road infrastructure, new railway station and Transport Hub, and River Suir Sustainable Transport Bridge, which have all received planning approval. The Waterford City Public Infrastructure Project also comprises the provision of flood protection measures in front of, and to the west of Plunkett Station, the railway station servicing Waterford City. The proposed Flood Defences West will provide flood protection measures under the scope of Waterford City Public Infrastructure Project.

Over the past 15 years, there has been a sequence of flood events at, and in the vicinity of Plunkett Station as reported in news articles¹ and observed by the Iarnród Éireann (IÉ) Inspection Staff – the latest being in October of 2020. It has been found that large sections of the existing quay wall are of inadequate height and are below the design flood level, rendering it ineffective at protecting IÉ lands and associated rail infrastructure against flooding. For much of the length, the existing quay wall is also in very poor condition. The deficiencies in height and the condition of the existing quay wall are described further and are shown in a number of photographs in Chapter 2 of the EIAR, Need for the Proposed Development.

Flooding of the existing railway line at, and to the west of the Plunkett Station currently impedes the operation of the railway service to and from Waterford City and has the potential to damage the rail infrastructure. The need for protection of the existing infrastructure and to build resilience against climate change induced flood events is outlined at national, regional, and local planning policy. The development of flood defence measures will enable the planned development of the Waterford North Quays in a sustainable manner as well as preserving the existing rail infrastructure in front and to the west of Plunkett Station.

¹ www.journal.ie published an article on the 17th of Oct. 2012 entitled 'Waterford train station is flooded... very flooded'.

www.theirishindependant.ie published an article on the 11th of March 2008 entitled "Escaping in the eye of the storm" and describes that rail services at the existing Plunkett train station were affected due to flooding resulting in bus transfers to be put in place.

1.2.2 General Overview of the Proposed Development

The proposed development comprises c.1.1km of flood protection measures in the townlands of Mountmisery and Newrath in Co. Waterford, and the townland of Newrath in Co. Kilkenny located along the north bank and within the foreshore of the River Suir in Waterford City. The development extends approximately 1km to the west and 100m to the east of the Plunkett Station, following the alignment of the existing quay wall and the Iarnród Éireann (IÉ) railway corridor which is bound to the north of the proposed development.

The development will provide protection for lands and the existing built assets in Waterford City from future flood events, such as the existing and future rail infrastructure in the vicinity of Plunkett Station and the Rice Bridge roundabout over its extents. It will also form a continuation of the flood protection measures proposed along the North Quays SDZ as part of the new Transport Hub development.

The design flood level of the proposed flood protection measures is +4.0m OD (metres above Ordnance Datum), with the top-of-the-wall flood protection measures of +4.30m OD.

A high-level description of the proposed development is provided below:

- Construction of c.365m of impermeable shallow underground trench (0.35m wide and up to 3m deep) within Iarnród Éireann's Plunkett Station car park.
- Total of c.185m of overground flood defence measures for the R680 Rice Bridge roundabout and along the 3 roundabout arms; R448 Terminus St., R711 Dock Rd.
- Remedial works to c.75m section of existing quay wall by raising its height to between 0.6m and 1.2m to conform with the top-of-wall flood protection measures of +4.30m OD.
- Construction of c.730m of sheet pile flood defence wall with the top-of-the wall level at +4.30mOD consisting of:
 - c.540m of sheet pile wall within the foreshore from the riverside, 1m from the front face of the existing quay wall.
 - c.190m of sheet pile wall will be installed on Iarnród Éireann land, 1m behind the existing quay wall. Construction of c.20m underground isolation structure comprising of a sheet pile cut-off wall and a concrete capping beam. The concrete capping beam will facilitate the installation of temporary overground flood barriers to the structure should these be required to be implemented during a flood event.
 - Demolition of up to 3m of existing quay wall at transition point between the landside and riverside sheet pile wall.
- Drainage works will consist of:
 - Remedial works to the existing drainage outfalls to the River Suir.
 - Construction of new trackside drainage and groundwater drains to include 2 no. pumping stations and surface water outfalls to the River Suir.
 - Demolition of c. 540m of existing quay wall south of the railway corridor to approximately 800mm below the existing ground level. The demolition of approx. 25m of the existing quay wall to a level of between 2 to 4m below existing ground level to facilitate the construction of a surface water pumping station.

- And all ancillary works.

Detailed description of the proposed development is provided in Chapter 4 Description of Proposed Development of this EIAR. The location of the proposed development is shown in Plate 1.1 below. See also, Figure 1.1 in Volume 3 of the EIAR.

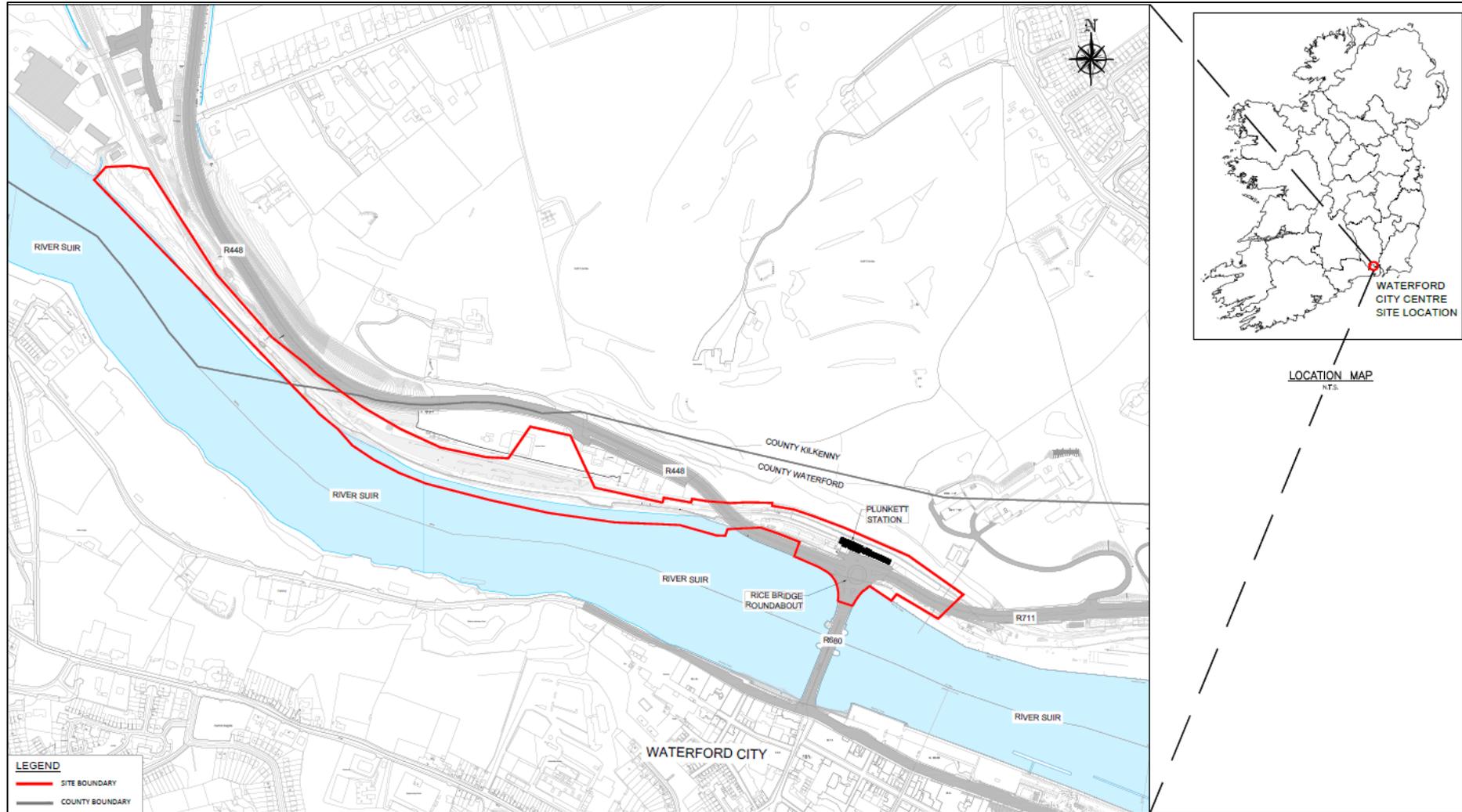


Plate 1.1 **Location of the Proposed Flood Defences West**

1.3 EIA Legislation

1.3.1 Introduction

Environmental Impact Assessment (EIA) is defined in Article 1 of Directive 2011/92/EU, as amended by Directive 2014/52/EU, as follows:

“Environmental Impact Assessment means a process consisting of:

- (i) the preparation of an environmental impact assessment report by the developer, as referred to in Article 5(1) and (2);*
- (ii) the carrying out of consultations as referred to in Article 6 and, where relevant, Article 7;*
- (iii) the examination by the competent authority of the information presented in the environmental impact assessment report and any supplementary information provided, where necessary, by the developer in accordance with Article 5(3), and any relevant information received through the consultations under Articles 6 and 7;*
- (iv) the reasoned conclusion by the competent authority on the significant effects of the project on the environment, taking into account the results of the examination referred to in point (iii) and, where appropriate, its own supplementary examination; and*
- (v) the integration of the competent authority's reasoned conclusion into any of the decisions referred to in Article 8a.”*

An Bord Pleanála is the competent authority for the purpose of carrying out an environmental impact assessment of the proposed development.

1.3.2 Environmental Impact Assessment

The requirement for environmental impact assessment is imposed by Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment (as amended by Directive 2014/52/EU) (the EIA Directive).

The requirements of these directives have been transposed into Irish law through the Planning and Development Acts 2000 (as amended), the Regulations made under the European Communities Act (1972) including the European Communities (Environmental Impact Assessment) Regulations 1989 – 2006, the European Union (Environmental Impact Assessment and Habitats) Regulations 2011 and the European Communities (Birds and Natural Habitats Regulations) 2011. Directive 2014/52/EU of the European Parliament has recently been transposed into Irish law through the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018).

1.3.3 Requirement for EIA

The planning application for the development of the Flood Defences West project is being submitted under Section 175 and Section 226 of the Planning and Development Act 2000 (as amended).

Section 175 (1) and 175 (3) states:

“175 – (1) Where development belonging to a class of development, identified for the purpose of section 176, is proposed to be carried out – by a local authority that is a planning authority, whether in its capacity as a planning authority or in any other capacity, or

by some other person on behalf of, or jointly or in partnership with, such a local authority, pursuant to a contract entered into by that local authority whether in its capacity as a planning authority or in any other capacity.

175 – (3) *Where an environmental impact assessment report has been prepared pursuant to subsection (1), the local authority shall apply to the Board for approval.”*

Section 226 (1) states the following:

“226.—(1) Where development is proposed to be carried out wholly or partly on the foreshore—

- (a) by a local authority that is a planning authority, whether in its capacity as a planning authority or otherwise, or*
- (b) by some other person on behalf of, or jointly or in partnership with, a local authority that is a planning authority, pursuant to an agreement entered into by that local authority whether in its capacity as a planning authority or otherwise, (hereafter in this section referred to as “proposed development”), the local authority concerned shall apply to the Board for approval of the proposed development.”*

The proposed development is being carried out by Waterford City and County Council and will involve the construction of c. 1.1km of flood defence measures, parts of which will be developed within the foreshore, and therefore the application will be made to An Bord Pleanála for approval under Sections 175 and 226 of the Planning and Development Act 2000 (as amended).

1.4 EIAR Methodology

Article 3 of the 2014 EIA Directive states that *“an environmental impact assessment shall identify, describe and assess in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of a project”* on stated factors.

This EIAR has been prepared using the “grouped” format structure as detailed in the 2017 EPA Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, *“where the discussion of the characteristics of the environment in the EIAR are grouped under the headings which correspond to these factors or closely related headings”*, refer to Section 1.1 for Chapter headings. In light of this, description of the receiving environment, the potential impacts, mitigation measures and residual impacts are grouped in each chapter of the EIAR. The group format makes it easy to review topics of interest and cross-reference between specialists’ studies as appropriate.

1.4.1 Environmental Impact Assessment Guidelines

The preparation of the EIAR has been informed by relevant national EIA guidelines prepared by the EPA, the DHPLG and TII including:

- Draft Guidelines on the Information to be contained in Environmental Impact Assessment Reports, EPA, August 2017;
- Draft Advice Notes for Preparing Environmental Impact Statements, EPA, September 2015;
- Guidelines on the Information to be contained in Environmental Impact Statements, EPA, 2002;

- Advice notes on Current Practice (in the preparation of Environmental Impact Statements), EPA, 2003
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment, DHPLG, August, 2018; and Environmental Impact Assessment of National Road Schemes - A Practical Guide, Revision 1, 20 November 2008.

Other guidelines from TII and other bodies have been taken into account in the relevant technical assessment chapters of this EIAR and are referenced in those chapters.

The following guidelines by the European Commission have also been consulted in the preparation of this EIAR:

- Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report, European Commission, 2017.

1.4.2 Transport Infrastructure Ireland (TII) / National Roads Authority (NRA) Guidelines

The Transport Infrastructure Ireland (TII) was established through an amalgamation of the National Roads Authority (NRA) and the Railway Procurement Agency (RPA) under the Roads Act (as amended) in 2015. Prior to the merger, the NRA published construction and planning guidelines that have been followed during the design and environmental assessment processes for the proposed development. For the purposes of this EIAR, the NRA guidelines will be referred to as TII guidelines throughout the EIAR where appropriate.

1.4.3 EIAR Contributors

The EIA Directive requires the developer to ensure that the EIAR is prepared by competent experts. Roughan & O'Donovan has led the preparation of this EIAR with the assistance of several specialists. Table 1.1 outlines the name of the authors of each EIAR chapters, their qualifications and experience. Waterford City and County Council has evaluated the technical competence of each of the consultants and specialists through the tendering process and during the project and is satisfied that they each are sufficiently qualified, experienced, expert, and competent in their fields.

Table 1.1 EIAR Authors Qualifications and Competency

Topic	Specialist Contributors	Company	Qualifications	Experience (years)
Chapters 1 – 3 Introduction, Need for the Proposed Development Alternatives Considered	Barry Corrigan	ROD	BSc (Hons), Dip EIA & SEA, MIEMA, CEnv	21
	Karlo Martinovic	ROD	BE (Civil) M.Sc., Ph.D., C.Eng. M.I.E.I.	10
	Yana Bersunukayeva	ROD	BA Env Sci, MSc Global Change, Ecosystem Science & Policy	2
Chapter 4	Karlo Martinovic	ROD	BE (Civil) M.Sc., Ph.D., C.Eng. M.I.E.I.	10

Topic	Specialist Contributors	Company	Qualifications	Experience (years)
Description of Proposed Development	Yana Bersunukayeva	ROD	BA Env Sci, MSc Global Change, Ecosystem Science & Policy	2
	Barry Corrigan	ROD	BSc (Hons), Dip EIA & SEA, MIEMA, CEnv	21
	Claire Dempsey	ROD	B.E. (Hons), M. Eng. Sc.	20
Chapter 5 Traffic Analysis	John Bell	ROD	BEng, MIEI CEng	19
	Enrica Calandro	ROD	B.Eng, M.Eng	2
Chapter 6 Population and Human Health	Claire Cable	ROD	Postgrad Dip., B.S.c. MCIWEM	15
	Warren Vokes	ROD	B.A., M.Sc, MCIWEM	5
Chapter 7 Biodiversity	Owen O'Keefe	ROD	BSc (Hons) MCIEEM	5
	Kalvin Townsend-Smith	ROD	BSc.	2
Chapter 8 Soils and Geology	Karlo Martinovic	ROD	BE (Civil) M.Sc., Ph.D., C.Eng. M.I.E.I.	10
Chapter 9 Hydrogeology	Brian Dugan	ROD	BSc, MSc	15
Chapter 10 Hydrology	Warren Vokes	ROD	B.A., M.Sc, MCIWEM	5
	Claire Dempsey	ROD	B.E. (Hons), M. Eng. Sc.	20
	Tony Cawley	Hydro Environmental	BE, MScEng	30
Chapter 11 Landscape and Visual Analysis	Mark Boyle	Murray and Associates	BA, MSc, MILI, Grad. Dip. Project Management	23
Chapter 12 Noise and Vibration	Jennifer Harmon	AWN Consulting	BSc, PGDip, MIAOA	20
	Alistair Maclaurin	AWN Consulting	BSc, PGDip, MIAOA	8
Chapter 13 Air Quality and Climate	Dr. Edward Porter	AWN Consulting	BSc, PhD, C Chem MRSC	23
	Ciara Nolan	AWN Consulting	BSc, MSc, MIAQM	3
Chapter 14 Archaeological and Cultural Heritage	Faith Bailey	IAC	MA BA (Hons), MCIfA	15
Chapter 15 Architectural Heritage	Faith Bailey	IAC	MA BA (Hons), MCIfA	15
Chapter 16	Yana Bersunukayeva	ROD	BA Env Sci, MSc Global Change, Ecosystem Science & Policy	2

Topic	Specialist Contributors	Company	Qualifications	Experience (years)
Material Assets and Land	Claire Dempsey	ROD	B.E. (Hons), M. Eng. Sc.	20
Chapter 17 Interactions and Cumulative Impacts	Barry Corrigan	ROD	BSc (Hons), Dip EIA & SEA, MIEMA, CEnv	21
	Yana Bersunukayeva	ROD	BA Env Sci, MSc Global Change, Ecosystem Science & Policy	2
Chapter 18 Major Accidents and Disasters	Yana Bersunukayeva	ROD	BA Env Sci, MSc Global Change, Ecosystem Science & Policy	2
	Barry Corrigan	ROD	BSc (Hons), Dip EIA & SEA, MIEMA, CEnv	21
Chapter 19 Mitigation Measures	Barry Corrigan	ROD	BSc (Hons), Dip EIA & SEA, MIEMA, CEnv	21
	Yana Bersunukayeva	ROD	BA Env Sci, MSc Global Change, Ecosystem Science & Policy	2

1.5 Consultation

1.5.1 Scope of the EIAR

As stated in the EPA Guidelines (2017, p. 23), “*Scoping*’ is a process of deciding what information should be contained in an EIAR and what methods should be used to gather and assess the information”. An Informal EIA Scoping Report was issued to an extensive list of bodies in February 2021, which set out the preliminary scope for the EIA of the proposed development, providing an outline of significant aspects of the development and sensitivities identified in the receiving environment, which would help the consultees provide useful feedback. The document was issued to the following Statutory Consultees, who were invited to submit comments over a four-week period, identifying any concerns or issues they may have in respect of the proposed development:

- An Chomhairle Ealaíon (The Arts Council)
- Fáilte Ireland
- An Taisce
- Development Applications Unit (DAU) of the Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media (i.e., National Parks & Wildlife Service)
- Minister for Tourism, Culture, Arts, Gaeltacht, Sport and Media
- The Heritage Council
- Waterford City and County Council
- Kilkenny County Council
- Southern Regional Assembly
- Inland Fisheries Ireland (IFI)
- Córas Iompair Éireann
- Health Service Executive

- Minister for the Environment, Climate and Communications
- Railway Safety Commission (Commission for Railway Regulation)
- Iarnród Éireann
- The Office of Public Works
- Waterways Ireland
- Bord Iascaigh Mhara (BIM)
- Geological Survey of Ireland
- Irish Water
- Minister for Agriculture, Food and Marine
- Health and Safety Authority
- Commission for Regulation of Utilities (CRU)
- Marine Institute
- Sea Fisheries Protection Authority
- Waterways Ireland
- Environmental Protection Agency
- Minister for Transport
- Minister for Housing, Local Government and Heritage
- Transport Infrastructure Ireland (TII)
- Irish Aviation Authority
- Údarás na Gaeltachta
- Waterford City River Rescue (CRBI)
- Waterford Marine Search and Rescue

Responses were received from 13 of the above-stated prescribed bodies, 4 of which contained comments in relation to the proposed development. Due consideration has been given to the responses received in determining the scope of the EIA for the proposed development. Details of responses are discussed, where appropriate, in the relevant specialist chapters of the EIAR.

1.6 Design of the Proposed Development and the EIA Process

It should be noted that the information which forms the basis of this EIAR is based on the design of the proposed development as it is detailed in Chapter 4 'Description of the Proposed Development'. This design has been developed to a stage that permits completion of a fully informed EIA. While some refinements of the current design may occur during the detailed design stage (i.e., after the completion of the EIA), any such iterations of the proposed development, will not be such that they give rise to any impacts which are more significant than those already identified and assessed in this EIAR.

1.7 Difficulties Encountered

No difficulties have been encountered in compiling the required information to complete this EIAR.

