

Chapter 1:

Introduction

1 INTRODUCTION

1.1 INTRODUCTION

This Environmental Impact Statement (EIS) has been prepared by Ryan Hanley in association with McCarthy Keville O'Sullivan Ltd. on behalf of the Office of Public Works (OPW). The Office of Public Works (OPW) is the lead agency for flood risk management in Ireland. The coordination and implementation of the Government's policy on the management of flood risk in Ireland, in conjunction with its responsibilities under the Arterial Drainage Acts, 1945-1995, form one of the four core services of the OPW.

Ryan Hanley in association with McCarthy Keville O'Sullivan Ltd. were appointed as Environmental Consultants on this project and commissioned to prepare an Environmental Impact Statement (EIS), which fulfils the requirements set out by the Environmental Protection Agency (EPA) in the 'Guidelines on the Information to be contained in Environmental Impact Statements' (EPA, 2002) and Schedule 6 of the Planning and Development Regulations 2001, relating to the information to be contained in an EIS. Reference has also been made to the 'Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment', published by the Department of the Environment, Community and Local Government in March 2013. This EIS will be put on public display in accordance with the Arterial Drainage Act (1945) and Amendment Act (1995), in both Cork City Hall and Cork County Hall for a period of at least four weeks (12th December to 19th January for this project).

This Environmental Impact Statement has been prepared in line with the requirements of the newly amended Environmental Impact Assessment (EIA) Directive (2014/52/EU), which entered into force on 15 May 2014, and Directive 2011/92/EU of 13th December 2011 on the assessment of the impacts of certain public and private projects on the environment.

This EIS has been prepared on behalf of the Office of Public Works (OPW). The OPW is a publicly funded body formed in 1831, one of whose responsibilities is the design, construction and implementing of drainage schemes throughout Ireland. The OPW has extensive experience in successfully undertaking such projects nationwide. They carried out large arterial drainage schemes on Irish river systems as early as the mid-19th century. In addition to Flood Risk Management, the OPW is responsible for Estate Portfolio Management and Heritage Services, and the National Procurement Service.

1.2 BRIEF DESCRIPTION OF THE PROPOSED DEVELOPMENT

The design of the proposed Lower Lee (Cork City) Drainage Scheme has evolved through an initial screening process of a range of potential engineering measures typically considered for flood alleviation schemes, the development of potential options and finally the development of an emerging preferred scheme design.

The scheme will be designed to provide protection to properties in the study area from the 1 in 100 year fluvial / 1 in 200 year tidal flood events. It has been developed in close co-operation with all key stakeholders, in particular; Cork City Council, Cork County Council and the ESB.

The following are the key constituent parts of the proposed Scheme:

- Site Investigations.
- A new Fluvial Flood Forecasting system based on both predictive and real time rainfall, and real time river flows and reservoir level data, to be utilised in combination with the existing harbour tidal flood forecasting system.
- A new flood warning system to effectively disseminate warnings and information to landowners and river users during major flood events.
- Designation of floodplains (washlands) upstream of Cork City. This along with the Flood Forecasting system will facilitate the use of revised dam operation procedures resulting in a more aggressive lowering of reservoir levels in advance of a predicted flood event to maximise available reservoir storage and thus provide increased attenuation to reduce the peak flow during major flood events.
- Direct defences (walls and embankments) from downstream of Innishcarra Dam through to Cork Harbour to defend against the design flood event.
- Flow Control chamber at the upstream end of the South Channel to divert a greater proportion of flood flow along the higher capacity North Channel, thus minimising the extent of required direct defences on the Curragheen River and western end of the South Channel
- Demountable flood gates (tidal) at a limited number of key bridges and critical locations within the eastern part of Cork City.
- Re-grading of ground and road ramping at a number of locations.
- Associated groundwater cut off walls and back-of-defence drainage infrastructure to intercept and manage groundwater seepage.
- Bridge replacement.
- Associated drainage infrastructure (including non-return valves on drainage outlets) and pumping stations to manage surface water/groundwater at back of defences.
- Associated services/utility diversions.

The description of the scheme is provided in more detail in Chapter 3 – Description of the Proposed Development.

A constraints study was carried out as part of this project. The Study Area at this constraints study stage was described as 'the channel, floodplain and immediate surrounding areas of the River Lee from the Inniscarra Dam extending along the main channel of the river' to Cork City. The River Bride (Blackpool) Certified Drainage Scheme was pursued as a separate project to the Lower Lee (Cork City) Drainage Scheme, and so was subject to a separate EIS displayed in December 2015. For most studies conducted as part of this EIS, the Study Area was limited to the channel and immediate surrounding areas of the River Lee extending from downstream of Inniscarra Dam, downstream through Cork City, to downstream of the confluence of the north and south channels of the River Lee at Horgans Quay. This overall study area is shown on Figure 1.1. The Study Area for each aspect of the receiving environment is defined in each chapter of the EIS in order to clarify the extent of the area assessed for impacts relating to the proposed works.

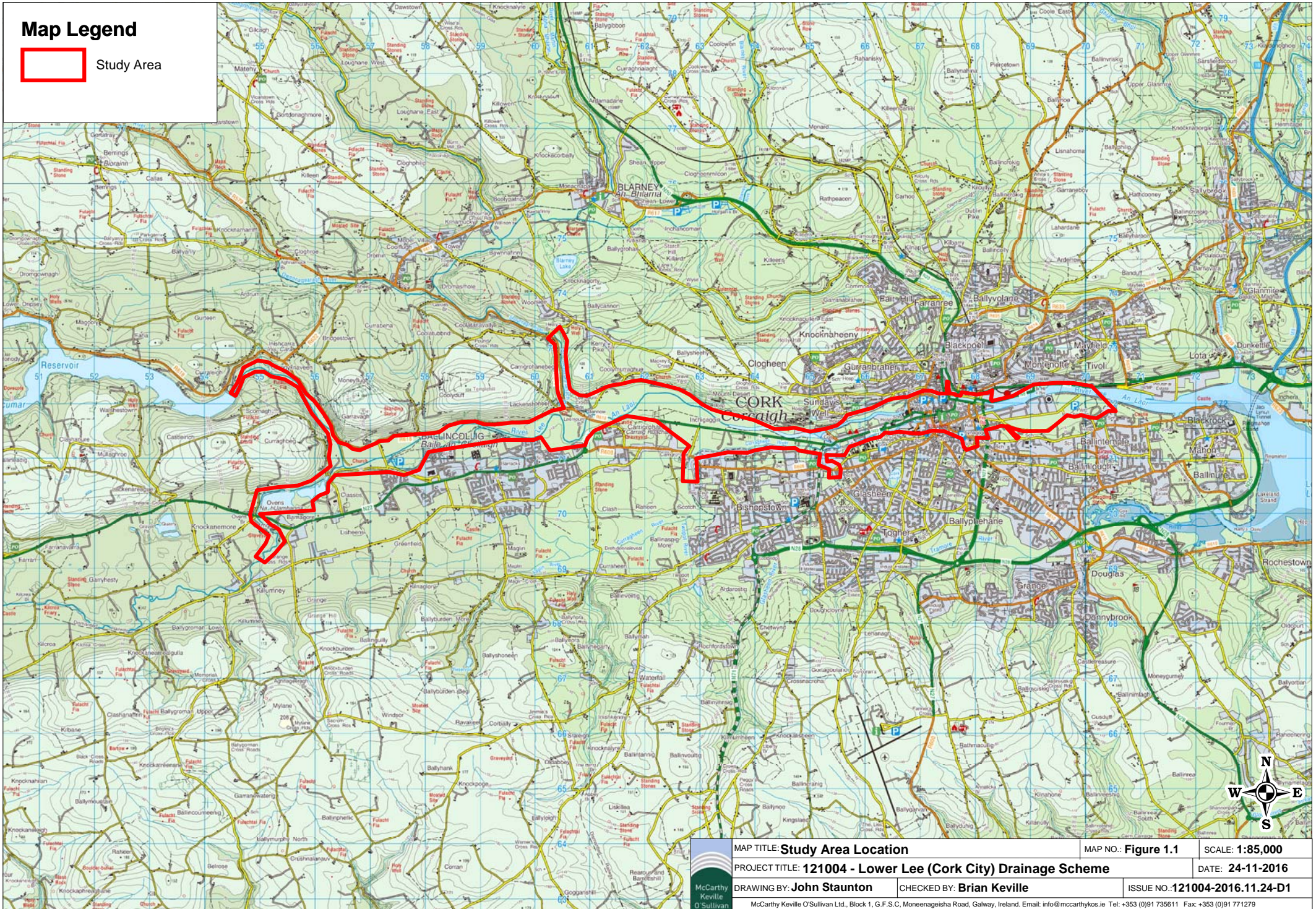
1.3 PURPOSE AND SCOPE OF THE EIS

The purpose of this EIS is to document the current state of the environment in the vicinity of the proposed development site in an effort to quantify the possible impacts, if any, of the proposed development on the environment. The assessment process that led to the compilation of this document served to highlight any

Map Legend



Study Area



	MAP TITLE: Study Area Location	MAP NO.: Figure 1.1	SCALE: 1:85,000
	PROJECT TITLE: 121004 - Lower Lee (Cork City) Drainage Scheme	DATE: 24-11-2016	
	DRAWING BY: John Staunton	CHECKED BY: Brian Keville	ISSUE NO.: 121004-2016.11.24-D1
McCarthy Keville O'Sullivan Ltd., Block 1, G.F.S.C. Moneenageisha Road, Galway, Ireland. Email: info@mccarthykos.ie Tel: +353 (0)91 735611 Fax: +353 (0)91 771279			

areas where mitigation measures may be necessary in order to protect the surrounding environment from any negative impacts of the proposed development.

The objective of this process is to facilitate the most efficient and positive design of the proposed scheme in order to enable the scheme to be incorporated into the receiving environment insofar as possible and to plan for the identified impacts so that measures are in place to ensure that any adverse impacts are avoided, reduced or remedied as appropriate.

1.4 STRUCTURE AND CONTENT OF THE EIS

1.4.1 General Structure

This EIS uses the grouped structure method to describe the existing environment, the potential impacts of the proposed development thereon and the proposed mitigation measures. Background information relating to the proposed development, scoping and consultation undertaken and a description of the proposed development are presented in separate sections. The grouped format sections describe the impacts of the proposed development in terms of human beings, flora and fauna, soils and geology, water, air and climate, noise, landscape, cultural heritage and material assets such as traffic and transportation, along with the interaction of the foregoing.

The EIS also includes a non-technical summary, which is a condensed and easily comprehensible version of the EIS document. The non-technical summary is laid out in a similar format to the main EIS document and comprises a description of the proposed development followed by the existing environment, impacts and mitigation measures presented in the grouped format.

1.4.2 Description of Impacts

As stated in the 'Guidelines on the Information to be contained in Environmental Impact Statements' (EPA, 2002), an assessment of the likely impacts of a proposed development is a statutory requirement of the EIA process. The statutory criteria for the presentation of the characteristics of potential impacts requires that potential significant impacts are described with reference to the extent, magnitude, complexity, probability, duration, frequency, reversibility and transfrontier nature (if applicable) of the impact.

The classification of impacts in this EIS will follow the definitions provided in the Glossary of Impacts contained in the following guidance documents produced by the Environmental Protection Agency (EPA):

- 'Advice Notes on Current Practice in the Preparation of Environmental Impact Statements' (EPA, 2003)
- 'Guidelines on the Information to be contained in Environmental Impact Statements' (EPA, 2002)

Table 1.1 presents the glossary of impacts as published in the EPA guidance documents. Standard definitions are provided in this glossary, which permit the evaluation and classification of the quality, significance, duration and type of impacts associated with a proposed development on the receiving environment. The use of pre-existing standardised terms for the classification of impacts ensures that the EIA employs a systematic approach, which can be replicated across all disciplines covered in the EIS, as advised in 'Guidelines on the Information to be contained in Environmental Impact Statements' (EPA, 2002). The

consistent application of terminology throughout the EIS facilitates the assessment of the proposed development on the receiving environment.

Table 1.1 Impact Classification Terminology (EPA, 2002/3)

Impact Characteristic		Description
Quality	Positive	A change which improves the quality of the environment
	Neutral	A change which does not affect the quality of the environment
	Negative	A change which reduces the quality of the environment
Significance	Imperceptible	An impact capable of measurement but without noticeable consequences
	Slight	An impact which causes noticeable changes in the character of the environment without affecting its sensitivities
	Moderate	An impact that alters the character of the environment in a manner consistent with existing and emerging trends
	Significant	An impact, which by its character, magnitude, duration or intensity alters a sensitive aspect of the environment
	Profound	An impact which obliterates sensitive characteristics
Duration	Short-term	Impact lasting one to seven years
	Medium-term	Impact lasting seven to fifteen years
	Long-term	Impact lasting fifteen to sixty years
	Permanent	Impact lasting over sixty years
	Temporary	Impact lasting for one year or less
Type	Cumulative	The addition of many small impacts to create one larger, more significant impact
	'Do Nothing'	The environment as it would be in the future should no development of any kind be carried out
	Indeterminable	When the full consequences of a change in the environment cannot be described
	Irreversible	When the character, distinctiveness, diversity, or reproductive capacity of an environment is permanently lost
	Residual	Degree of environmental change that will occur after the proposed mitigation measures have taken effect
	Synergistic	Where the resultant impact is of greater significance than the sum of its constituents
	'Worst Case'	The impacts arising from a development in the case where mitigation measures substantially fail.

Each impact is described in terms of its quality, significance, duration and type, where possible. A 'Do-Nothing' impact is also predicted in respect of each environmental theme in the EIS. Residual impacts are also presented following any impact for which mitigation measures are prescribed. The remaining impact types are presented as required or applicable throughout the EIS.

1.5 PROJECT TEAM

1.5.1 Protect Team Responsibilities

The companies and staff listed in Table 1.2 were responsible for completion of the EIA of the proposed development. Further details regarding project team members are provided below.

Table 1.2 Project Team

Consultants	Principal Staff Involved in Project	EIS Input
Ryan Hanley Consulting Engineers Sherwood House, Sherwood Avenue, Taylor's Hill, Galway	Jonathan Reid Sinead Gavin Sarah Mullen Ray Brennan	EIS Project Managers, Co-ordination and editing of EIS, Scoping and consultation, EIS Sections 3, 5, 6, 7, 10 & 11
McCarthy Keville O' Sullivan Ltd. Block 1 GFSC, Moneenageisha Road, Galway	Brian Keville Michael Watson Evelyn Sikora John Staunton	EIS Sections 1, 2, 4, 8, 9 & 12: Introduction, Background, Human Beings, Air & Climate, Noise & Vibration, Landscape and Interaction of Foregoing
ARUP Consulting Engineers 1 Albert Quay, Cork	Ken Leahy Alan Leen Philip Walsh Clifford Kileen	Scheme Design, EIS Section 10 Traffic & Transport
JBA Consulting 24 Grove Island Corbally, Limerick, Co Limerick	Jonathan Cooper Elizabeth Russell David Forde Joanne Cullinane Seb Bentley	Hydrology
John Cronin & Associates 3a Westpoint Trade Centre, Link Road, Ballincollig, Cork	John Cronin Tony Cummins	Cultural Heritage Section
Damian Brosnan Acoustics Shronagreehykealkill, Bantry, Co. Cork	Damian Brosnan	EIS Section 8: (Noise & Vibration)
ADCO Ltd. Beverley Studios Church Terrace, Bray Co. Wicklow, Ireland	Rex Bangerton	EIS Section 10 Material Assets

Consultants	Principal Staff Involved in Project	EIS Input
Proviz Courthouse Rd., Kinvara, Co. Galway	Mel Durkan	Photomontages