

CHAPTER ONE INTRODUCTION

1.1 INTRODUCTION

This Environmental Impact Assessment Report (EIAR) has been prepared on behalf of Limerick City & County Council in partnership with Limerick Twenty Thirty Strategic Development DAC (LTT). The EIAR has been prepared to accompany an application for approval to An Coimisiún Pleanála under Section 175 of the Planning & Development Act 2000 as amended, for the construction of a mixed use development that seeks the regeneration and adaptive reuse of a strategic brownfield site, as part of the Limerick City and County Council 'World Class Waterfront revitalisation and transformation project'.

The site, known locally as 'Cleeves Riverside Quarter' comprises the former industrial mill complex ('Cleeves') situated on the northern side of the River Shannon, Limerick City and occupies the area between; Stonetown Terrace Road to the northeast; O'Callaghan Strand to the southeast; Condell Road (R527) to the southwest; and, Salesian Primary School and the 'Fernhill' residential estate to the northwest and west respectively - all situated in the townland of Farranshone More in Limerick City. The site is dissected by North Circular Road where it extends between Shelbourne Road Lower and O'Callaghan Strand. The full extent of the planning application site is detailed in Figure 1.1 and a description of the site is provided in Chapter 2.0.

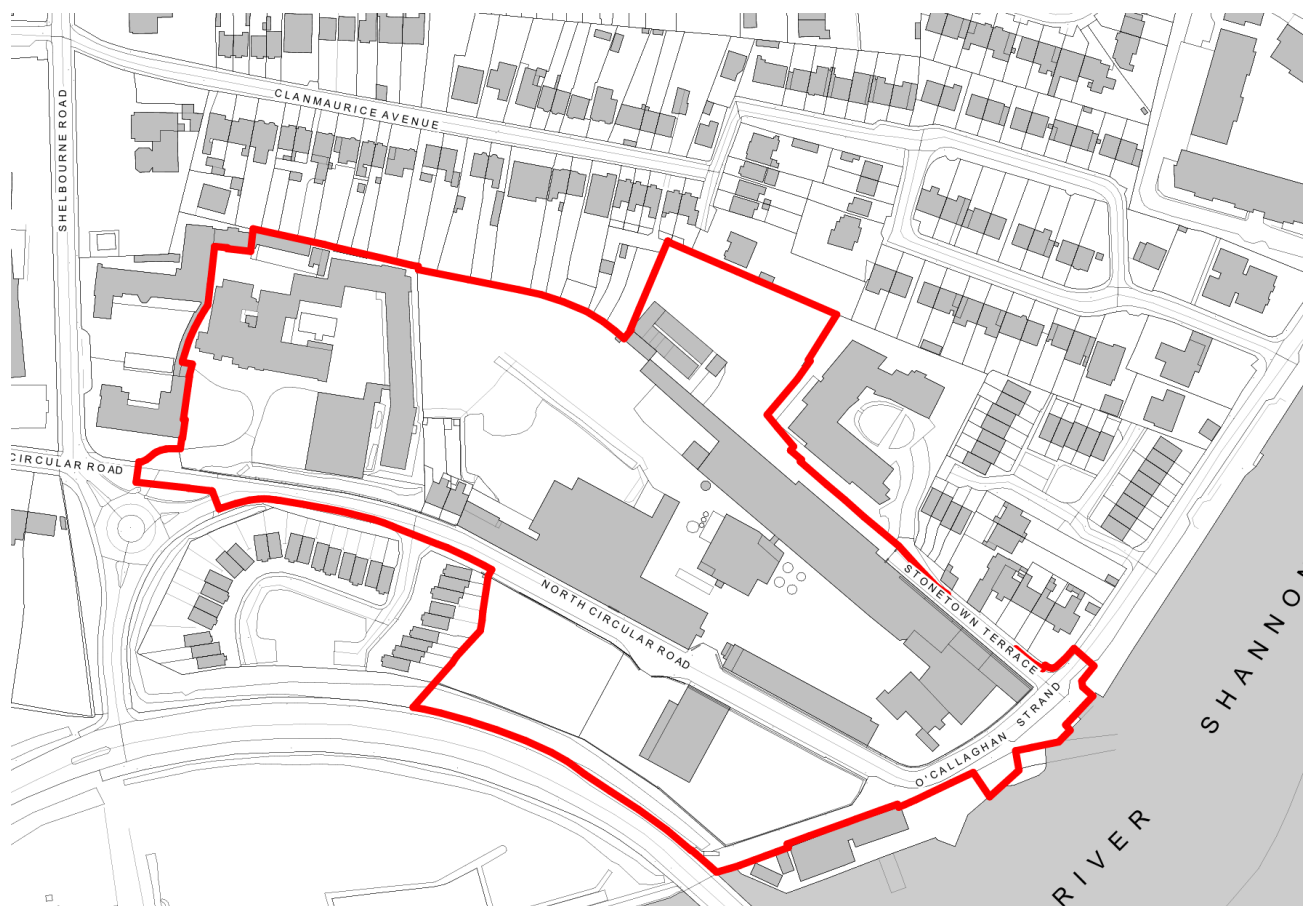


Figure 1.1 Application Site

The proposed development seeks the demolition of a number of structures and the construction and phased delivery of a number of buildings within the site ranging in height from 3 – 7 storeys including 234 no. residential units; 270 no. student bedspaces; commercial floorspace; and a creche. Extensive public realm works are proposed inclusive of the Flaxmill Plaza and a riverside canopy area. Chapter 2.0 provides a full description of the project.

The central purpose of this EIAR is to undertake an appraisal of the effects of the proposed development (Phase II) and the Masterplan site as far as practically possible on the environment, and to document this process and describe the likely significant effects on the environment (if any). The EIAR is then submitted to the competent/ consent authority to enable it to assess the likely significant effects of the project on the environment.

1.2 EIA LEGISLATION, DEFINITION OF EIA AND EIAR

The first EIA Directive was adopted in 1985 (Directive 85/337/EEC) and following the adoption of amending Directives in 1997, 2003 and 2009, a codified Directive was adopted in 2011 (Directive 2011/92/EU). Directive 2014/52/EU amends the 2011 codified Directive but does not replace it. This EIAR has been prepared in accordance with the requirements of the codified Directive 2011/92/EU as amended by Directive 2014/52/EU (hereafter referred to as the 'EIA Directive').as well as relevant national implementing legislation, i.e. Part X of the Planning and Development Act 2000, as amended ('the 2000 Act'), and Part 10 of the Planning and Development Regulations 2001, as amended, ('the 2001 Regulations').

Certain public and private projects that are likely to have significant effects on the environment are required to undergo an environmental impact assessment (EIA) in accordance with the EIA Directives. The purpose of the EIA Directives is to ensure that projects likely to have significant effects on the environment are subject to a comprehensive and systematic assessment of environmental effects prior to development consent being given. Directive 2014/52/EU defines 'environmental impact assessment' as a process, which includes the responsibility of the developer to prepare an Environmental Impact Assessment Report (EIAR), and the responsibility of the competent authority to provide reasoned conclusions following the examination of the EIAR and other relevant information.

The EPA Guidelines (2022)¹ (and the Planning and Development Act 2000 as amended) provide the following EIAR definition: "A report or statement of the effects, if any, that the proposed project, if carried out, would have on the environment."

The information to be included in an EIAR is specified in Article 5(1) and Annex IV of the EIA Directives (see section 1.7 below for more). The EIAR is prepared by the developer (in this instance Limerick City & County Council in partnership with Limerick Twenty Thirty Strategic Development DAC) and is submitted to a Competent Authority (CA) (in this instance An Coimisiún Pleanála) (ACP) as part of a consent process. The CA uses the information provided to assess the environmental effects of the project and, in the context of other considerations, to inform its decision as to whether consent should be granted. The information in the EIAR is also used by other parties to evaluate the acceptability of the project and its effects and to inform their submissions to the CA.

¹ 2 *Guidelines on the Information to be contained in Environmental Impact Assessment Reports, Environmental Protection Agency, 2022*

The overall objective of the EIA process is to identify, assess and describe the potential direct and indirect significant effects resulting from a project. Where potentially significant adverse effects are identified, appropriate measures to avoid, reduce, and if necessary, offset these effects are prescribed.

The principal elements of the EIA process, informed by the EIAR Guidelines (EPA, 2022), are summarised in Table 1.0 with a high-level description of each stage.

Table 1.1 Principal Elements in the EIA Process		
	Stage	Description
Project Inception	Screening	To determine whether an EIA is required for the Project.
	Scoping	To determine the issues to be considered as part of the EIA, information to be included in the EIAR, and the methods used to gather and assess that information.
Preparation of the EIAR	Consideration of alternatives	Describing the reasonable alternatives studied by the developer and the main reasons for choosing the project, outlining how environmental considerations were taken into account.
	Description of the proposed development	A description of the whole proposed project, comprising information on the site, design, size and other relevant features of the project, within the EIAR.
	Describing the baseline environment	The baseline scenario refers to the current state of environmental characteristics. It involves the collection and analysis of information on the condition, sensitivity and significance of relevant environmental factors which are likely to be significantly affected by the project.
	Identification and assessment of effects	The assessment of potential environmental impacts of the project on the existing environment and where the significance of effects is determined.
	Mitigation and monitoring	Description of mitigation measures to avoid and/or reduce significant adverse effects and details any monitoring proposals.
Completion of the EIA	Scrutiny and consent	The competent authority, ACP, will undertake the EIA and decide if the project can be consented. ACP will inform the public and other consultees of its decision
	Enforcement and monitoring	If consent is granted, the developer will have to adhere to mitigation measures published in the EIAR. Monitoring may be required to confirm the effectiveness of implemented mitigation measures during the construction, operation and maintenance (O&M) and decommissioning phases.

1.2.1 EIA Guidance

The primary objective of the EIAR is to identify the baseline environmental context of the proposed development, predict potential beneficial and/or adverse effects of the development and propose appropriate mitigation measures where necessary. In preparing this EIAR the following regulations and guidelines were complied with:

- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, EPA, May 2022
- Transposition of 2014 EIA Directive (2014/52/EU) in the Land Use Planning and EPA Licensing Systems - Key Issues Consultation Paper, Department of Housing, Planning, Community and Local Government, 2017.
- Circular letter PL 1/2017 - Advice on Administrative Provisions in Advance of Transposition (2017).
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (DoECLG, March 2013).
- Advice Notes on Current Practice (in preparation of Environmental Impact Statements) (EPA 2003).
- Environmental Impact Assessment (EIA), Guidance for Consent Authorities Regarding Sub-Threshold Development (DoEHLG 2003)
- OPR Practice Note PN02 Environmental Impact Assessment Screening
- Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report, European Commission, 2017
- Environmental Impact Assessment of Projects Guidance on Screening European Commission (2017).
- Environmental Impact Assessment of Projects Guidance on Scoping European Commission (2017).
- Study on the Assessment of Indirect & Cumulative Impacts as well as Impact Interaction (DG Environment 1999).

1.3 FUNCTION OF THE ENVIRONMENTAL IMPACT ASSESSMENT REPORT

This EIAR is a statement of the effects, if any, which the proposed development, if carried out, would have on the environment. It consists of a systematic analysis and assessment of the potential effects of a proposed project on the receiving environment. The function of the EIAR is to:

- Establish the existing environmental characteristics of the proposed site;
- Provide details of the proposed development and associated secondary developments;
- Predict the likely significant effects of the development on the environment;
- Outline the measures considered necessary to avoid, reduce or mitigate the negative impacts identified both individually and cumulatively to an acceptable degree;
- Identify areas requiring reinstatement and on-going monitoring.

The EIAR has been prepared following the logical analysis of the development proposal in relation to the receiving environment. This process of environmental impact ‘assessment’ and the preparation of this report has been an evolving iterative process. In order to avoid, reduce or negate potential adverse environmental effects, and to ensure holistic consideration of all environmental issues, the EIAR for this

project has been cognisant of baseline environmental conditions established and assessed within the wider masterplan site, including all areas which remain to be developed.

For the avoidance of doubt, all necessary technical information required for the purpose of the EIAR is enclosed either within this report or within the planning application documentation submitted with the planning application.

Prior to lodging this application, the required information was issued to the Department of Housing, Planning and Local Government's EIA Portal. The purpose of this tool is to inform the public, in a timely manner, of applications that are accompanied by an EIAR. The portal provides a URL link.

1.4 TECHNICAL DIFFICULTIES or LACK OF DATA

The compilation of the information necessary for the EIAR did not present any significant difficulties. However, some assumptions and projections were necessary for certain areas of this assessment, particularly the traffic and noise assessments.

The proposed development (Phase II) comprises part of a wider Masterplan site (see Section 1.6.3). Whilst the EIAR for this project is cognisant of baseline environmental conditions established within the wider masterplan site, including all areas which remain to be developed in future phases of development, the EIAR assesses the impacts arising from the proposed development (Phase II). The predicted impacts of future development as part of the Masterplan (cumulative impacts) are taken into account in this EIAR as far as practically possible, based on the information currently available about potential future phases.

Survey work has been undertaken to complement data from official sources in order to provide up-to-date base line information on which to undertake the environmental assessments. Small areas of the buildings were inaccessible for the purpose of undertaking detailed surveys. The upstairs of the office building on North Circular Road has been deemed unsafe due to asbestos. The Coldstore building was accessible in 2021 and 2022 but has since been deemed structurally unsound and internal access was restricted after these dates. The Weaving Mill was unsafe to enter due to deteriorated asbestos roof and structural concerns. A number of other structures were not accessed due to health and safety limitations including the Upper Reservoir, the interior office of the water tank and underwater features within the reservoir.

With respect to archaeology It was found that a significant challenge to the assessment related to continuing development of the site from the 19th century, but more significantly in the 20th century. While many 19th century buildings on the development site retain their own heritage value, they conceivably could have impacted possible earlier archaeological or historical sites. Extensive sections of the site were surfaced with hard surfaces such as concrete. This either removed upper soil and ground levels or obscured them to visual examination. However, the results of a preceding ground penetrating radar survey greatly assisted in overcoming this impediment.

With respect to the cultural heritage assessment, the presence of c20th linings has concealed earlier wall surfaces making it impossible to be explicit about the integrity of fabric that cannot be seen. Irrespective, each building has been visited to permit visual inspection.

With respect to water, there are no currently available records which show a connection between the spring source at the Westfield Wetlands and the proposed development site. However given the reported historic presence of the pumphouse, spring supply and locally reported (albeit unconfirmed) connection to the proposed development, along with the fact that any historic decommissioning / capping is unlikely to have fully sealed off the pipework, for the purpose of this EIAR it is conservatively assumed that the historic connection remains in place between the site and Westfields Wetlands.

Nonetheless, this EIAR has been prepared on the best available information and in accordance with current best practice and guidelines published by the Environmental Protection Agency.

1.5 THE APPLICANT

The applicant is Limerick City & County Council in partnership with Limerick Twenty Thirty Strategic Development DAC (LTT).

LTT is a property development company, established as a special purpose vehicle of Limerick City and County Council, to plan and develop key strategic sites in Limerick City and County. The company has experience in delivering strategic sites, acting as anchors for enterprise and investment development across Limerick and the Mid-West Region.

To name but a few, the 0.2 hectare Gardens International Office site in the heart of Limerick City on Henry Street is a striking example of the new standard of office space that LTT is bringing to market.

The ongoing development of Opera Square, a 1.4 hectare site in the city, demonstrates the sustainability and innovation approach adopted by the company. Opera Square includes the largest new civic space to be created in Limerick City Centre in over 100 years. The project blends new next generation structures with sixteen carefully preserved heritage buildings. Set around a large pedestrianised square, it includes a library, hotel and leisure spaces, and places to live and work.

1.6 THE MASTERPLAN

1.6.1 Masterplan Overview

The Cleaves Riverside Quarter Illustrative Masterplan – Vision Document was published in October 2023 by LTT. The Masterplan was prepared in response to the requirements for a coordinated and holistic approach to development on the Cleaves Site (5.30 hectares) as acknowledged in the Limerick Development Plan 2022 – 2028². The Masterplan was subject to public consultation and comprised the first step towards development on the site.

The Masterplan provides for the comprehensive regeneration and development of the entire 5.3 hectares site including demolition, repair and reuse of all buildings on site. The Master Plan identifies six separate Development Zones on the site as detailed in Figure 1.3. It is proposed to advance only some / part of these zones in the proposed development (Phase II). There are four proposed phases of development on the Cleaves Site as detailed below.

² Section 3.4.3.2 Limerick Development Plan 2022 -2028

Phase I – Heritage Works

The Flaxmill requires substantial and expansive repair and renovation to enable reuse. Urgent works are required to the main mill roof and upper storey which necessitates peeling back of modern layers. These works are in keeping with best conservation practice and the Architectural Heritage Protection Guidelines (2011) and are not considered to materially affect the character of the protected structure. Accordingly, they are outside the scope of the application for consent to An Coimisiún Pleanála and are being undertaken under the provisions of Section 179(6)(a) of the Planning & Development Act 2000 as amended. This EIAR will assess potential cumulative impacts arising from these works.

Phase II - Residential & Public Realm (Subject development proposal)

This application for consent is being advanced for the Residential sites (Salesians Zone, Stonetown Terrace Zone, O'Callaghan Strand which is located within the Flaxmill Zone and the Quarry Zone); and the full Public Realm for the entire site excluding St. Michaels Rowing Club. The commercial buildings proposed for the Shipyard site in the Masterplan are not being advanced at this time. However, a temporary meanwhile use for the Shipyard Zone is proposed. Demolition will be undertaken on site to facilitate the proposed development, including the total demolition of the Salesians School and associated buildings.

Phase III – TUS Campus

This will form a separate planning application and is likely to advance whilst the Phase 2 Residential & Public Realm development (current application) is being assessed. The Flaxmill and associated historical buildings will undergo a change of use, renovation works and be extended to accommodate commercial uses at the ground floor level with educational use at upper floors. Significant new educational buildings are proposed along North Circular Road as detailed in the Masterplan, which will necessitate further demolition of buildings. This development will be assessed as part of the EIAR insofar as possible having regard to the extent of information available at the current time.

LTT and the Technological University of the Shannon (TUS) have entered into a Memorandum of Understanding to deliver the campus with a detailed Feasibility Study already complete. The next stage in the process is Planning Developed Stage: Outline Sketch Scheme Design and it is likely that consent shall be sought for this development in 2026, dependent on funding approval from the Higher Education Authority.

Phase IV – Shipyard Site

final phase of development will be the Shipyard site which is intended to accommodate significant commercial development, including circa 23,000sqm of commercial floorspace, with significant buildings of up to 8 storeys in height and a landmark building extending towards the river. This part of the overall Masterplan is intended to accommodate most of the minimal car parking provision for the site within an undercroft / basement level. There is no timescale defined for the delivery of this element of the development, but it is likely that detailed design will commence after the consent process associated with the TUS educational campus. In the meantime, temporary 'meanwhile uses' are proposed on the Shipyard site which will be assessed in the EIAR.



Figure 1.4 Cleeves Riverside Quarter Illustrative Masterplan – Vision Document

1.7 THE DEVELOPMENT

1.7.1 Masterplan Site Context

The Cleeves Masterplan site (5.30 hectares) has a unique location, situated on the northern bank of the River Shannon, yet also being assigned part of the City Centre Area. The river visually separates the site from Limerick city centre which allows it to form a stronger relationship with the immediate context west of the river, including residential neighbourhoods, educational facilities and public open space, including the Westfield Wetlands.

The site consists of two separate parts, located north and south of North Circular Road, comprising Cleeves, a former industrial site which is located dissected by the North Circular Road; the Salesians Convent and Secondary School, which is located to the north of the Cleeves site; and St. Michaels Rowing Club located between the river and O'Callaghan Strand.

The site is bounded by Stonetown Terrace Road to the northeast; O'Callaghan Strand to the southeast; Condell Road (R527) to the southwest; and, Salesian Primary School and the 'Fernhill' residential estate to the northwest and west respectively. The former industrial mill complex ('Cleeves') has a number of heritage buildings and mid - late c.20th building structure additions.



Figure 1.2 Cleaves Riverside Quarter development site in the context of Limerick City and hinterlands.

There are two structures within the site designated as protected structures; the Flaxmill Building (PS Ref no.264 & NIAH No. 21512053) and the octagonal brick chimney (PS Ref no.265 & NIAH No. 21512059). The site is currently a brownfield site, mainly comprising hardstanding and revegetating bare ground, with Salesians school dominating the north western section. The levels within the site vary significantly, sloping from northwest to southeast towards O'Callaghan Strand and the River Shannon. An old quarry is located at the centre of the site, with a reservoir formed from part of the quarry. The site consists of six development zones as detailed in Figure 1.3, including Salesians Zone; Quarry Zone; Stonetown Terrace

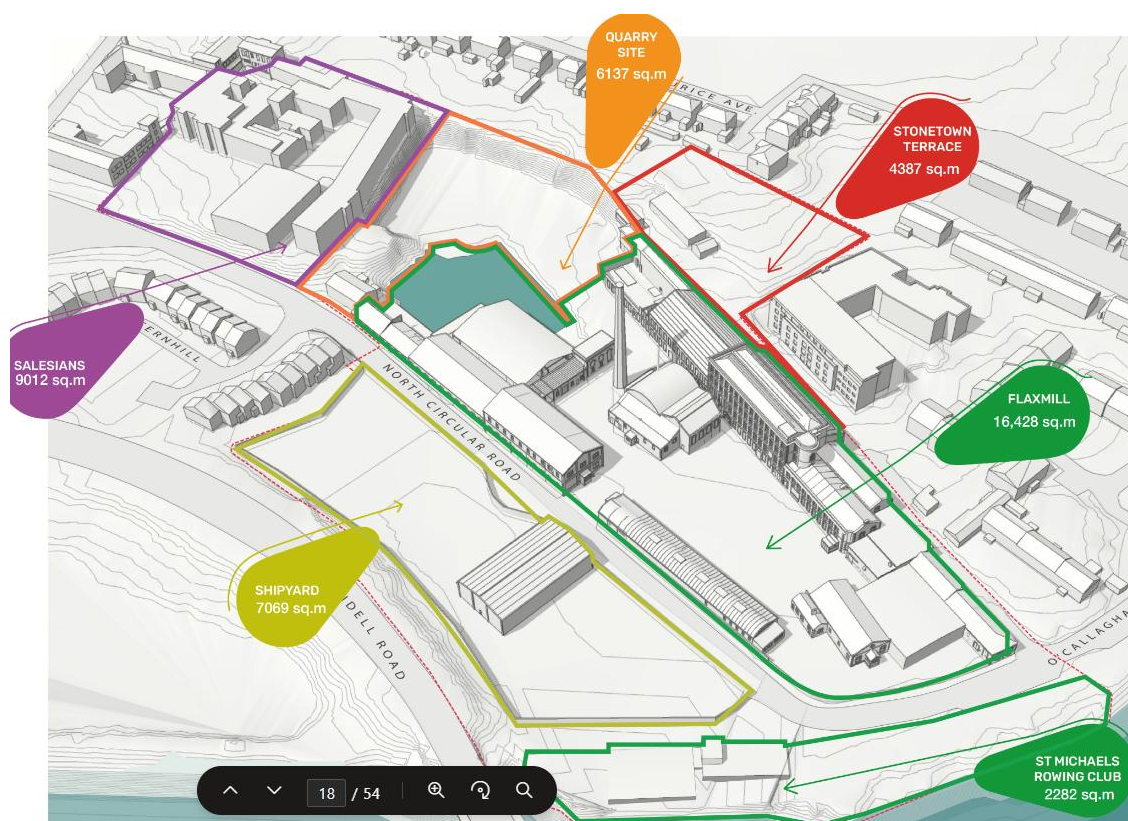


Figure 1.3 Six Development Zones with the Overall Masterplan Site

Zone; Flaxmill Zone / O'Callaghan Strand; St. Michael's Rowing Club / Riverside Zone; and Shipyard Zone. A different approach to development has been adopted for each zone and which shall inform future delivery sequencing.

1.7.2 The Application Site

Whilst the area of the proposed development site (5.09 hectares) encompasses most of the Masterplan site, the St. Michael's Rowing Club site adjoining the river's edge, is excluded from the current development proposal (Phase II). This area which measures 0.2 hectares will be included in Phase IV. Further, within the site not all buildings are proposed to be demolished / constructed or re-used as indicated within the Masterplan. Rather, the focus on this phase of development is to advance residential development in an effective and efficient manner to address the critical shortage of accommodation in the city, whilst ensuring that the development does not compromise the future delivery of Phase III TUS Educational Campus and the remaining Masterplan proposal.

1.7.3 The Proposed Development (Phase II)

The development site as defined in red on the Site Layout Plan comprises 5.09 hectares. The proposed development as described in the public notices is set out hereunder.

The proposed development comprises Phase II, of an overall Masterplan with four phases of development proposed. Phase II will commence subsequent to ongoing emergency stabilisation and repair of the Flaxmill protected structure (Phase I). Phase III is intended to comprise an educational campus, inclusive of the adaptive reuse of the Flaxmill Building as part of that development and will be subject to a future separate application. Phase IV comprising the Shipyard site will be the final phase of development.

Two structures within the site are designated protected structures; the Flaxmill Building (PS Ref no.264 & NIAH No. 21512053) and the octagonal brick chimney (PS Ref no.265 & NIAH No. 21512059), which are to be retained.

The proposed development includes:

- A. Demolition of a number of structures to facilitate development including (i) Salesians Secondary School and Fernbank House; (ii) 2 no. houses on North Circular Road; (iii) Residual piers from the basin of the reservoir; (iv) Upper Reservoir on Stonetown Terrace comprising 2 no. concrete water tanks, pump house and liquid storage tank; (v) 1960's lean-to building structures adjoining the Cold Store (former Weaving Mill); (vi) remaining fabric of c20th rear lean-to of the Flaxmill Building; (vii) c.1960s office building adjoining the Packing Store and Cheese Plant on North Circular Road; (viii) Cluster of buildings including altered part of the Linen Store, the former Linen Store, Storage Building, and Office/Lab building at O'Callaghan Strand / Stonetown Terrace with partial retention of existing stone wall; (ix) warehouse on the Shipyard site; and (x) partial removal of stone boundary wall defining the Cleaves site adjoining O'Callaghan Strand / Stonetown Terrace and around the Shipyard site.
- B Construction and phased delivery of:
 - i. Residential Development in 4 development 'zones' within the site ranging in height from 3 – 7 storeys (with screened service plant at roof level) comprising; (a) 234 no. residential units; (b) 270 no. student bedspaces with ancillary resident services at ground floor level; (c) 299sqm of commercial floorspace; and (d) a creche. The specific development details of each proposed development zone comprise the following:

- Salesians Zone – 1 no. building with 2 no. blocks extending to 6 and 7 storeys comprising 146 no. apartments (76 no. 1 bed; and 70 no. 2 bed); a creche; semi basement car and bicycle parking; reception area, plant rooms, and refuse storage, with screened external plant and photovoltaic panels at roof level; 20 no. 3 storey 3 bed triplex units with photovoltaic panels at roof level; and 30 no. car parking spaces for the dedicated use of the adjoining Salesians Primary School.
 - Quarry Zone – 1 no. Purpose Built Student Accommodation (PBSA) building with 3 no. blocks extending to 6 and 7 storeys comprising 270 no. bedspaces with study rooms, shared areas, exercise room, reception area, plant rooms, refuse storage and bicycle parking all at ground floor level and screened external plant and photovoltaic panels at roof level. Provision is made for telecommunication antennae on the roof top of one block. Consent is also sought for use of the PBSA accommodation, outside of student term time, for short-term letting purposes.
 - Stonetown Terrace Zone – 1 no. building extending to 4 - 5 storeys comprising 38 no. apartments (6 no. studios; 12 no. 1 beds; and 20 no. 2 beds) with plant rooms and refuse storage at ground level, ancillary infrastructure at basement level at northern end of the block, with screened external plant and photovoltaic panels at roof level; 9 no. 3 storey 3 bed townhouses with photovoltaic panels at roof level; and a dedicated secure bicycle storage facility.
 - O'Callaghan Strand Zone – 1 no. building extending to 4 / 5 storeys comprising 21 no. apartments (9 no. 1 bed and 12 no. 2 bed) with an open roof structure accommodating communal open space, plant and photovoltaic panels; and 299qm of commercial ground floorspace intended to accommodate Class 1, Class 2 and / or Class 3 uses, with provision for car parking in the undercroft.
- ii. Dedicated mobility hub with canopy and photovoltaic panels including double stacker bicycle parking; and EV Charging spaces, within the Shipyard Zone. A dedicated pedestrian/cycle link connects North Circular Road with Condell Road. The remaining area of the zone shall accommodate temporary car parking and a temporary external event space to be used on a periodic basis as the need arises, pending future redevelopment proposals as detailed in the Masterplan (Stage IV).
 - iii. Extensive provision of Public Realm including creation of the Reservoir/Quarry Park, the Flaxmill Square and the Riverside Corridor. Significant areas of civic and green spaces are provided, incorporating formal and informal play space; nature based SuDs, permeability and access; and a riverside canopy with photovoltaic panels functioning as an outdoor event space and incorporating heritage interpretative panels
 - iv. 3 no. dedicated bat houses;
 - v. Telecommunication antennae on roof of Block 2A of the PBSA, including (a) 9 no. Support poles to support 2 no. antennae each; (b) 6 no. microwave dishes affixed to the plant screen; and (c) associated telecommunications equipment and cabinets (effectively screened). To facilitate technologically acceptable locations at the time of delivery, a micro-siting allowance of 3m is proposed on the roof top of Block 2A of the PBSA for the infrastructure.
 - vi. Provision of vehicular access/egress points including (a) utilisation of existing access points to the Salesians Zone, to the Flaxmill and Quarry Zones and to the Mobility Hub on the Shipyard Site Zone; (ii) reopening an existing (currently blocked) access point off O'Callaghan Strand; (iii) new access points to the proposed undercroft carparking at Salesians from the North Circular

- Road and at the end of Stonetown Terrace road which provides access to the Stonetown Terrace Zone; and (iv) emergency access only from Stonetown Terrace to the Flaxmill Zone;
- vii. Provision of 30 no. dedicated car parking spaces to serve the Salesians Primary School; and
 - viii. All ancillary site development works including (a) water services, foul and surface water drainage and associated connections across the site and serving each development zone; (b) attenuation proposals; (c) raising the level of North Circular Road between Fernhill and O'Callaghan Strand; (d) refuse collection store (e) car and bicycle parking to serve the development; (f) public lighting; (g) all landscaping works.; and (h) temporary construction measures including (i) construction access to the Quarry site including provision of a temporary access across the reservoir; and (ii) temporary use of onsite mobile crusher.

1.8 PLANNING APPLICATION AND ENVIRONMENTAL ASSESSMENT – CLARIFICATION

1.8.1 The Masterplan

In considering the 'whole' Masterplan proposal and in the context of describing a proposed project and future alterations to the project, the EPA Guidelines³ note that the *Apple Date Centre Case*⁴ provides useful clarification on the requirements for assessment of cumulative effects and 'project splitting' as follows:

the obligation ... to take account, when conducting the EIA of the proposed development which is the subject of the planning application, of potential environmental impacts of future phases of a masterplan, as far as is practically possible, does not amount to an obligation to conduct an EIA of the masterplan.... When and if an application for planning permission for further phases of the masterplan is made, a full EIA will be required which in turn will both assess cumulative impacts with all existing or approved developments, and look forward by taking account, as far as practically possible, of remaining future phases of the masterplan.'

For the avoidance of doubt, all works proposed as part of the application for which planning consent is being sought, and described in the statutory notices, have been subject to environmental assessment which is presented in this EIAR. The 'physical characteristics' of these development works are presented and described in further detail in the following chapters. These characteristics of development present a phased (sequencing) approach to development on the lands and the proposed phasing approach is described and assessed as part of this EIAR.

However, in order to ensure an effective and conclusive environmental assessment consistent with best practice, the assessment of potential effects on the environment examines; the effects arising from the physical characteristics of the proposed residential and public realm works (Phase II) and the collective cumulative effects of the Phase I works and the remaining masterplan lands which have yet to be advanced for development, insofar as information is available. Further detail of the individual Masterplan Phases and the information available at the current time are provided in Chapter 2.0 Section 2.2.4.

The examination of the 'all phase' development scenario for the site is consistent with best practice in order to examine a 'worst-case' scenario of the project effects.

³ Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, EPA, May 2022

⁴ Fitzpatrick & Daly v An Bord Pleanála & Others [2019] IESC 23

Whilst the proposed development and the permitted development scenarios can be easily quantified and assessed, there remains many unknowns with respect to the remainder of the Masterplan site. Accordingly, the impacts of specific development proposals will need to be considered and assessed as development evolves and planning consent is sought for such development.

Examination of this 'worst-case' scenario is based on the likely effects of the proposed development and the anticipated activities that will occur from subsequent construction and operational stages of remaining phases based on the information known and available at this time in respect to those subsequent phases.

1.8.2 Micrositing of Telecommunication Antennae

Block 2A (west wing) of the PBSA proposes support poles to accommodate telecommunication equipment and associated infrastructure necessary to mitigate the impact the development will have on the existing poor mobile phone signal in the area and provide both the occupants of the development and the local area with adequate voice and data services to meet modern demands.

The proposed development involves the micrositing of telecommunication antenna by approximately 3 meters on the rooftop of Block 2a of the PBSA. The adjustment is intended to optimise signal coverage and network performance without altering the overall design or height of the installation. The flexibility is required to facilitate technologically acceptable locations at the time of delivery. This flexibility will be assessed in the EIAR having regard to relevant environmental factors.

1.8.3 Clarification of Terminology Used

This EIAR uses specific terminology to describe the application site and the proposed development comprising different phases of development and which form part of an overall Masterplan. The definitions and explanations of key terms are provided to ensure clarity and consistency throughout the document.

Proposed Development – That development as described in the public notices for the purpose of the application for approval, further explained in Chapter 2.0 and including detail on site development works, all of which are assessed in this EIAR.

Application Site – The site comprising 5.09 hectares in area as defined in Chapter 1.0 Figure 1.1 and described in Section 1.7.2, that being the same as the red line boundary on the application for approval drawings and for which planning permission is sought, comprising Phase II development.

Masterplan Site – The site comprising 5.3 hectares in area as defined in Chapter 1.0 Figure 1.4, inclusive of St. Michael's Rowing Club, comprising Phases I – IV development, that being the same as the site defined in the non-statutory Cleaves Riverside Quarter Illustrative Masterplan – Vision Document, Limerick Twenty Thirty, 2023.

Application for Consent / Application for Approval – The plans, drawings and particulars submitted to An Coimisiún Pleanála under Section 175 and 177AE of the Planning and Development Act 2000

1.9 REQUIREMENT FOR ENVIRONMENTAL IMPACT ASSESSMENT REPORT

The projects which require EIA are listed in Annex I and Annex II of the codified Directive 2011/92/EU as amended by Directive 2014/52/EU (hereafter referred to as the 'EIA Directive'). Schedule 5 (Part 1) of the Planning & Development Regulations 2001 (as amended) transposes Annex I of the EIA Directive

directly into Irish legislation and establishes thresholds for development for which an EIA is always required.

Article 4(2) of the EIA Directive provides that, for projects listed in Annex II, Member States shall determine whether the project shall be subject to an EIA and that this determination shall be made either through a case-by-case examination or thresholds or criteria set by the Member State. In transposing Annex II of the EIA Directive into Irish legislation, Schedule 5 (Part 2) of the Planning and Development Regulations 2001 (as amended) sets mandatory thresholds for each project class.

For a project of this nature and scale, Paragraph 10 Infrastructure Projects and Paragraph 14 Works of Demolition are the relevant paragraphs in Part 2, Schedule 5 of the Regulations, as detailed in Table 1.2.

Table 1.2 EIA Threshold Screening	
Paragraph 10 Infrastructure Projects Class (b)(i)	
Threshold	Construction of more than 500 dwelling units
Response	The proposed development comprises 302 no. dwelling units ⁵ and is below the 500 dwelling unit threshold. The development does not exceed the threshold requirement for this class of works.
Paragraph 10 Infrastructure Projects Class (b)(iv)	
Threshold	Urban development which would involve an area greater than 2 hectares in the case of a business district, 10 hectares in the case of other parts of a built-up area and 20 hectares elsewhere. (In this paragraph, “business district” means a district within a city or town in which the predominant land use is retail or commercial use).
Response	The application site is 5.09 hectares in area. Whilst the existing predominant land use surrounding the subject site is residential in nature and zoned accordingly, the site itself is of industrial / commercial nature. Of importance, the majority of the site is located within the defined City Centre Area zoning. Further the site is identified as a City Centre Commercial Area (CCCA) where the objective is to support the retention and expansion of a wide range of commercial, cultural, leisure and residential uses in the commercial core area, (apart from comparison retail uses). Having regard to the primary zoning of the land as a ‘city centre commercial area’ and the objective to provide for a mix of commercial, residential, leisure and cultural uses, which is distinct from the immediate adjoining residential zonings, it is considered that the site falls within a ‘business district’. The development exceeds the 2 hectare threshold under Paragraph 10(b)(iv) and mandatory EIA is required.
Paragraph 14 Works of Demolition	
Threshold	Works of demolition carried out in order to facilitate a project listed in Part 1 or Part 2 of this Schedule where such works would be likely to have significant effects on the environment, having regard to the criteria set out in Schedule 7.
Response	The proposed development comprises extensive demolition in proximity to the River Shannon and other sensitive environmental receptors including consideration of protected species – Lesser Horseshoe Bat. The works of demolition have the potential to have significant effects on the environment and requires mandatory EIA.

⁵ 4 no. student bedspaces are equivalent to 1 no. residential unit as per definition provided in the Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities

1.10 STRUCTURE OF THE ENVIRONMENTAL IMPACT ASSESSMENT REPORT

1.10.1 Layout of the EIAR

The EIAR shall contain three Volumes, including

- (A) Non – Technical Summary;
- (B) Written Statement
- (C) Appendices

Volume I '*Non-Technical Summary*' presents a synopsis of the specialist technical reports, and commentary on the significant direct and indirect effects on the environment. It omits technical terms and abbreviations but does not understate any issues of significance that may arise from the project.

Volume II Environmental Impact Assessment Report – Written Statement is the main volume of the EIAR. It provides information on the location and scale of the proposed development and details on design and impacts on the environment (both positive and negative) as a result of the proposed development. Environmental variables, as detailed in Section 1.9.4 below, are examined in terms of the existing or baseline environment, identification of potential construction and operational stage impacts and where necessary proposed mitigation measures are identified. The interaction of the environmental aspects with each other is also examined. Each chapter includes an assessment of potential cumulative impacts with other existing and planned developments, where relevant.

Volume III Environmental Impact Assessment Report – Appendices contains specialists' technical data and other related reports.

1.10.2 Assessment Criteria

The EIAR includes a simplistic and systematic methodological assessment of the proposed development under the following sub-headings:

- Introduction
- Assessment Methodology
- Existing Receiving Environment
- Characteristics of the Proposed Development
- Likelihood of Significant Effects
- Cumulative Development & Impacts
- Remedial & Mitigation Measures
- Residual Impacts
- Worst Case Scenario
- Monitoring
- References

1.10.3 Significance of Environmental Effect

The effects on the receiving environment are measured as the likely natural or physical changes in the environment resulting directly or indirectly from the development processes. Consideration of these effects was undertaken by assessing the proposed development against the defined environmental variables set out in the Planning and Development Regulations 2001, as amended and the EPA Guidelines on the Information to be Contained in Environmental Impact Assessment Reports

Impacts or effects are described in Guidance documents in terms of quality, significance, magnitude, probability, duration, and type. Table 1.2 below presents the Quality of effects; Table 1.3 details the description of the significance of effects and Table 1.4 presents the description of the duration of effects as shown in the Guidelines.

1.10.4 Environmental Variables

In assessing each of the above variables, examination was undertaken in terms of their context, character, significance and sensitivity in respect to the proposed development and location. The likely significant effects in this EIAR are, unless otherwise indicated in a particular Chapter, described using the terminology in Table 3.4 in the Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, EPA, May 2022 (the EPA Guidelines 2022), which are presented in Table 1.3 – 1.6 below. The use of these terms for the classification of impacts ensures that the EIA employs a systematic approach, which can be replicated across most disciplines covered in the EIAR. The consistent application of terminology throughout the EIAR facilitates the assessment of the proposed development on the receiving environment.

Table 1.3 Quality of Effects	
Quality of Effects	Definition
Negative / Adverse Effects	A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem, or damaging health or property or by causing nuisance).
Neutral	No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
Positive	A change which improves the quality of the environment (for example, by increasing species diversity, or improving the reproductive capacity of an ecosystem, or by removing nuisances or improving amenities).

Table 1.4 Significance of Effects	
Significance of Effects	Description of Potential Effects
Imperceptible	An effect capable of measurement but without noticeable consequences
Not significant	An effect which causes noticeable changes in the character of the environment but without noticeable consequences.
Slight Effects	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities
Moderate Effects	An effect that alters the character of the environment in a manner that is consistent with existing and emerging trends.
Significant Effects	An effect which, by its character, magnitude, duration or intensity significantly alters the majority of a sensitive aspect of the environment.
Very Significant	An effect which, by its character, magnitude, duration or intensity significantly alters the majority of a sensitive aspect of the environment.
Profound Effects	An effect which obliterates sensitive characteristics

Table 1.5 Probability of Effects	
Probability of Effects	Describing the Probability of Effect
Likely Effects	The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.
Unlikely Effects	The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented

Table 1.6 Duration of Impact

Duration of Impact	Definition
Momentary Effects	Effects lasting from seconds to minutes.
Brief Effects	Effects lasting less than a day.
Temporary Effects	Effects lasting less than a year.
Short-term Effects	Effects lasting one to seven years.
Medium-term Effects	Effects lasting seven to fifteen years.
Long-term Effects	Effects lasting fifteen to sixty years.
Permanent Effects	Effects lasting over sixty years.
Reversible	Effects that can be undone, for example through remediation or restoration
Frequency of Effects	Describe how often the effect will occur (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually)

1.10.5 Cumulative Impacts

The potential cumulative impact of the project in combination with other existing, planned or proposed developments in the area is considered in each chapter with the purpose of identifying the influence the proposed development will have on the surrounding environment when considered cumulatively and in combination with relevant existing permitted and proposed projects in the vicinity of the proposed site.

The assessment of projects in combination with other projects has four principal aims:

- To establish the range and nature of existing projects within the cumulative impact study area of the project.
- To summarise the relevant projects which have a potential to create cumulative impacts.
- To establish anticipated cumulative impact findings from expert opinions within each relevant field.
- Detailed cumulative impact appraisals are included in each relevant section of the EIAR.
- To identify the projects that hold the potential for in combination effects and screen out projects that will neither directly or indirectly contribute to in combination impacts.

1.10.5.1 Cumulative Effects Assessment

The potential cumulative effects of the proposed development with respect to traffic and noise resulting from the cumulation from multiple projects are predicted through the results of traffic and noise scenario modelling. The traffic modelling scenarios for the cumulative assessment are described in Chapter 18.0, whilst Noise is described in Chapter 13.0.

For other cumulative effects, it is necessary to consider the scale, nature and likely impacts of other projects which could combine with the proposed development to cause cumulative effects. It was therefore necessary to identify which other projects should be included for analysis as part of the cumulative effects assessment (CEA).

The first stage of the CEA was to identify other projects deemed potentially relevant. While the EIA Directive only requires the consideration of other existing and/or approved projects, this assessment has gone further having regard to the length of time envisaged to deliver the entirety of the Masterplan development (Phases 1 – IV). Cognisant of the fact that there is potential for a number of other projects

to receive approval and be progressed within that time period which may give rise to cumulative effects in combination with the proposed development, it was, therefore, considered appropriate to identify projects which, at the time of assessment, were yet to be approved, but for which a decision and potentially approval is reasonably foreseeable over the likely consenting and construction period anticipated for the proposed development

In addition to the cumulative assessment of the Phase I Masterplan development, which includes stabilisation and repair works to the Flaxmill Building, future phases of Masterplan development (Phases III & IV) will also be included, insofar as information is currently available. In the absence of specific guidance on CEA study areas, consideration was given as to the distance over which impact pathways from other projects could potentially combine with the impact pathways of the proposed development to have likely significant effects on relevant receptors for each environmental topic. There are a number of environmental factors which will have recommended study areas, including for example biodiversity, waste management and climate.

The Guidance for Planning Authorities on Appropriate Assessments (Department of Environment, Heritage and Local Government 2009) recommends a study area of 15km is applied. However, any Appropriate Assessment to be conducted by the competent authority needs to consider all potential pathways to impacts on European nature conservation sites and therefore the application of an arbitrary distance may not be suitable. Therefore, the Biodiversity Chapter will consider cumulative developments over a much more extensive area than other environmental factors.

Waste management is undertaken on a regional basis and therefore for the Waste & Resources assessment, consideration has been given to projects within the Southern Waste Region (SWR).

The Climate assessment has been considered on a national basis and not confined to a specific study area, as the drivers and impacts of climate change operate on a wider scale.

For other chapters of the EIAR, assessment material for the cumulative impact appraisal was compiled on relevant developments within the vicinity of the application site. A review of all permitted planning applications was undertaken within a 1km radius of the site, over the last five years⁶. A 1km buffer (zone of influence) was chosen having regard to the urban configuration of the city including the extent of the defined city centre and landmark features including development either side of the River Shannon. The Zone of Influence was selected to provide a guide as to the likelihood that another project may contribute to potentially significant cumulative effects with the proposed development.

The material was gathered through a search of the National Planning Application Map Viewer, Myplan.ie and is detailed in Appendix 1.1. In the interest of completeness, planning permissions were considered, irrespective of their scale as ultimately likely impacts are dependent on the nature and location of development including site sensitivities.

However, given the location of the site in the city centre, a substantial quantum of applications comprises a change of use, or minor works which because of the protected structure status of the building required planning permission. Further, some of the permissions identified in the last five years have already been delivered on site. These instances have been highlighted in grey in the table provided in Appendix 1.1

⁶ The review was undertaken on 16th July 2025 and has accounted for all permitted developments over the last five years

and which have not already been factored into the assessment as part of the existing baseline environment. It is primarily those developments which have not been highlighted which have a potential to create cumulative impacts.

These developments need to be considered in conjunction with the proposed Phase I Masterplan works. The relevance of the projects identified in Appendix 1.1 are considered on a case by case basis in each chapter as necessary, depending on the interaction and likelihood of in combination impacts.

1.10.6 Mitigation and Residual Effects

Mitigation measures are developed to eliminate or reduce adverse effects identified in the EIA. The approach to mitigation for the proposed development is a hierarchical one, which seeks to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment.

For the purposes of the EIA, two types of mitigation are defined:

- Primary (or embedded) mitigation: Throughout the development, measures have been adopted as part of the evolution of the project design and approach to construction to avoid or otherwise reduce adverse impacts on the environment. These mitigation measures are referred to as 'incorporated design mitigation'. They are an inherent part of the proposed development and are effectively 'built in' to the impact assessment.
- Additional (or secondary) mitigation: Additional mitigation includes measures that are not incorporated into the design and require further activity to secure the required outcome of avoiding or reducing the significance of an effect. Additional mitigation is normally receptor specific and may make reference to management plans to control activities or specific commitments. These are divided into construction and operation phase mitigation.

Following initial assessment, if the impact does not require additional mitigation (or none is possible) the residual effect remains the same. However, if additional mitigation measures are identified, impacts are reassessed and all residual effects clearly described. The residual effects are identified and described in each chapter of the EIAR.

The mitigation associated with the proposed development is identified and described in more detail in the relevant chapters of the EIAR (Chapters 6.0–21.0) and summarised in Chapter 23.0 Summary of Mitigation and Monitoring.

1.11 COMPETENCIES OF THE TEAM

In accordance with Article 5(3)(a) of the EU Directive, the EIAR has been prepared by "Competent experts". In accordance with Environmental Protection Agency (EPA) guidance *"All competent persons must possess a combination of technical knowledge, experience and skills, and must be able to demonstrate both practical and theoretical competence and should participate in continual professional development. Competence may be demonstrated through reference to an appropriate qualification and/or professional membership of a recognised acoustic organisation (e.g. the Institute of Acoustics) and/or appropriate experience"*.

The preparation of this EIAR has been project managed by HRA Chartered Town Planning & Environment Consultants, trading as HRA Planning. The project management team hold recognised professional

qualifications in Town Planning, Environmental Impact Assessment Management, and in Ecological Assessment. The assessment has been prepared with other specialist professionals as per Table 1.7

Mary Hughes is a Director of HRA Chartered Town Planning & Environment Consultants and is a Corporate Member of the Irish Planning Institute (IPI). She qualified as a Town Planner in 1996 with a Masters of Science Degree from Queens University Belfast and has 29 years' experience in the field of town planning and environmental assessment. She received a Diploma in Environmental Impact Assessment Management from UCD in 1999. She spent her formative years working in local authorities throughout Ireland as a Town Planner before moving to private practice in 2002. Mary has project managed and co-authored many Environmental Impact Statements (EIS) and Environmental Impact Assessment Reports (EIAR) on behalf of private clients and public bodies across a diverse range of project typed and development sectors in Ireland. She is a Past President of the Irish Planning Institute.

Gary Rowan is a Director of HRA Chartered Town Planning & Environment Consultants, a Corporate Member of the Irish Planning Institute (IPI), and a Chartered Member of the Royal Town Planning Institute (RTPI). He has 26 years' experience in town planning, environmental impact assessment (EIA), and EIA management in Ireland. Qualified as a Town Planner in 1999, Gary went on to earn a Postgraduate Diploma in Environmental Impact Assessment Management from UCD in 2004 and an MSc in Applied Science (Ecological Assessment) from UCC in 2013. His career has included professional planning roles in local government and private consultancy, where he has provided town planning and EIA services to both public and private sector clients on development projects across Ireland. Gary has project-managed numerous EIARs (and earlier EISs), Strategic Environmental Assessments (SEAs), and Habitats Directive Assessments for private clients, including residential, commercial, and quarry developments.

Sara Fissolo is a Project Ecologist with MKO with over five years' experience in ecological consultancy. Sara holds a BSc. (Hons) in Ecology and Environmental Biology from University College Cork. Sara first joined MKO in 2019 and has since worked as a member of MKO's dedicated bat unit, where she scopes and manages bat survey requirements for a variety of projects, including wind-farms planning applications. She has specialised in carrying out bat survey requirements for developments and nature conservation projects, including habitat appraisals and roost assessments, manual/static activity surveys and data analysis, and produces bat report outputs to inform Ecological Impact Assessments, Environmental Impact Assessments and Appropriate Assessments. Sara's role includes keeping up to date with scientific literature and guiding her team and the rest of the ecology team on how to assess impacts on bats. She attended Wildlife Acoustics, Bat Conservation Ireland (BCI), Bat Conservation Trust (BCT) and CIEEM courses on surveying heritage buildings for bats, on performing advanced survey techniques and identification, on bats and lighting, on performing bat care, on assessing the impact of developments on bats and on the use of Kaleidoscope Pro Software. Sara is a member of BCI, for which she carries out volunteer surveys, is a qualifying member of CIEEM.

Pat Roberts is Principal Ecologist with MKO with over 20 years post graduate experience of providing ecological services in relation to a wide range of developments at the planning, construction and monitoring stages. Pat holds B.Sc.(Hons) in Environmental Science. Pat has extensive experience of providing ecological consultancy on large scale industrial and civil engineering projects. He is highly experienced in the completion of ecological baseline surveys and impact assessment at the planning stage. He has worked closely with construction personnel at the set-up stage of numerous construction sites to implement and monitor any prescribed best practice measures. He has designed numerous Environmental Operating Plans and prepared many environmental method statements in close

conjunction with project teams and contractors. He has worked extensively on the identification, control and management of invasive species on numerous construction sites. Prior to taking up his position with MKO in June 2005, Pat worked in Ireland, USA and UK as a Tree Surgeon and as a nature conservation warden with the National Trust (UK) and the US National Park Service. Pat's key strengths include his depth of knowledge and experience of a wide range of ecological and biodiversity topics and also in his ability to understand the requirements of the client in a wide range of situations. He is currently responsible for staff development, training and ensuring that the outputs from the ecology team are of a very high standard and meet the requirements of the clients and relevant legislation and guidelines. He is a full member of the Chartered Institute of Ecologists and Environmental Managers (CIEEM). Pat sits on the Irish Policy Group of the CIEEM and reviews and comments on Irish and European Policy and legislation in this capacity. He is also an assessor for CIEEM membership applications.

Niall Gregory is a director of Gregory Archaeology and a member of the Institute of Archaeologists of Ireland, member of the European Association of Archaeologists, associate member as conservation surveyor of the Society of Chartered Surveyors of Ireland, tutor and member of the Nautical Archaeology Society, ambassador and founding member of Early Watercraft Association global network. He qualified as archaeologist with a BA NUI degree in archaeology and economics from University College Dublin in 1990, is a licence eligible archaeologist from 1990, awarded a PhD in archaeology in 1997 from the University of Edinburgh, and Dip in Safety, Health and Welfare from the University of Limerick in 2008. He worked as a consultant archaeologist to various archaeological practises, directing archaeological excavations, undertaking archaeological impact assessments, archaeological test excavations and archaeological monitoring. In 2001 he joined Babbie International – a multi-national consulting engineer company – with responsibility for large-scale infrastructural design projects, working with multi-disciplinary teams for the design, tendering, execution and review of advance archaeological contracting works. In 2002 he established Gregory Archaeology with a client base ranging from individuals to large national commercial developers, contractors and companies within the private sectors to local authorities and semi-state entities, such as Uisce Éireann, the Department of Education and the Health Service Executive within the public sector. Conservation and restoration projects of medieval town walls, town gates, buildings, castles / tower houses to 18th and 19th buildings, including industrial archaeology, have frequently involved working in close collaboration with other heritage and conservation professionals to ensure project delivery to the highest standards and outcomes.

James Sibson has 20 years of experience working in the historic built environment. He is an Architect Accredited in Building Conservation who has led the repair and reuse of listed buildings and protected structures from pre- and post-industrial era. Many of these buildings are of national significance and a few are of international significance. His works include industrial structures from the late 1700s and 1800s as well as more recent designated buildings of the mid C20th. He also works with Archaeologists in development settings scoping the investigation and appraisal of heritage above and below ground. He has prepared statements of significance for buildings dating from the 1400s through to designated buildings built in the 1960s. His work has guided major redevelopment projects in Manchester, Liverpool, Bristol and Huddersfield. He has also undertaken Heritage Impact Assessments for these projects. James has authored two Conservation Area Character Appraisals for Huddersfield and Islip, Oxford and has been working on the Cleaves Riverside Project since 2019.

Dave Kirkwood is Managing Director of Mitchell + Associates, Landscape Architects and Urban Designers. He qualified as a Chartered Landscape Architect in 1983 (Landscape Institute, UK) and has been a member of the Irish Landscape Institute since 1995. He served on the Council of the Irish

Landscape Institute for 5 years and is a Past President of the Institute. He has over 40 years' experience in landscape architectural practice, specialising in Landscape and Visual Impact Assessment (LVIA) since 2005.

Jannifer Harmon is a Director of Acoustics with AWN. She holds a BSc in Environmental Science and a Diploma in Acoustics and Noise Control and has over 24 years' experience in acoustic consultancy. She is a member of the Institute of Acoustics (MIOA) and has extensive knowledge in the field of environmental noise and vibration impact assessment, building acoustics and inward impact assessments. She has prepared environmental noise and vibration impact assessments for numerous major industrial, residential, commercial and infrastructural projects throughout the country.

Tanmay Gojamgunde is an environmental consultant in the Air Quality & Climate section of AWN Consulting, a Trinity Consultants Company. He holds a MSc in Air Pollution Management and Control from the University of Birmingham and has also completed BTech in Environmental Engineering. As part of the MSc, he worked on 'The Impact of bus-fleet electrification on air quality in Birmingham' utilising advanced dispersion modelling tools and emission inventory toolkit. Prior to joining AWN, Tanmay contributed to several key environmental projects in India, including Delhi's first air quality monitoring program (R ASMAN), air quality and traffic planning assessments with IIT Kanpur, and an Environmental Impact Assessment Report (EIAR) for an industrial district in Kanpur. He also specialises in conducting air dispersion modelling assessments of emissions, emission inventories, R programming and extends to broader aspects of environmental engineering

Ciara Nolan is a Principal Environmental Consultant in the Air Quality & Climate section of AWN Consulting. She holds a BSc in Energy Systems Engineering from University College Dublin and has also completed an MSc in Applied Environmental Science at UCD. She is a Member of the Institute of Air Quality Management (MIAQM) and the Institution of Environmental Sciences (MIEnvSc). She has over 8 years of experience in undertaking air quality and climate assessments. She has prepared air quality and climate impact assessments as part of EIARs for residential developments commercial and industrial developments, as well as renewable energy development. She also specialises in conducting air dispersion modelling assessments of emissions from data centres, energy centres and the chemical industry as part of EPA Industrial Emissions Licences.

Harshad Joshi has a B.E. in Mechanical Engineering and a MS in Mechanical and Aerospace Engineering, and leads the CFD division within IES. For the past 12 years he has worked in the IES Consultancy division using his expertise in Computational Fluid Dynamics to deliver projects worldwide.

Douglas Bell has a B.Sc. (Hons) in Design for Industry (Industry Engineering) and a PGDip in Integrated Product Development and leads the Lighting & BIM divisions within IES. For the past 19 years he has worked in the IES Consultancy division using his expertise in Daylight, Sunlight and Overshadowing assessments and BIM to deliver projects worldwide.

Pat O'Brien is a Chartered Engineer and Managing Director with EOB Management Services Limited. Pat has over 35 years' professional experience and in relation to Major Accidents & Disasters assessment has worked on Lough Gill Distillery Co Sligo, and Dew Valley Foods Thurles, and has had historical involvement in Seveso sites in the Limerick area at Grassland Fertilizers, and with the same company in Cork. He also has had advisory roles for clients in Dublin, Cork and Galway where significant projects impacted on their interests.

Christine Madden has 18 years' professional experience in managing health and safety in construction. Actively providing PSDP services to Aegis Safety Management's wide client base from complex

healthcare projects educational and housing developments to industrial plant upgrade projects. Christine focuses on applying quality standards and continual improvement to construction safety management systems and ensuring health and safety remains an integral part of the design process.

Deirdre Larkin (Technical Director with AtkinsRéalis) has over 20 years' experience of environmental assessment on major site developments and infrastructural projects across Ireland and in the UK, including Strategic Infrastructure Developments, Strategic Housing Developments, major road schemes and greenways. Deirdre holds a BSc in Geology and MSc in Applied Hydrogeology. She specialises in the area of Geology and Hydrogeology, with extensive experience in the preparation of Land Soils and Geology, and Water EIAR chapters and interpretive reporting on contaminated land projects. She is accredited with the Institute of Geologists (IGI) (PGeo EurGeol) and is also listed on the IGI Register of Professional Qualified Geoscientists/Competent Persons (Regulated and Unregulated Waste Disposal/Contaminated Land Assessments). She is responsible for the delivery and management of environmental services ranging from EIAR co-ordination and preparation to environmental due diligence and contaminated land services. Among her responsibilities, she delivers technical reports, liaises with clients, statutory stakeholders, and multidisciplinary design teams, inputs to technical meetings, and manages the AtkinsRealis Environmental Team.

Nicholas Van Den Berg, is a Chartered Engineer with over 11 years' experience in the civil engineering industry. Since joining AtkinsRealis, he has developed comprehensive stakeholder communication and project management skills enabling him to lead projects and strategically advise clients. Nicholas has significant experience in undertaking Traffic and Transportation Assessments, preparation of EIAR Traffic & Transportation Chapters, Mobility Management Plans and Road Safety Audits. His skills include the development of strategies to enhance sustainable transport and active travel provisions to improve overall permeability and connectivity of proposed developments and existing villages, towns and cities. Nicholas has played a key role in numerous planning applications including, but not limited to, residential developments, retail nodes and data centers. He has also led the delivery of traffic and transportation components of urban design strategies and masterplans, providing expert and trusted advice on strategic access and mobility issues.

Dr Catherine McIntyre has broad experience in the water industry over the last 14 years with skills in water technology development, pre-treatment for anaerobic digestion, wastewater treatment, water quality, project management, analysis, and communications. Her degree is in chemistry from the University of Galway. At University of Bristol, her biogeochemistry PhD project was embedded in a catchment science program, which aimed to characterise the organic fraction of nutrient influxes to freshwater ecosystems and understand its impact on freshwater quality. Her professional roles have seen her developing novel industrial microwave technology for treatment of sludge wastes and assessing innovative water technology developments. She has been working at AtkinsRéalis as Principal Water Quality Scientist since January 2025.

Ewuresi Opoku is a Senior Environmental Consultant with 10 years' experience delivering complex assessments and strategic advice across infrastructure, industrial, and multi-sector projects. Her expertise includes EIA, environmental planning and compliance, stakeholder engagement, and sustainability. She obtained her Bachelors of Science degree in Botany in 2012 from the University of Ghana, and Masters of Science in Environmental Monitoring and Management from the University of Nottingham in 2015.

Jenny Snook has over 2 years' experience of environmental assessment on major site developments across Ireland, including Strategic Infrastructure Developments, renewable energy projects, major road schemes and greenways. In 2022, she completed an MSc in Environmental Science at UCD, basing her final thesis on the Liffey Sweeper; the first vessel of its kind in Dublin to help tackle aquatic debris that accumulates in the River Liffey. She has written numerous Construction Environmental Management Plans, Environmental Impact Assessments and Resource and Waste Management Plans, while working for AtkinsRéalis. She also has 5 years of previous experience working in museum and archival research, after completing an MA in Archaeology and Heritage in 2010.

Orla Wood is an environmental consultant with 2 years' experience working on a range of environmental assessments which include Strategic Infrastructure projects, Renewable Energy projects, major road schemes and greenways. Her experience to date covers the preparation of EIA screening reports, Constraints Assessments, Multi-criteria analysis studies, Construction Environmental Management Plans, Resource and Waste Management Plans, and Non-statutory Environmental Assessment Reports as well as input into the preparation of EIAR chapters. Orla completed her Bachelor of Science at Dublin City University in 2022 with an Honors degree in Environmental Science and Technology.

Table 1.7 EIAR Table of Content & Authors – Competent Experts

Chapter of EIAR	Author(s)	Company	Subject Area	Qualification
Part A	Mary Hughes	HRA Planning	Non-Technical Summary	BA (Hons) MSc PGDip EIA Mgmt. MIPI
Part B				
Chapter 1.0	Mary Hughes	HRA Planning	Introduction	BA (Hons) MSc PGDip EIA Mgmt. MIPI
Chapter 2.0	Mary Hughes Gary Rowan	HRA Planning	Project Description	BA (Hons) MSc PGDip EIA Mgmt. MIPI Bsc (Hons.), MSc. PGDip, EIA Mgmt. MIPI MRTPI
Chapter 3.0	Mary Hughes	HRA Planning	Project Need & Spatial Planning Policy	BA (Hons) MSc PGDip EIA Mgmt. MIPI
Chapter 4.0	Mary Hughes	HRA Planning	Project Scoping & Engagement	BA (Hons) MSc PGDip EIA Mgmt. MIPI
Chapter 5.0	Mary Hughes Gary Rowan	HRA Planning	Examination of Alternatives	BA (Hons) MSc PGDip EIA Mgmt. MIPI Bsc (Hons.), MSc. PGDip, EIA Mgmt. MIPI MRTPI
Chapter 6.0	Mary Hughes	HRA Planning	Population & Human Health	BA (Hons) MSc PGDip EIA Mgmt. MIPI
Chapter 7.0	Sara Fissolo Pat Robers	MKO	Biodiversity	BSc Ecology CIEEM B.Sc., MCIEEM
Chapter 8.0	Niall Gregory	Gregory Archaeology	Cultural Heritage - Archaeology	BA NUI (UCD); Dip UL; PhD Edin; MIAI; AMSCSI; AEWA; MNAS; MEEA
Chapter 9.0	James Sibson	Feilden Clegg Bradley Studios	Cultural Heritage - Architecture	BA(Hons) Barch RIBA AABC

Chapter 10.0	Deirdre Larkin Jenny Snook Ora Wood	AtkinsRealis	Land, Soils & Geology	BSc. (Hons) Geology MSc Applied Hydrogeology IGI PGeo, EurGeol MA Archaeology, MSc Env Sc BSc (Hons) Env Sc & Tech
Chapter 11.0	Catherine McIntyre Deirdre Larkin	AtkinsRealis	Water & Hydrogeology	BSc (Hons) Chemistry PhD Biogeochemistry BSc. (Hons) Geology MSc Applied Hydrogeology IGI PGeo, EurGeol
Chapter 12.0	Dave Kirkwood	Mitchell + Associates	The Landscape	BSc Hons, CMLI, MILI, Dip. Env Mgmt
Chapter 13.0	Jennifer Harmon	AWN	Noise & Vibration	BSc, Dip Noise, MIOA
Chapter 14.0	Tanmay Gojamgunde Ciara Nolan	AWN	Air Quality	MSc, BTech BSc, MSc, MIAQM, MIEnvSc
Chapter 15.0	Tanmay Gojamgunde Ciara Nolan	AWN	Climate	MSc, BTech BSc, MSc, MIAQM, MIEnvSc
Chapter 16.0	Harshad Joshi	IES	Microclimate – Pedestrian Wind Comfort & Distress	BE (Mech.) MS (Mech. and Aerospace),
Chapter 17.0	Douglas Bell	IES	Microclimate – Sunlight Daylight & Shadow Analysis	BSc (Hons) PGDip
Chapter 18.0	Nicholas Van Den Berg	AtkinsRealis	Material Assets - Traffic & Transport	BSc. Eng, CMIEI
Chapter 19.0	Ewursel Opoku Jenny Snook	AtkinsRealis	Material Assets – Waste Management	BSc. Botany MSc Environmental Monitoring and Management MA Archaeology, MSc Env Sc
Chapter 20.0	Deirdre Larkin Jenny Snook	AtkinsRealis	Material Assets – Utilities	BSc. (Hons) Geology MSc Applied Hydrogeology IGI PGeo, EurGeol MA Archaeology, MSc Env Sc
Chapter 21.0	Pat O'Brien Christine Madden	EOB Engineers Aegis Safety	Risk Management for Major Accidents /Disasters	BE, BSc Env, H dip Geology, LLB BSc, BCom, HDip OSHW
Chapter 22.0	Mary Hughes	HRA Planning	Interaction Between Environmental Factors	BA (Hons) MSc PGDip EIA Mgmt. MIPI
Chapter 23.0	Mary Hughes	HRA Planning	Summary of Mitigation Measures	BA (Hons) MSc PGDip EIA Mgmt. MIPI

1.11 REFERENCES

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