Holy Cross College SHD

Environmental Impact Assessment Report (EIAR) Volume 2 (Main Text)

BSM
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Built. Environment.

Environmental Assessment
Built Environment

Client: CWTC Multi Family ICAV acting on behalf of its sub-fund DBTR DR DR1 Fund

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Contents

1 Introduction

1.1 Introduction

This Environmental Impact Assessment Report (EIAR) presents the assessment of environmental impacts and applicable mitigation measures associated with the proposed Holy Cross College Strategic Housing Development (SHD) located at Holy Cross College, Clonliffe Road, Dublin 3 and Drumcondra Road Lower, Drumcondra, Dublin 9 ('the proposed Project' hereafter).

This EIAR has been prepared in accordance with the requirements of the Planning and Development Act 2000 – 2021 ('PDA 2000', hereafter), the Planning and Development Regulations 2001 – 2021 ('PDR 2001', hereafter), and the relevant guidance documents, as detailed herein.

1.2 The Applicant

The Applicant for the proposed Project is CWTC Multi Family ICAV acting on behalf of its sub-fund DBTR DR1 Fund.

1.3 The Proposed Project

1.3.1 Site of Proposed Project

The Site of the proposed Project is located at Holy Cross College, Clonliffe Road, Dublin 3 and Drumcondra Road Lower, Drumcondra, Dublin 9 (Figure 1.1, overleaf). It is a Site of approx. 8.9 ha, with a development area of c. 8 ha. The Site is located c. 1.7 km north of Dublin City Centre. It is bound by Drumcondra Road Lower, Mater Dei College and the Archbishop's House (a Protected Structure) to the west; Clonliffe Road to the south; Cornmill Apartments and Belvedere College Rugby Grounds to the east; and by the River Tolka to the north.

1.3.2 Overview of Proposed Project

The proposed Project will consist of the construction of a Build To Rent (BTR) residential development set out in 12 no. blocks, ranging in height from 2 to 18 storeys, to accommodate 1,614 no. apartments including a retail unit, a café unit, a crèche, and residential tenant amenity spaces. The development will include a single level basement under Blocks B2, B3 and C1, a single level basement under Block D2, and a podium level and single level basement under Block A1, to accommodate car parking spaces, bicycle parking, storage, services and plant areas. To facilitate the proposed Project, the proposed works will involve the demolition of a number of existing structures on the Site.

The proposed Project sits as part of a wider Site Masterplan for the entire Holy Cross College lands which includes a permitted hotel development (ABP Reg. Ref.: PL29N.308193) and future proposed GAA pitches and clubhouse.

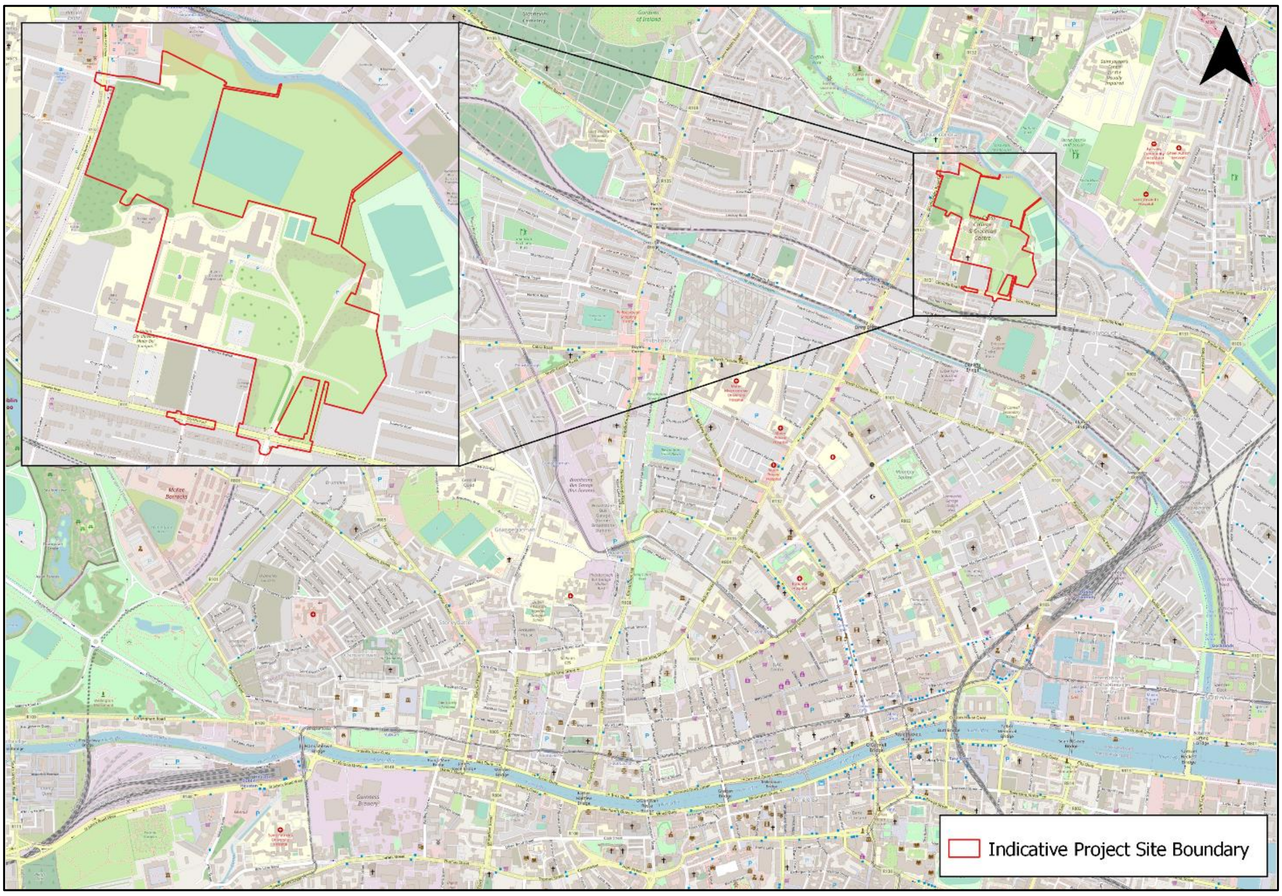
The Site contains a number of Protected Structures including The Seminary Building, Holy Cross Chapel, South Link Building, The Assembly Hall and The Ambulatory. The application proposes the renovation and extension of the Seminary Building to accommodate residential units and the renovation of the existing Holy Cross Chapel and Assembly Hall buildings for use as residential tenant amenity. The wider Holy Cross College lands also includes Protected Structures, including The Red House and the Archbishop's House (no works are proposed to these Structures).

The residential buildings are arranged around a number of proposed public open spaces and routes throughout the Site with extensive landscaping and tree planting proposed. Communal amenity spaces will be located adjacent to residential buildings and at roof level throughout the proposed Project. To facilitate the proposed Project, the proposed works will involve the removal of some existing trees on the Site.

The Site is proposed to be accessed by vehicles, cyclists and pedestrians from a widened entrance on Clonliffe Road, at the junction with Jones's Road and through the opening up of an unused access point on Drumcondra Road Lower at the junction with Hollybank Rd. An additional cyclist and pedestrian access is proposed through an existing access point on Holy Cross Avenue. Access from the Clonliffe Road entrance will also facilitate vehicular access to future proposed GAA pitches and clubhouse to the north of the site and to a permitted hotel on Clonliffe Road.

The proposed Project includes all Site landscaping works, green roofs, boundary treatments, PV panels at roof level, ESB Substations, lighting, servicing and utilities, signage, and associated and ancillary works, including Site development works above and below ground.

Figure 1.1: Location of the Proposed Project (© OpenStreetMaps, 2021)



1.3.3 Masterplan

The Site is part of the wider Holy Cross College lands, for which a Masterplan has been prepared on behalf of Hines and the GAA, in accordance with the requirements of the 'Z12' zoning of the lands under the scope of the Dublin City Development Plan 2016 – 2022. The Holy Cross College lands comprises and area of c. 14.5 ha, of which it is proposed to develop c. 12 ha under the scope of the Masterplan. Within this area, the proposed Project Site takes in an area of c. 8.9 ha, of which c. 8 ha is proposed to be developed (the 'development area').

For further information, refer to the Masterplan by Henry J Lyons Architects, submitted under separate cover as part of this application.

1.4 Environmental Impact Assessment (EIA)

Environmental Impact Assessment (EIA) is a process for the systematic examination of the *likely significant effects* on the environment of a proposed Project; ensuring that adequate consideration is given to any such effects; and avoiding, reducing or offsetting any significant adverse effects. The findings of this systematic examination are set out in the EIAR.

The environmental assessment presented in this EIAR has evaluated the *construction* (initial Site development works) and *operational* (the day-to-day functioning / operation of the Site) phases of the proposed Project. It describes the existing receiving (baseline) environment; identifies the likely significant impacts of the proposed Project; details any mitigation measures required to avoid, prevent, reduce or offset these impacts; and identifies any residual impacts anticipated to occur after mitigation.

An overview of the EIA process and the steps involved are set out in Table 1.1 below. Further discussion of the EIA process is presented in Chapter 2.

Table 1.1: Overview of the EIA Process

<table>
<tr><th>Stage</th><th>Description</th><th>Status</th></tr>
<tr><td>1. Screening</td><td>Is an EIA required?</td><td>Yes (Completed)</td></tr>
<tr><td>2. Scoping</td><td>The outline of the likely significant effects of the proposed Project and the aspects to be considered in the impact assessment.</td><td>Completed</td></tr>
<tr><td>3. Environmental Impact Assessment</td><td>This stage includes:
- Collection of the baseline information
- Analysis of the proposed Project
- Assessment of impacts
- Developing mitigation measures
- Setting out requirements for monitoring</td><td rowspan="2">Current Stage</td></tr>
<tr><td>4. Review & Decision</td><td>The EIAR accompanies the planning application to the planning authority (An Bord Pleanála) for determination of the application.</td></tr>
<tr><td>5. Monitoring</td><td>Implementation and monitoring of the proposed mitigation measures.</td><td>Next Stage</td></tr>
</table>

1.5 Format & Structure of the EIAR

Table 1.2 below sets out the format and structure of this EIAR.

Table 1.2: Structure of the EIAR

Section	Description
Volume 1: Non-technical Summary (NTS)	
NTS	A summary of the EIAR in non-technical language.
Volume 2: Main Report	
Chapters 1 – 3	*Introduction; The EIA Process; Planning & Development Context* An introduction to the proposed Project and EIA process, and description of the planning and development policy context.
Chapter 4	*Consideration of Alternatives* An overview of the alternatives considered for the proposed Project.
Chapter 5	*Description of the Proposed Project* A description of the design and construction methodology for the proposed Project, as assessed in the EIA.
Chapter 6	*Consultation* An overview of input received from consultees in relation to the proposed Project.
Chapter 7	*Population & Human Health* An assessment of the impacts of the proposed Project on population and human health in the receiving environment.
Chapter 8	*Biodiversity (Flora and Fauna)* An assessment of the impacts of the proposed Project on biodiversity in the receiving environment.
Chapter 9	*Land, Soils, Geology & Hydrogeology* An assessment of the impacts of the proposed Project on land, soils, geology and hydrogeology (i.e. groundwater) in the receiving environment.
Chapter 10	*Hydrology (Surface Water)* An assessment of the impacts of the proposed Project on surface water, including flood risk, in the receiving environment.
Chapter 11	*Air Quality & Climate* An assessment of the impacts of the proposed Project on air quality and climate in the receiving environment.
Chapter 12	*Noise & Vibration* An assessment of the impacts of the proposed Project on levels of noise and vibration in the receiving environment.
Chapter 13	*Landscape & Visual* An assessment of the impacts of the proposed Project on landscape character and visual amenity in the receiving environment.
Chapter 14	*Cultural Heritage – Architectural Heritage* An assessment of the impacts of the proposed Project on architectural heritage in the receiving environment.

Section	Description
Chapter 15	*Cultural Heritage – Archaeology* An assessment of the impacts of the proposed Project on archaeological heritage in the receiving in environment.
Chapter 16	*Microclimate – Daylight / Sunlight* An assessment of the impacts of the proposed Project on daylight / sunlight performance in the receiving environment.
Chapter 17	*Microclimate – Wind* An assessment of the impacts of the proposed Project on the movement of wind (and resultant impacts on pedestrians) in the receiving environment.
Chapter 18	*Traffic & Transportation* An assessment of the impacts of the proposed Project on traffic and transportation in the receiving environment.
Chapter 19	*Material Assets – Waste* An assessment of the impacts of the proposed Project in relation to waste generation and waste management.
Chapter 20	*Material Assets – Services* An assessment of the impacts of the proposed Project on utilities and services in the receiving environment.
Chapter 21 – 22	*Interactions & Cumulative Impacts* An overview of all major interactions between the different environmental aspects, as outlined above, and cumulative impacts of the proposed Project in combination with other plans / projects in the vicinity.
Chapter 23	*Mitigation & Monitoring* The schedule of environmental commitments / mitigation and monitoring measures included in the EIAR Document for ease of reference.
Volume 3: Appendices	
A8.1 – 19.2	Technical reference material supporting the EIAR Chapters.

1.5.1 EIAR Team

The EIA was project managed, co-ordinated and produced by Brady Shipman Martin (BSM). BSM coordinated the EIA process and liaised between the design team and various specialist environmental consultants. Environmental specialists were commissioned to complete the specialist environmental chapters of the EIAR document, as required by the EIA Directive and Regulations. As stated in the amended EIA Directive (Directive 2014/52/EU):

> *"Experts involved in the preparation of environmental impact assessment reports should be qualified and competent. Sufficient expertise, in the relevant field of the project concerned, is required for the purpose of its examination by the competent authorities in order to ensure that the information provided by the developer is complete and of a high level of quality".*

Table 1.3 provides the names of the professionals who have contributed to this EIAR and lists their qualifications and relevant experience; demonstrating that the EIAR has been prepared by qualified and competent experts.

Table 1.3: EIAR Team

Name	Role / Input	Company	Qualifications & Experience
Thomas Burns	EIAR Project Manager	BSM	**B.Agr.Sc. (Land.) Dip. EIA Mgmt., Adv. Dip. Plan. & Env. Law** ▪ Environmental Planner and Landscape Architect ▪ Member of Irish Landscape Institute & Irish Environmental Law Association ▪ Over 30 years of experience in EIA and LVIA
Sorcha Turnbull	Planner and Co-ordinator	BSM	**BSc (Spatial Planning), Dip. EIA Mgmt** ▪ Senior Planner ▪ Corporate Member of the Irish Planning Institute (IPI) & Associate Member of the Royal Town Planning Institute (RTPI) ▪ Over 10 years of experience
Lorraine Guerin	EIAR Co-ordination; Population & Human Health Assessment; Material Assets – Services Assessment	BSM	**BSc MSc** ▪ Environmental Consultant ▪ Over 2 years of experience.
Matthew Hague	Biodiversity Assessment and AA Screening	BSM	**BSc MSc Adv. Dip. Plan. & Env. Law** ▪ Ecologist ▪ Chartered Environmentalist – CEnv ▪ Full member of the Chartered Institute of Ecology and Environmental Management - MCIEEM ▪ Over 18 years of experience.
Paul Conaghan	Land, Soils, Geology and Hydrogeology Assessment; Hydrology (Surface Water) Assessment	AWN Consulting Ltd.	**BSc MSc** ▪ Environmental Consultant ▪ Member of the International Association of Hydrogeologists ▪ 9 years of experience
Ciara Nolan	Air Quality and Climate Assessment	AWN Consulting Ltd.	**BSc MSc** ▪ Air Quality Consultant ▪ Associate Member of Institute of Environmental Science (AMIEnvSc) ▪ Associate Member of Institute of Air Quality Management (AMIAQM) ▪ 4 years of experience
Mike Simms	Noise and Vibration Assessment	AWN Consulting Ltd.	**BE MEngSc MIOA MIET** ▪ Senior Acoustic Consultant ▪ Member of Institute of Acoustics ▪ 20 years of experience

Name	Role / Input	Company	Qualifications & Experience
John Kelly	Landscape and Visual Assessment	BSM	BArch (Hons) ▪ Landscape Architect ▪ Member of the Royal Institute of the Architects Ireland - MRIAI ▪ Over 25 years of experience
Grace Corbett	Archaeological Heritage Assessment	Irish Archaeological Consultancy	BA (Hons) MA ▪ Senior Archaeologist and Cultural Heritage Consultant ▪ Member of the Chartered Institute for Archaeologists ▪ Member of the Institute of Archaeologists of Ireland ▪ 16 years of experience
James Slattery	Architectural Heritage Assessment	David Slattery Conservation Architects Ltd	BArch DiplABRCons ▪ Conservation Architect (Principal) ▪ Member of the Royal Institute of Architects in Ireland ▪ 20 years of experience
Shóna O'Keeffe	Architectural Heritage Assessment	David Slattery Conservation Architects Ltd	BSc (Arch) MUBC ▪ Conservation Consultant ▪ Member of ICOMOS ▪ 5 years of experience
James Duff	Microclimate – Daylight / Sunlight Assessment	Arup	PhD BSc(Math) BSc(Eng) MSLL ▪ Lighting Designer ▪ Member of Society of Light and Lighting ▪ 11 years of experience
Harshad Joshi	Microclimate - Wind Assessment	IES Ltd	BE, MS ▪ Computational Fluid Dynamics Project Leader ▪ 10 years of experience
Andrew Archer	Traffic and Transportation Assessment	SYSTRA Ltd	BEng (Hons) CEng MIEI ▪ Transport Planner ▪ 2007 – Chartered Engineer – Member Institute Engineer Ireland ▪ 2017 Member of Committee, Transport Planning Society ▪ Over 20 years of experience
Chonaill Bradley	Material Assets – Waste Assessment	AWN Consulting Ltd.	BEnvSc ▪ Environmental Consultant – Waste Management ▪ AssocMCIWM ▪ Member of CIWM ▪ 7 years of experience

1.6 Impact Assessment Methodology

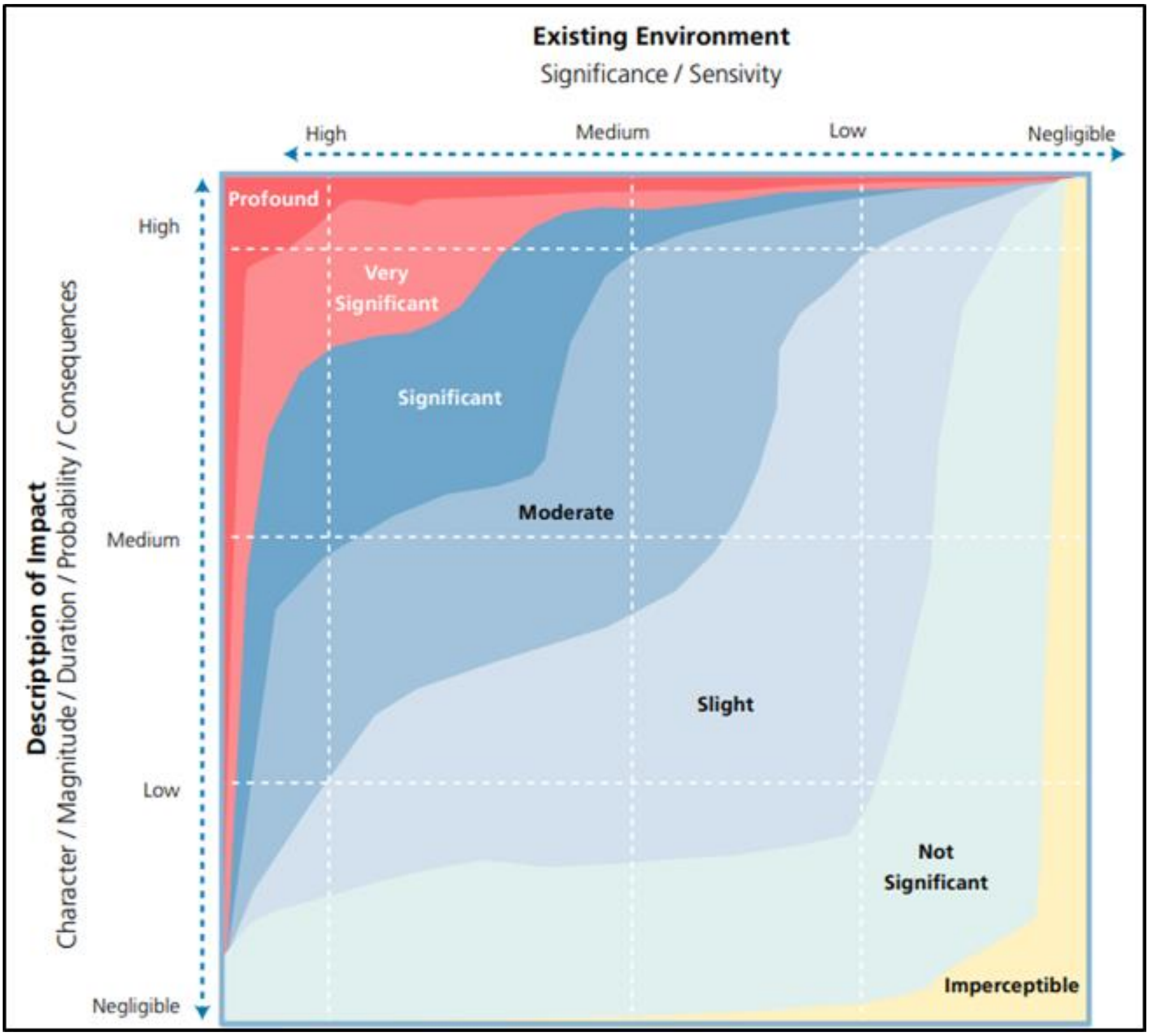
The impact assessment methodology is detailed in respect of the various EIAR topics in the respective specialist Chapters herein. Unless otherwise stated, the criteria for impact characterisation (i.e. for describing effects / impacts) are as per the EPA 2017 EIAR Draft Guidelines (set out in Table 1.4, below). The significance of an impact is determined through comparison of the character of the predicted impact to the sensitivity of the receiving environment / receptor as per the EPA 2017 Draft Guidelines (as illustrated in Figure 1.2, below).

Table 1.4: Criteria for Effect / Impact Characterisation (EPA, 2017)

Criteria	Definition
Quality	
Positive	A change which improves the quality of the environment (for example, by increasing species diversity; or the improving reproductive capacity of an ecosystem, or by removing nuisances or improving amenities).
Neutral	No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
Negative / Adverse	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).
Significance	
Imperceptible	An effect capable of measurement but without significant consequences.
Not Significant	An effect which causes noticeable2 changes in the character of the environment but without significant consequences.
Slight	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
Moderate	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
Significant	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.
Very Significant	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.
Profound	An effect which obliterates sensitive characteristics.
Extent & Context	
Extent	Describe the size of the area, the number of sites, and the proportion of a population affected by an effect.
Context	Describe whether the extent, duration, or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?)
Probability	
Likely	The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.
Unlikely	The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.
Duration, Reversibility & Frequency	
Momentary	Effects lasting from seconds to minutes.
Brief	Effects lasting less than a day.

Criteria	Definition
Temporary	Effects lasting less than a year.
Short-term	Effects lasting one to seven years.
Medium-term	Effects lasting seven to fifteen years.
Long-term	Effects lasting fifteen to sixty years.
Permanent	Effects lasting over sixty years.
Reversible	Effects that can be undone, for example through remediation or restoration.
Frequency	Describe how often the effect will occur. (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually
Type	
Indirect / Secondary	Impacts on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway
Cumulative	The addition of many minor or significant effects, including effects of other projects, to create larger, more significant effects.
Do-Nothing	The environment as it would be in the future should the subject project not be carried out
Worst-case	The effects arising from a project in the case where mitigation measures substantially fail.
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	The degree of environmental change that will occur after the proposed mitigation measures have taken effect.
Synergistic	Where the resultant effect is of greater significance than the sum of its constituents, (e.g. combination of SOx and NOx to produce smog).

Figure 1.2: Determination of Significance of Impact (EPA, 2017)



2 The Environmental Impact Assessment (EIA) Process

2.1 EIA Legislation

The EIA Directive (Directive 85/337/EEC) was introduced in 1985. The Directive, along with its three subsequent amendments, was eventually codified by Directive 2011/92/EU, which was further amended by Directive 2014/52/EU. The 2014 Directive took effect in Ireland on the 16th of May 2017, and transposing legalisation, the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018), came into effect on the 1st of September 2018.

The EIA Directive aims to provide a high level of protection to the environment and ensure that environmental considerations are taken into account in the preparation of a proposed development or project, with a view to reducing environmental impacts. The EIA process also provides for public participation and thereby strengthens the quality, comprehensiveness and inclusivity of decision-making in relation to developments and projects.

The 2014 Directive requires that certain developments be assessed for *likely environmental effects* before planning approval be granted. When submitting a planning application for such development, the applicant must also submit an accompanying EIAR.

The Government has brought forward the PDR 2001 to provide for the transposition of the Directive into the Irish planning code. To this effect, the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 transposed the 2014 Directive into Irish law.

The Department also issued the updated *Guidelines for Planning Authorities and An Bord Pleanála on Carrying out Environmental Impact Assessment* in 2018, to provide practical guidance on legal and procedural issues arising from the requirement to undertake EIA in accordance with Directive 2014/52/EU. These Guidelines have informed the preparation of this EIAR. The preparation of the EIAR has also had regard to the EPA *Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports* (2017).

2.2 EIA Process

EIA is the process for anticipating the effects on the environment caused by a proposed development or project. Where effects are unacceptable, design or other measures can be taken to avoid or reduce these effects to acceptable levels. The EIAR is the document produced as a result of the EIA process, which:

- Provides a description of the baseline environment;
- Identifies the potential effects as a result of the proposed development or project; and
- Provides a description of any mitigation measures required to reduce or eliminate such potential effects.

The EIA process is summarised as follows:

- **Screening**: Is an EIA required?
- **Scoping**: What issues should be considered in the EIAR?
- **Baseline Data Collection**: Establishing a robust baseline of the existing environment in the vicinity of the proposed Project. This includes a review of existing available information and undertaking any surveys identified during Scoping.
- **Impact Assessment**: Assessment of the environmental impacts and establishing their significance.
- **Mitigation:** A description of the mitigation measures needed to reduce or eliminate any significant environmental impacts identified, which cannot be avoided practically through design.

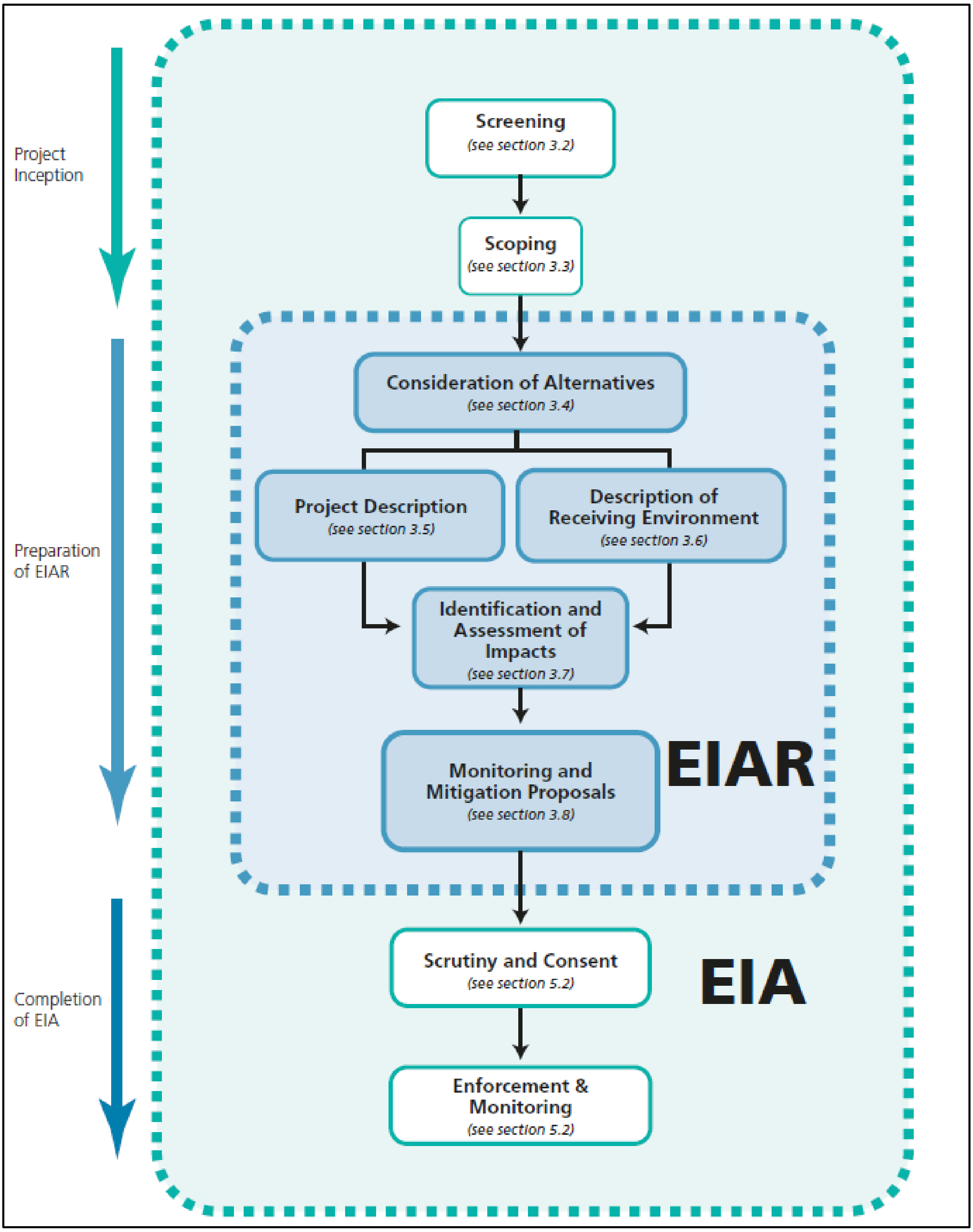
- **Consultation**: Consultation with Statutory Stakeholders, the public and other bodies, as appropriate.
- **Decision:** The Competent Authority (An Bord Pleanála in this case) decides, taking into consideration the results of stakeholder consultations, if the proposed Project can be authorised.
- **Implementation of Mitigation and Monitoring:** Assuming the development / project is granted permission and proceeds, the schedule of environmental commitments needs to be adhered to, including implementation of mitigation measures and monitoring set out in the EIAR.

In accordance with the requirements of Article 3 of the 2014 Directive, the EIA shall identify, describe and assess in an appropriate manner, the direct and indirect significant effects of the proposed Project on the following factors:

> *" (a) population and human health;*
>
> *(b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;*
>
> *(c) land, soil, water, air and climate;*
>
> *(d) material assets, cultural heritage and the landscape;*
>
> *(e) the interaction between the factors referred to in points (a) to (d)."*

The EIA process is summarised in Figure 2.1, below.

Figure 2.1: The Position of an EIAR within the EIA Process[1]



[1] EPA (2017).

2.3 EIA Methodology

2.3.1 EIA Guidance

This assessment of environmental impacts has been completed in accordance with, but not limited to, the following legislation and current guidance:

- DHPLG (2018). *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment*;
- DHPLG (2017). *Circular letter PL 1/2017 - Advice on Administrative Provisions in Advance of Transposition*;
- EC (1999). *Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions*;
- EC (2013). *Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment*;
- EC (2017). *Environmental Impact Assessment of Projects. Guidance on Scoping*;
- EC (2017). *Environmental Impact Assessment of Projects. Guidance on the preparation of Environmental Impact Assessment Report*;
- EPA (2015). *Draft Advice Notes on Current Practice in the Preparation of Environmental Impact Statements*;
- EPA (2017). *Draft Guidelines on the Information to be Contained in EIARs*;
- Directive 2014/52/EC, amending Directive 2011/92/EU on the Assessment of the Effects of Certain Public and Private Projects on the Environment;
- PDA 2000, as amended; and
- PDR 2001, as amended.

In addition to these guidance documents, all EU Directives and national legislation relating to the specialist areas have been considered, as detailed in the various specialist Chapters of this EIAR.

2.3.2 EIA Screening

Screening is Stage 1 in the EIA process, whereby a decision is made on whether or not an EIA is required. In order to determine whether an EIA is required for the proposed Project, it is necessary to determine whether it is a project listed in one of the Annexes to Directive 2011/92/EU, as amended by Directive 2014/52/EU.

The 2014 Directive specifies the classes of project for which an EIA is required and the information which must be contained within the EIAR. In accordance with Article 4(1) of the 2014 Directive, all projects listed in Annex I are considered as having significant effects on the environment and shall be subject to EIA. For projects listed in Annex II of the Directive, the national authorities may determine whether an EIA is needed, either on the basis of thresholds / criteria or case-by-case examinations.

These Annexes have been transposed into Irish law by the provisions of the PDA 2000 and the PDR 2001. Specifically, projects requiring mandatory EIA are listed in Part 1 of Schedule 5 of the PDR 2001 and those requiring mandatory EIA as a result of exceeding or meeting a stated threshold are listed in Part 2 of Schedule 5 of the PDR 2001.

Schedule 5 (Part 1) of the PDR 2001 lists major project classes for the purposes of mandatory EIA, which typically include industrial, chemical, energy, waste, infrastructure and intensive agricultural developments. The proposed Project at lands at Holy Cross College, Clonliffe Road, and Drumcondra Road Lower, **does not** correspond to a development set out under Part 1 of Schedule 5 and therefore, **EIA is not a requirement under this provision.**

Schedule 5 (Part 2) of the PDR 2001 set thresholds for each project class at or above which EIA is required. Sub-sections 10 (b) (i) and 10 (b) (iv) address 'infrastructure projects', referring to housing and urban developments, and require that the following project types be subject to EIA:

> *"Class 10 (b) (i). Construction of* ***more than 500 dwelling units."*** [Emphasis added]

It follows that, taking into consideration the nature and scale of the proposed Project, and in light of the thresholds detailed, EIA is required for the proposed Project under project type 10(b)(i) of the PDR 2001. Accordingly, an EIAR (this document) has been prepared and submitted to An Bord Pleanála with the associated planning application.

2.3.2.1 Appropriate Assessment (AA)

An AA Screening Report has been prepared for the proposed Project in accordance with the requirements of Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora ('the Habitats Directive') and Directive 2009/147/EC on the conservation of wild birds ('the Birds Directive'), the European Union (Birds and Natural Habitats) Regulations 2011 – 2015 and the PDA 2000. It has been submitted under separate cover as part of this application.

2.3.3 EIA Scoping

The EPA Guidelines state that 'Scoping' is a process of deciding what information should be contained in an EIAR and what methods should be used to gather and assess that information. It is defined in the EC guidance[2] as "*determining the content and extent of the matters which should be covered in the environmental information to be submitted in the EIAR*".

Scoping requires the consideration of the nature and likely scale of the potential environmental impacts likely to arise from a proposed development or project. This was carried out on an informal basis through the pre-planning process with both Dublin City Council and An Bord Pleanála, where key issues to be considered were identified and discussed.

The Scoping process is an iterative process which is ongoing throughout the development of the EIAR. The Scoping of this EIAR has been informed by consultations with Dublin City Council, An Bord Pleanála and other stakeholders, such as Inland Fisheries Ireland (IFI). The following topics have been scoped in for this assessment:

- Population & Human Health
- Biodiversity (Flora & Fauna)
- Land, Soils, Geology & Hydrogeology
- Hydrology (Surface Water)
- Air Quality & Climate
- Noise & Vibration
- Landscape & Visual
- Architectural Heritage
- Cultural Heritage & Archaeology
- Microclimate – Daylight & Sunlight
- Microclimate – Wind
- Traffic & Transportation

[2] EC (2001).

- Material Assets – Waste
- Material Assets – Services
- Interaction between above environmental factors

The amended EIA Directive (2014/52/EU) requires that the EIAR *"shall include the expected effects deriving from the vulnerability of the project to risks of major accidents and/or disasters that are relevant to the project concerned"* (Article 3). The objective of this requirement is to ensure appropriate risk management in this case of proposals which *"…because of their vulnerability to major accidents and/or natural disasters (such as flooding, sea level rise, or earthquakes), are likely to have significant adverse effects on the environment"*. In the absence of national guidance on the assessment of impacts in relation to major accidents and disasters (MADs), the 2020 IEMA document, *Major Accidents and Disasters in EIA: A Primer*, is referred to. In relation to scoping, the IEMA primer states that *"A major accidents and/or disasters assessment will be relevant to some developments more than others, and for many developments it is likely to be scoped out of the assessment"* (p. 12). It is further stated that the topic may be scoped out in the event that:

1. There is no source-pathway-receptor linkage of a hazard that could trigger a major accident and / or disaster[3] or potential for the scheme to lead to a significant environmental effect; or
2. All possible major accidents and/ or disasters are adequately covered elsewhere in the assessment or covered by existing design measures or compliance with legislation and best practice.

Considering the nature of the receiving environment and the proposed Project, it is considered that there is no source-pathway-receptor linkage of a hazard which could trigger what would constitute a MAD. As such, an assessment of impacts in relation to MADs has been scoped out of this EIAR. The risks of feasible accidents and natural events are addressed, where relevant, in the various specialist chapters herein. Flood risk, for instance, is addressed in Chapter 10 (Hydrology); while geohazards are addressed in Chapter 9 (Land, Soils, Geology & Hydrogeology). An assessment of impacts in relation to Seveso Sites[4] is often included in the MAD impact assessment. There are no Seveso Sites within close proximity or within statutory consultation distance of the Project Site. A cluster of Seveso Sites are located at Dublin Port (c. 2.5 to 4.0 km linear distance, depending on the specific site) but it is considered that none of these sites poses a risk to the proposed Project or vice versa.

2.4 EIA Consultation

Decisions are taken by the Competent Authority through the statutory planning process which allows for public participation and consultation while receiving advice from other key stakeholders and statutory authorities with specific environmental responsibilities. Public participation and consultation is an integral part of the SHD process as outlined in the Planning & Development (Strategic Housing Development) Regulations 2017 (S.I. No. 271 of 2017) and in the An Bord Pleanála publication, *Strategic Housing Development Pre-Application*

[3] Where a 'major accident' is defined as *"Events that threaten immediate or delayed serious environmental effects to human health, welfare and/or the environment and require the use of resources beyond those of the client or its appointed representatives to manage. Whilst malicious intent is not accidental, the outcome (e.g. train derailment) may be the same and therefore many mitigation measures will apply to both deliberate and accidental events"* and a 'disaster' is defined as *"a natural hazard (e.g. earthquake) or a man-made/external hazard (e.g. act of terrorism) with the potential to cause an event or situation that meets the definition of a major accident"* (IEMA, 2020, p. 4).

[4] Industrial sites that, because of the presence of dangerous substances in sufficient quantities, are regulated under Council Directives 96/82/EC and 2003/105/EC (the Seveso II Directive).

Consultation – Guidance for Prospective Applicants (2017). A detailed account of the consultation process for the proposed Project is provided in Chapter 6.

3 Planning & Development Context

3.1 Introduction

This Chapter sets out the policy context (multilateral, European Union, national, regional and local) related to the planning and development of the proposed Project. The following policy documents of relevance are discussed in relation to the proposed Project herein:

Multilateral and European Policy Context

- United Nations Sustainable Development Goals

National Policy Context

- Project Ireland 2040 – National Planning Framework (2018 – 2040)
- Rebuilding Ireland – Action Plan for Housing and Homelessness (2016)
- Smarter Travel – A Sustainable Transport Future (2009 – 2020)
- Guidelines for Planning Authorities on Sustainable Residential Development in Urban Areas (2009)
- Urban Design Manual – A Best Practice Guide (2009)
- Sustainable Urban Housing – Design Standards for New Apartments (2020)
- Urban Development and Building Heights – Guidelines for Planning Authorities (2018)
- Design Manual for Urban Roads and Streets (2013)
- Childcare Facilities – Guidelines for Planning Authorities (2001)
- The Planning System and Flood Risk Management – Guidelines for Planning Authorities (2009)
- National Cycle Manual (2011)

Regional Policy Context

- Eastern and Midland Regional Assembly – Regional Spatial and Economic Strategy (2019 – 2031)
- Transport Strategy for the Greater Dublin Area (2016 – 2035)

Local Policy Context

- Dublin City Development Plan (2016 – 2022)
- Dublin City Tree Strategy (2016 – 2020)

3.2 Multilateral and European Policy Context

3.2.1 United Nations Sustainable Development Goals

The United Nations' 17 Sustainable Development Goals (SDGs) provide a *"shared blueprint for peace and prosperity for people and the planet, now and into the future"* (Figure 3.1). They were adopted by the United Nations Member States – including Ireland – in 2015, as part of the adoption of the 2030 Agenda for Sustainable Development. These high-level goals frame and inform Irish national agendas and policies to 2030, including (but not limited to) Project Ireland 2040 (National Planning Framework) and the Eastern and Midland Regional Assembly's Regional Spatial and Economic Strategy, discussed below.

Figure 3.1: The United Nations Sustainable Development Goals

Goal 11 is of greatest relevance to the proposed Project: to make cities and human settlements inclusive, safe, resilient and sustainable. The UN has established a set of targets and indicators to measure progress against this goal to 2030, which include Target 11.1, to *"… ensure access for all to adequate, safe and affordable housing and basic services…"*, and Target 11.7, to *"… provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities"*. It is considered that the proposed Project is in accordance with Goal 11 in a number of respects. It will provide high quality housing and residential amenity for over 3,000 persons (assuming average household occupancy of 1.9 for new development areas in Drumcondra), in the context of an ongoing housing and homelessness crisis. The proposed Project also features an attractive network of green public spaces, designed to be safe and accessible for all users.

3.3 National Planning Context

3.3.1 Project Ireland 2040 – National Planning Framework (2018 – 2040)

Project Ireland 2040 is the Government's overarching planning and development policy for the country to 2040. It constitutes a *"strategy to make Ireland a better country for all of its people"* by setting public investment policy at a high level. It is comprised of two documents: the National Planning Framework (NPF), which details the strategy for development to 2040; and the National Development Plan (NDP), which outlines the public expenditure required to implement this strategy and identifies priority future projects.

The NPF is the Government's high-level strategic plan for shaping the future growth and development of Ireland to 2040. It is a framework to guide public and private investment to create and promote opportunities, and to protect and enhance the environment. At its core are ten National Strategic Outcomes (NSOs), *"a shared set of goals for every community across the country"* (p. 10), which the plan aims to deliver:

1. Compact Growth
2. Enhanced Regional Accessibility
3. Strengthened Rural Economies and Communities

4. Sustainable Mobility
5. A Strong Economy, supported by Enterprise, Innovation and Skills
6. High-Quality International Connectivity
7. Enhanced Amenity and Heritage
8. Transition to a Low Carbon and Climate Resilient Society
9. Sustainable Management of Water and other Environmental Resources
10. Access to Quality Childcare, Education and Health Services

With a view to achieving these NSOs, the NPF identifies a suite of National Policy Objectives (NPOs). Those of greatest relevance to the proposed Project are listed in Table 3.1, below.

The NPF identifies that by 2040 it is expected that an additional one million people will live in Ireland. The Government predicts that there will be a need for at least half a million additional homes by 2040. In order to accommodate this growth and address the ongoing urban housing crisis in a sustainable and economical manner, the NPF establishes a policy of 'compact growth':

> *"A major new policy emphasis on renewing and developing existing settlements will be required, rather than continual expansion and sprawl of cities and towns out into the countryside, at the expense of town centres and smaller villages. The target is for at least 40% of all new housing to be delivered within the existing built-up areas of cities, towns and villages on infill and / or brownfield sites."* (p. 11)

With regards to Dublin, it is stated that the city needs to *"accommodate a greater proportion of the growth it generates within its metropolitan boundaries and to offer improved housing choice"* (p. 36). It is stated that, in order to make Dublin a *"greener, more environmentally sustainable city in line with international competitors"*, there is a need for *"a number of large regeneration and redevelopment projects, particularly with regard to underutilised land within the canals and the M50 ring and a more compact urban form, facilitated through well designed high density development"* (ibid). The NPF sets out a growth target of 20 – 25% for Dublin City and adjoining suburbs, providing for 235,000 – 293,000 additional people in the city by 2040.

Ongoing challenges cited for housing in Dublin City include affordability and limited choice. In relation to unit size, the NPF highlights the need for a greater proportion of smaller units. It is pointed out that, at the time of publishing (2018), seven out of 10 households in the state consisted of three people or less, with an average household size of 2.75. Household sizes tend to be smaller in Ireland's urban areas, with one to three person households comprising 80% of all households in Dublin City. It is predicted that there will be *"increasing demand to cater for one- and two-person households"* (p. 94) over time. However, the existing housing stock in Ireland is largely comprised of detached and semi-detached houses with three to four bedrooms.

The need for delivery of high quality housing, in accordance with the relevant standards, is emphasised. Noise is highlighted as a particular quality issue for urban residential development. It is stated that the NPF supports *"good acoustic design in new developments, in particular residential development, through a variety of measures such as setbacks and separation between noise sources and receptors, good acoustic design of buildings, building orientation, layout, building materials and noise barriers and buffer zones between various uses and thoroughfares"* (p. 129).

Proximity to services and sustainable mobility options is also a key consideration in terms of quality housing. The NPF requires homes to be located in places that can support sustainable development; i.e. places that are accessible to a range of local services; and which can encourage the use of public transport, walking and cycling, in order to promote more efficient and low-carbon development. The need for greater access to childcare is emphasised:

> *"Childcare provision in Ireland is reaching capacity and new planning approaches and sustained investment will be required, particularly in areas of disadvantage and population growth, to increase capacity and enable existing services to meet regulatory and quality requirements."* (p. 89)

A list of 'national core principles' for the delivery of future housing in Ireland is set out in the NPF, and includes the following (p. 91):

- *"Ensure a high standard quality of life to future residents as well as environmentally and socially sustainable housing and place-making through integrated planning and consistently excellent design."*
- *"Allow for choice in housing location, type, tenure and accommodation in responding to need."*
- *"Prioritise the location of new housing provision in existing settlements as a means to maximising a better quality of life for people through accessing services, ensuring a more efficient use of land and allowing for greater integration with existing infrastructure."*
- *"Tailor the scale and nature of future housing provision to the size and type of settlement where it is planned to be located."*

The proposed Project is highly accessible to both existing local facilities and public transport routes within the urban extent of Dublin City.

Table 3.1: Relevant National Policy Objectives (NPOs) of the National Planning Framework

No.	
2a	A target of half (50%) of future population and employment growth will be focused in the existing five cities[5] and their suburbs.
3a	Deliver at least 40% of all new homes nationally, within the built-up footprint of existing settlements.
3b	Deliver at least half (50%) of all new homes that are targeted in the five Cities and suburbs of Dublin, Cork, Limerick, Galway and Waterford, within their existing built-up footprints.
4	Ensure the creation of attractive, liveable, well designed, high quality urban places that are home to diverse and integrated communities that enjoy a high quality of life and well-being.
6	Regenerate and rejuvenate cities, towns and villages of all types and scale as environmental assets, that can accommodate changing roles and functions, increased residential population and employment activity and enhanced levels of amenity and design quality, in order to sustainably influence and support their surrounding area.
11	In meeting urban development requirements, there will be a presumption in favour of development that can encourage more people and generate more jobs and activity within existing cities, towns and villages, subject to development meeting appropriate planning standards and achieving targeted growth.
13	In urban areas, planning and related standards, including in particular building height and car parking will be based on performance criteria that seek to achieve well-designed high quality outcomes in order to achieve targeted growth. These standards will be subject to a range of tolerance that enables alternative solutions

[5] Dublin, Cork, Limerick, Galway and Waterford.

No.	
	to be proposed to achieve stated outcomes, provided public safety is not compromised and the environment is suitably protected.
27	Ensure the integration of safe and convenient alternatives to the car into the design of our communities, by prioritising walking and cycling accessibility to both existing and proposed developments, and integrating physical activity facilities for all ages.
31	Prioritise the alignment of targeted and planned population and employment growth with investment in [...] The provision of childcare facilities and new and refurbished schools on well located sites within or close to existing built-up areas, that meet the diverse needs of local populations …
32	To target the delivery of 550,000 additional households to 2040.
33	Prioritise the provision of new homes at locations that can support sustainable development and at an appropriate scale of provision relative to location.
34	Support the provision of lifetime adaptable homes that can accommodate the changing needs of a household over time.
35	Increase residential density in settlements, through a range of measures including reductions in vacancy, re-use of existing buildings, infill development schemes, area or site-based regeneration and increased building heights.
57	Enhance water quality and resource management by: ■ Ensuring flood risk management informs place-making by avoiding inappropriate development in areas at risk of flooding in accordance with The Planning System and Flood Risk Management Guidelines for Planning Authorities. ■ Ensuring that River Basin Management Plan objectives are fully considered throughout the physical planning process. ■ Integrating sustainable water management solutions, such as Sustainable Urban Drainage (SUDS), non-porous surfacing and green roofs, to create safe places.
64	Improve air quality and help prevent people being exposed to unacceptable levels of pollution in our urban and rural areas through integrated land use and spatial planning that supports public transport, walking and cycling as more favourable modes of transport to the private car, the promotion of energy efficient buildings and homes, heating systems with zero local emissions, green infrastructure planning and innovative design solutions.
65	Promote the pro-active management of noise where it is likely to have significant adverse impacts on health and quality of life and support the aims of the Environmental Noise Regulations through national planning guidance and Noise Action Plans.

The proposed Project is very well aligned with the NPFs policy of 'compact growth', in that it is a SHD which will provide a large number of additional, high-quality and high-density residential units to let within the existing built-up footprint of Dublin City, providing housing for over 3,000[6] persons. The following characteristics of the proposed Project are also in accordance with the vision and objectives of the NPF:

- Provision of a high quality, attractive and liveable residential hub.
- Close proximity to community amenities and services, public transport, pedestrian and cycling infrastructure, and high density of employment opportunities.

[6] Based upon an average household occupancy of 1.9 for new development areas in Drumcondra.

- Provision of on-site community amenities and services, including a crèche.
- Re-use of existing, underutilised building stock.
- Aesthetically sensitive provision of relatively small amount of car parking.
- Promotion, through design and location, of walking, cyclist and public transport use as more sustainable and healthy alternatives to private car use.
- Provision of high proportion of studio apartments, and one- and two-bedroom apartments, addressing existing deficit in smaller units.

The consistency of the proposed Project with the relevant design standards is discussed under the corresponding headings below. Regarding NPOs related to specific environmental topics such as flood risk, air quality and noise (refer to NPOs No. 57, 64 and 65, respectively); these matters are considered herein in the relevant specialist EIAR Chapters.

3.3.2 Rebuilding Ireland – Action Plan for Housing and Homelessness (2016)

Rebuilding Ireland is the Government's Action Plan for Housing and Homelessness, launched in 2016. The Plan's aim is to accelerate housing supply by addressing the needs of homeless people and families in emergency accommodation, accelerate the provision of social housing, deliver more housing, utilise vacant homes and improve the rental sector.

The Plan contains five key pillars:

1. *Address Homelessness*
   Provide early solutions to address the unacceptable level of families in emergency accommodation; deliver inter-agency supports for people who are currently homeless, with a particular emphasis on minimising the incidence of rough sleeping, and enhance State supports to keep people in their own homes.
2. *Accelerate Social Housing*
   Increase the level and speed of delivery of social housing and other State-supported housing.
3. *Build More Homes*
   Increase the output of private housing to meet demand at affordable prices.
4. *Improve the Rental Sector*
   Address the obstacles to greater private rented sector delivery, to improve the supply of units at affordable rents.
5. *Utilise Existing Housing*
   Ensure that existing housing stock is used to the maximum degree possible - focusing on measures to use vacant stock to renew urban and rural areas.

The proposed Project is consistent with Pillars 3 and 4, as it is proposing to construct 1,614 no. new apartments on a highly accessible site in Dublin City, providing a variety of unit options serving over 3,000 residents[6].

3.3.3 Smarter Travel – A Sustainable Transport Future (2009 – 2020)

Smarter Travel – A Sustainable Transport Future (2009 – 2020) outlines the Government's goals to achieve transport sustainability as follows:

1. Reduce overall travel demand;
2. Maximise the efficiency of the transport network;

3. Reduce reliance on fossil fuels;
4. Reduce transport emissions; and
5. Improve accessibility to transport.

The key targets that the Smarter Travel Policy sets to achieve these goals area:

- Future population and employment growth will predominantly take place in sustainable compact forms, which reduce the need to travel for employment and services
- 500,000 more people will take alternative means to commute to work to the extent that the total share of car commuting will drop from 65% to 45%
- Alternatives such as walking, cycling and public transport will be supported and provided to the extent that these will rise to 55% of total commuter journeys to work The total kilometres travelled by the car fleet in 2020 will not increase significantly from current levels
- A reduction will be achieved on the 2005 figure for greenhouse gas emissions from the transport sector.

The Project Site encourages more sustainable personal mobility decisions in a number of ways:

- Provision of high density development on underutilised lands in close proximity to the City Centre, high capacity public transport and key employment zones.
- Aesthetically sensitive provision of relatively small amount of car parking.
- Promotion, through design and location, of walking, cyclist and public transport use as more sustainable and healthy alternatives to private car use.

3.3.4 Guidelines for Planning Authorities on Sustainable Residential Development in Urban Areas (2009)

The aim of these guidelines is to set out the key planning principles guiding the delivery of residential development in urban areas in Ireland. They establish core principles of urban design, with a view to creating urban places of high quality and distinct identity. They recommend that planning authorities should promote high quality design in their policy documents and in their development management processes. The Guidelines are accompanied by an Urban Design Manual, which is discussed in relation to the proposed Project in Section 3.3.5, below.

The guidelines reiterate the need for compact urban residential development expressed in the NPF:

> *"… planning authorities should promote increased residential densities in appropriate locations, including city and larger town centres (defined for the purposes of these guidelines as towns with 5,000 or more people). This recommendation was based on three significant social, economic and environmental considerations, namely:*
>
> - *The trend towards smaller average household sizes,*
> - *The need to encourage the provision of affordable housing, particularly in the greater Dublin area, and*
> - *The need to reduce CO_2 emissions by reducing energy consumption and to support a more efficient use of energy in the residential and transport sectors, in line with Ireland's commitments under the Kyoto Protocol."* (p. 40)

It is also stated that *"firm emphasis must be placed by planning authorities on the importance of qualitative standards in relation to design and layout in order to ensure that the highest quality of residential environment is achieved"* (ibid). These qualitative standards are set out in the Urban Design Manual (refer to Section 3.3.5), the Dublin City Development Plan (refer to Section 3.5.1) and in the Sustainable Urban Housing Design Standards for New Apartments (refer to Section 3.3.6), which have informed the design approach of the proposed Project.

In order to avoid over-development on institutional lands (such as those of the proposed Project Site), the guidelines state the following:

> *"In institutional lands and 'windfall' sites which are often characterised by a large private or institutional building set in substantial open lands and which in some cases may be accessible as an amenity to the wider community, any proposals for higher density residential development must take into account the objective of retaining the "open character" of these lands, while at the same time ensuring that an efficient use is made of the land. In these cases, a minimum requirement of 20% of site area should be specified [as public open space]; however, this should be assessed in the context of the quality and provision of existing or proposed open space in the wider area. Whilst the quantum of open space may be increased vis-à-vis other sites, the amount of residential yield should be no less than would be achieved on any comparable residential site. Increasing densities in selected parts of the site subject to the safeguards expressed elsewhere may be necessary to achieve this."* (p. 34)

The proposed Project is cognisant of the open character of the site. Presently, the lands are comprised of a series of open spaces divided by large mature trees and buildings. The area to the north of Holy Cross College is visually disconnected from the portion of the lands to the south near Clonliffe Road. The proposal maintains the existing alignment of the lands, using the existing trees, roads and buildings to guide the overall site layout. While the site will change significantly, the overall layout reflects the existing character of the lands.

The guidelines go on to make further specifications in relation to residential development of institutional lands, as follows:

> *"A considerable amount of developable land in suburban locations is in institutional use and/or ownership. Such lands are often characterised by large buildings set in substantial open lands which in some cases may offer a necessary recreational or amenity open space opportunity required by the wider community. In the event that planning authorities permit the development of such lands for residential purposes, it should then be an objective to retain some of the open character of the lands, but this should be assessed in the context of the quality and provision of existing or proposed open space in the area generally. In the development of such lands, average net densities at least in the range of 35-50 dwellings per hectare should prevail and the objective of retaining the open character of the lands achieved by concentrating increased densities in selected parts (say up to 70 dph). The preparation of local area plans setting out targets for density yields, recreational uses and urban form should be considered in advance of development. In the absence of [a Local Area Plan], any application for development of institutional lands should be accompanied by a masterplan outlining proposals for the entire landholding."* (p. 45)

This is in agreement with the Core Strategy of the Dublin City Development Plan (refer to Section 3.5.1), and promotes compact urban residential development in Dublin City, in accordance with the objectives of the NPF (refer to Section 3.3.1) and the Regional Spatial and Economic Strategy (refer to Section 3.4.1).

The guidelines emphasise the importance of sustainable settlement patterns through the provision of higher densities of residential development on lands within existing or planned transport corridors, i.e. within 500 m of a bus stop, or within 1 km of a light rail stop or rail station.

The location and design of the proposed Project is in accordance with the guidelines in that it will provide high-quality and high-density residential units to let on underutilised institutional lands within the existing built-up footprint of Dublin City, providing housing for over 3,000 persons[6] in close proximity to the City Centre and within walking distance of existing and proposed high-capacity public transport services. The consistency of the proposed Project with the relevant design standards is discussed under the corresponding headings below.

3.3.5 Urban Design Manual – A Best Practice Guide (2009)

The Urban Design Manual accompanies the Department of the Environment, Housing and Local Government's 2009 guidelines on 'Sustainable Residential Development in Urban Areas', as described above. It provides best practice guidance on the practical implementation of the policies contained in those guidelines. The core aim of the Manual is to provide developers, designers and planners with the information and support they need to improve the design quality and sustainability of the development schemes with which they are involved. It focuses primarily on the issues presented in housing schemes in the 30 – 50 units per hectare range but also addresses some of the specific issues generated by higher and lower density developments.

The Manual is based around 12 criteria for sustainable residential development, under the headings of 'neighbourhood', 'site', and 'home', as follows:

Neighbourhood

- Context – *How does the development respond to its surroundings?*
- Connections – *How well connected is the new neighbourhood?*
- Inclusivity – *How easily can people use and access the development?*
- Variety – *How does the development promote a good mix of activities?*

Site

- Efficiency – *How does the development make appropriate use of resources, including land?*
- Distinctiveness – *How do the proposals create a sense of place?*
- Layout – *How does the proposal create people friendly streets and spaces?*
- Public Realm – *How safe, secure and enjoyable are the public areas?*

Home

- Adaptability – *How will the buildings cope with change?*
- Privacy & Amenity – *How does the scheme provide a decent standard of amenity?*
- Parking – *How will the parking be secure and attractive?*
- Detailed Design – *How well thought through is the building and landscape design?*

The Manual recommends that these criteria be used in the assessment of residential planning applications. It identifies areas where conflicts may arise between particular criteria, stating that *"Certain issues have been identified where it may be necessary to find a balance between potentially conflicting design objectives"* (p. 9). Responses to the above-listed criteria are provided under the corresponding headings below.

Context – How does the development respond to its surroundings?

The proposed Project has been informed by the existing established context. This context is varies widely from the institutional buildings with large mature trees to the adjacent residential communities, comprised of a mix of newer apartment blocks such as the Corn Mill apartments, two-storey terraced housing including those at Susanville Road, and red brick semi-detached houses such as those fronting onto Drumcondra Road Lower.

The layout and the scaling of the Site has responded to these elements, ensuring minimal impact on residential amenity while simultaneously respecting the existing wooded character of the site and utilising the large spaces of underutilised institutional lands.

Connections – How well is the new neighbourhood connected?

The Project Site is situated in an area on the north side of Dublin City which is well served by existing transport infrastructure and services, and in which it is planned to deliver future public transport projects. The Site is located approx. 2 km from the Spire on O'Connell Street, an approx. 25 minute walk away. In the immediate vicinity of the Site are existing community / commercial hubs at Drumcondra and Phibsborough.

The Site is located adjacent to a key radial route from Dublin City Centre, Drumcondra Road: a National route (N1) connecting Dublin City with the significant suburbs on Dublin's north side, the M50 and Dublin Airport. This route has multiple transport modes and is earmarked for a future BusConnects Core Bus Corridor. The Project Site is accessed primarily from Clonliffe Road to the south and Drumcondra Road to the west with secondary pedestrian and cyclist connections also from the south and west. There are a number of public bus routes currently serving Drumcondra Road immediately adjacent to the Site (refer to Chapter 18 - Traffic & Transportation).

The southern entrance / exit to the Site is approx. 450 m from the Drumcondra Rail Station (approx. 5 minute walk), which is served by the (i) Dublin Connolly – Sligo; (ii) Dublin – Maynooth, Longford and M3 Parkway; and (iii) Grand Canal Dock and Dublin Heuston – Portlaoise commuter services. This station will benefit from Irish Rail's planned rollout of electrification under the scope of the DART+ project.

While is at an early stage, the planned Metrolink project would also serve the area, with its proposed Glasnevin Station at Cross Guns Bridge, approx. 1.5 km away.

Chapter 18 (Traffic & Transport) details the existing and planned transport infrastructure and services in the area.

Inclusivity – How easily can people use and access the development?

By virtue of its location on the north side of Dublin City, in an area well served by public transportation services and transport infrastructure, the proposed Project is well connected to neighbouring areas, and easily accessible to the general public.

The proposed Project will provide vehicular access via two points, the first (and primary) access point will be via the existing entrance on Clonliffe Road (which will be upgraded as part of the proposal); and the second via Drumcondra Road (also to be upgraded). Both access points will provide for vehicular, cyclist and pedestrian access. An additional entrance for pedestrians and cyclists only will be provided via Holy Cross Avenue.

Vehicular access is provided internally via a primarily single access route. However, no through traffic will be available to non-residents, minimising impact on the existing road network and on the public realm within the Site. The lack of through traffic within the Site itself will allow for safe use among a variety of cohorts, including children, the elderly and mobility impaired.

The landscape design rationale has placed cyclists and pedestrians at the top of the movement hierarchy. Permeability across the site will be provided by a network of pedestrian and cyclist facilities. A key north-south cycle route will traverse the Site, from Holy Cross Avenue, passing in front of the Seminary Building and alongside the proposed A Blocks / GAA pitches (the latter being the subject of a separate application), linking in with the Drumcondra Road entrance and a future proposed bridge link across the River Tolka (not part of this proposal).

As detailed in the Landscape Design Statement prepared by NMP Landscape Architecture and submitted under separate cover as part of this application, the proposed Project will provide an interconnected 'necklace' of public spaces, featuring a variety of readily accessible resources; including allotment gardens, nature trails, a dog park, a woodland area, multi-use games areas (MUGAs), inclusive play areas, exercise stations, picnic / BBQ area, and quieter areas for reading, meditation, etc.; providing for a wide variety of social and recreational uses. The open space across the Site had been designed to minimise boundaries and barriers, providing an open and welcoming public realm. There will be certain areas that will be semi- or fully private – the private roof gardens and terraces, and semi-private communal courtyards, for instance – and these will be clearly defined using appropriately designed thresholds and interfaces, as detailed in the Landscape Design Statement by NMP Landscape Architects, submitted under separate cover.

Key routes across the Site have been designed to provide universal access, including for wheelchair users, in accordance with the Part M requirements of the Building Regulations. While a general policy of limiting on-street parking has been applied, on-street parking is proposed for mobility impaired users. To provide an age-friendly environment, seating has been provided throughout the Site, typically at 50 m intervals. Directional signage will be situated at various locations across the Site, promoting ease of wayfinding for all users.

As discussed above, the Site is within short walking distance of local centres of commerce, community resources and employment. The openness and accessibility of the site and extensive public realm will promote use of the public realm areas of the Site among residents of the surrounding areas and visitors, in addition to residents of the Site.

Variety – How does the development promote a good mix of activities?

The proposed Project, which is part of a wider Masterplan for the Holy Cross College lands, primarily provides for residential use but will also feature tenant amenity facilities, a crèche, a retail unit and a network of attractive public realm areas providing for exercise, socialisation and recreation. Additionally, as detailed fully in the Masterplan for the lands, the wider site will contain a hotel; sports facilities, including GAA pitches and a clubhouse; and a river walk.

In terms of residential mix, the proposed Project provides predominantly for one-bed studio apartments and one-bedroom apartments, and (to a lesser degree) for two-bedroom and three-bedroom units. This approach will promote a mix of household types, and will help address the existing dearth of smaller scale units on the Dublin City rental market.

Efficiency – How does the development make appropriate use of resources, including land?

It is considered that the Site, given its scale and location, represents a significantly underutilised site. While some of the established institutional uses will continue on the Site, the remainder of the Site is no longer required for these purposes and the extent of unused open space and high quality building stock is significant. The proposed Project will redevelop these strategically located lands and buildings of architectural and historic merit, to provide 1,614 residential units (providing for a population of over 3,000 persons[6]), in accordance with the national and regional policies of compact urban development; in addition to non-residential uses (including residential and childcare) and extensive, accessible public open space.

Distinctiveness – How do the proposals create a sense of place?

The proposed Project contains a variety and mix of building designs, heights and materials responding to the existing institutional, wooded character of the Site, which combined contribute to creating a sense of place. Views of the retained protected structures and their settings will be maintained at key locations, adding character to the Site. The proportions of these protected structures are also respected in the Site strategy. Key buildings, such as the taller buildings, are set back from the Site boundaries to the north and the east, creating important visual attractions and distinctiveness, and providing a smooth transition from the existing buildings on the Site and adjacent residential uses.

Layout – How does the proposal create people-friendly streets and spaces?

The aim of the internal road layout and access strategy is the creation of a connected, walkable and cyclable network which facilities and encourages the sustainable and safe movement of people whilst maintaining a strong sense of place. The design considers the ease of movement for all modes, including cars, but a balanced approach has been taken which is in line with the principles set out in the Design Manual for Urban Roads and Streets (DMURS) (refer to Section 3.3.8).

Several key design criteria and considerations have informed the design of the internal road layout, based on the design guidance set out in DMURS and the National Cycle Manual (NCM), as follows:

- Streets have been designed as local, access-only streets with widths of 5 m, 4.8 m where shared space is implemented, and with no central medians.
- A buffer / setback has been maintained around ground floor residential units to allow for balcony, private space, etc.
- Streets are designed such that speeds and volumes are sufficiently low to facilitate shared carriageway between vehicles and cyclists.

The routes through the site will be delivered as shared streets and mature tree-lined paths, interwoven with footpaths and green links, to ensure a pleasant and safe environment for walking and cycling. To ensure a safe and calm internal road network, it will not be possible for vehicular traffic to cut through the development from Drumcondra Road to Clonliffe Road.

Public Realm – How safe, secure and enjoyable are the public areas?

The residential buildings are arranged around a number of proposed public open spaces and routes throughout the site with extensive landscaping and tree planting. Communal amenity spaces will be located adjacent to residential buildings and at roof level throughout the scheme. All external spaces will have a number of residential blocks overlooking them, and have public routes through them, ensuring a level of security. The landscape rationale for these spaces has been to provide a range of features to facilitate both active uses (i.e. play spaces) and more relaxed amenity (i.e. seating areas). The design ensures a certain degree of privacy in the spaces but also allows for passive security from adjoining blocks and entrances, ensuring a sense of security. The proposed Project will animate a section of Clonliffe Road previously occupied by blank wall, thus creating active frontage and contributing to the public realm and passive surveillance at this location.

Adaptability – How will the buildings cope with change?

The development provides a mix of studio apartments (one-bed), one-bedroom apartments and, to a lesser degree, two- and three-bedroom apartments, allowing for occupancy as life cycles and personal needs of households change. Residential units have been designed such that they could be amalgamated in the future, should there be a demand for additional two and three-bedroom units.

Privacy & Amenity – How do the buildings provide a high-quality amenity?

As discussed above under the heading of 'Public Realm', the design of the proposed public realm areas strikes a balance between provision of relatively private and high quality amenity areas, and a safe and secure environment for local residents and members of the public. The proposed Project will provide a host of high quality, modern residential amenities, including secure parking for private cars and bicycles; lounges / breakout areas, residential storage, electric vehicle (EV) charging facilities; an attractive network of green public realm areas; a crèche; a café and shop.

Parking – How will the parking be secure and attractive?

Residential car parking spaces will be located at basement and below podium level, will be let separately to the apartment units and will only be available to residents as part of a leasing programme. Residential parking will be supported by mobility management policies, which will limit the need for residents to lease parking spaces. Leasing the spaces will ensure they are used as efficiently as possible allowing disability, EV, and car sharing spaces to be allocated appropriately, where needed.

Car parking will be provided at a ratio of 0.3 spaces per residential unit. A total of 477 basement car parking spaces will be provided within the proposed Project for residents. In addition, 31 spaces will be provided at surface level for mobility impaired parking, deliveries, loading, pay and display, EV charging and car club purposes.

Secure bicycle parking will be provided at a rate of 1.3 spaces per residential unit, in exceedance of the standards set out in the Dublin City Development Plan, resulting in a total of 2,255 bicycle parking spaces for residential units – located in basements and proximate to residential buildings. A further 252 short stay bicycle parking spaces will be provided around the Site for visitors.

The long stay (i.e. residential) bicycle parking will be of the two-tier stacked type. For buildings where a basement is present, bicycle parking will be located underneath residential blocks and bicycle lifts will be installed to aid access. Where no basement is present, bicycle parking will be provided in secure rooms or covered sheds close to the building entrance.

Detailed Design – How well thought through is the building and landscape design?

The design of the proposed Project has been subject to pre-application consultations between the design team DCC and An Bord Pleanála. The design rationale from an urban design and architectural perspective is explained in the Design Statements prepared by HJL/OMP/ODT/MCM and submitted under separate cover as part of this application.

The proposed Project has been considered as part of the wider Masterplan for the entirety of the Holy Cross lands, resulting in a coordinated design strategy for the lands ensuring consistency in terms of layouts, materials and finishes. Full details on the rationale for the landscaping design can be found in the Landscape Design Statement prepared by NMP Landscape Architects, and submitted under separate cover as part of this application.

3.3.6 Sustainable Urban Housing – Design Standards for New Apartments (2020)

The Sustainable Urban Housing Design Standards for New Apartments were approved by the Minister for Housing, Planning & Local Government and published in March 2018. They were subsequently updated in December 2020, in respect of shared accommodation only. The guidelines update previous guidance from 2015 and note that this is done so *"in the context of greater evidence and knowledge of current and likely future housing demand in Ireland taking account of the Housing Agency National Statement on Housing Demand and Supply, the Government's action programme on housing and homelessness Rebuilding Ireland and Project Ireland 2040 and the National Planning Framework"* (p. 1).

The revised guidelines address new areas, including:

- Enabling a mix of apartment types that better reflects contemporary household formation and housing demand patterns and trends, particularly in urban areas;
- Making better provision for building refurbishment and small-scale urban infill schemes;
- The emerging BTR and shared accommodation sectors; and
- Removing requirements for car-parking in certain circumstances where there are better mobility solutions and to reduce costs.

The Guidelines note that the NPF projects a need for a minimum of 550,000 new homes, at least half of which are targeted for provision in Ireland's five cities. Of particular relevance to the proposed Project, it notes a shift in Government policy towards securing more compact and sustainable urban development, to enable people to live nearer to where jobs and services are located, requiring at least half of new homes within Ireland's cities to be provided within the current built-up area of each, i.e. on sites within the existing urban 'envelope'.

The Project Site represents a significant redevelopment of underutilised institutional lands in Dublin City and as such represents a project that is fully supported by these guidelines.

The guidelines identify central / accessible urban locations which are suited to higher density development. The Project Site falls within this category as it is both a *'Site within walking distance of significant employment centre'* and a *'Site within reasonable walking distance to/from high capacity urban public transport stops'*. The subject site is located within walking and cycling distance of Dublin City Centre and its significant employment areas such as the IFSC. Additionally, the site is a five minute walk from both the Drumcondra Rail Station and a planned future Bus Connects Core Bus Corridor.

Under separate cover, this SHD application is accompanied by a Housing Quality Assessment (HQA), prepared by HJL/OMP/ODT/MCM Architects which demonstrates the compliance of the proposed Project with the relevant quantitative standards required under the guidelines. The HQA illustrates in tabular format how each apartment within the proposed Project conforms to the relevant specific planning policy requirements (SPPRs) as set out in the guidelines.

Another key update in the guidelines is the ability to reduce car parking standards. The guidelines identify that *"in larger scale and higher density developments, comprising wholly of apartments in more central locations that are well served by public transport, the default policy is for car parking provision to be minimised, substantially reduced or wholly eliminated in certain circumstances"* (p. 24).

Considering recent national policy, the predicted modal share of the proposed Project, the low car ownership levels locally, the proximity of the Site to alternative modes (quality bus corridor, rail, cycle infrastructure), and the proposed on-site mobility services; it is considered appropriate to provide a car parking ratio of 0.3 car spaces per unit to serve the proposed Project. In conjunction, a residential cycle parking ratio of 1.3 cycle spaces per unit is proposed, which is well above the minimum of 1 space per unit set out in the Dublin City Development Plan parking standards, to promote sustainable mobility and compensate for the lower number of car parking spaces.

3.3.7 Urban Development and Building Heights – Guidelines for Planning Authorities (2018)

The Urban Development and Building Heights Guidelines for Planning Authorities (UD&BHGs) were published in December 2018 by the Minister for Housing, Planning & Local Government. They have been published to support the objectives of the NPF, by securing a more compact and sustainable manner of development in urban areas. The Minister's foreword to the UD&BHGs sets out the Government policy on urban building heights, characterising the traditional settlement pattern of *"constantly expanding low-rise suburban residential areas resulting in ever longer commutes, more and more congestion, empty suburbs by day and empty city and town cores by night"* as *"completely unsustainable"*. The UD&BHGs support a departure from this trend, stating that *"Our cities and towns must grow upwards, not just outwards"* (ibid.).

It is stated that:

> *"Reflecting the National Planning Framework strategic outcomes in relation to compact urban growth, the Government considers that there is significant scope to accommodate anticipated population growth and development needs, whether for housing, employment or other purposes, by building up and consolidating the development of our existing urban areas."* (p. 2)
>
> *"Securing compact and sustainable urban growth means focusing on reusing previously developed 'brownfield' land, building up infill sites (which may not have been built on before) and either reusing or redeveloping existing sites and buildings, in well serviced urban locations, particularly those served by good public transport and supporting services, including employment opportunities."* (p. 4)

The UD&BHGs reference NPO 13 (of the NPF) which states that "*in urban areas, planning and related standards, including in particular building height and car parking will be based on performance criteria that seek to achieve well designed high quality outcomes in order to achieve targeted growth. These standards will be subject to a range of tolerance that enables alternative solutions to be proposed to achieve stated outcomes, provided public safety is not compromised and the environment is suitably protected"* (p. 5).

It recognises that in meeting the challenge set out above new approaches to urban planning and development are required and that securing an effective mix of uses within urban centres is critical. To bring about this increased density and increased residential development in urban centres the UD&BHGs state that *"significant increases in the building heights and overall density of development is not only facilitated but actively sought out and brought forward by our planning processes and particularly so at local authority and An Bord Pleanála levels [...] Increasing prevailing building heights therefore has a critical role to play in addressing the delivery of more compact growth in our urban areas... "* (p. 5).

It is further stated that:

> *"In some cases, statutory development plans have tended to set out overly restrictive maximum height limits in certain locations and crucially without the proper consideration of the wider planning potential of development sites and wider implications of not maximising those opportunities by displacing development that our wider society and economy needs to other locations that may not be best placed to accommodate it."* (p. 8)

The proposed Project features new residential buildings ranging in height from three to 18 storeys (tallest building approximately 62.5 m). A Material Contravention Statement has been submitted under separate cover as part of this application. It provides a justification for the material contravention of the 24 m building height limit set out for the area in the current Dublin City Development Plan (refer to Section 3.5.1), in the context of the more recent, national-level UD&BHGs and the NPF.

It is considered that, in this case, the material contravention is well justified. The majority of the proposed Project is balanced around the 24 m mark with two taller elements providing focal points. The massing of the proposed Project has been considered such that the taller elements will be set back from the Site boundaries, providing landmark focal points while minimising visual impacts on adjacent receptors. Additionally, it is considered that the strategically located, underutilised and extensive Holy Cross College lands are representative of the type of site which, according to the UD&BHGs, can accommodate increased building heights (and higher residential densities) in a sustainable manner.

3.3.8 Design Manual for Urban Roads and Streets (2013)

The Design Manual for Urban Roads and Streets (DMURS), was adopted by the Department of Transport and the Department of Environment (now Housing) in 2013. It sets out design guidance and standards for new / reconfigured urban roads and streets in Ireland. It also outlines practical design measures to encourage more sustainable travel patterns in urban areas.

The Project proposals are the outcome of an integrated urban and landscaping design effort to ease traffic on the Site and prevent through-traffic, thereby facilitating a safer environment for pedestrians and cyclists.

The DMURS Statement of Consistency, prepared by Systra and submitted as part of this application under separate cover, provides further detail in respect of the compliance of the proposed Project with DMURS.

3.3.9 Childcare Facilities – Guidelines for Planning Authorities (2001)

The Childcare Facilities – Guidelines for Planning Authorities were published by the Government in 2001. They provide a framework to guide both local authorities in preparing development plans and assessing applications for planning permission, and developers and childcare providers in formulating development proposals. They state the Government policy on childcare provision, which is *"to increase the number of childcare places and facilities available and to improve the quality of childcare services for the community"* (p. 3).

The guidelines indicate that Development Plans should facilitate the provision of childcare facilities in appropriate locations. These include larger new housing estates, where planning authorities should require the provision of a minimum of one childcare facility (with 20 places) for every 75 dwellings.

However the Sustainable Urban Housing: Design Standards for New Apartments (Department of Housing, Local Government and Heritage, 2020) state that:

> *"Notwithstanding the Planning Guidelines for Childcare Facilities (2001), in respect of which a review is to be progressed, and which recommend the provision of one child-care facility (equivalent to a minimum of 20 child places) for every 75 dwelling units, the threshold for provision of any such facilities in apartment schemes should be established having regard to the scale and unit mix of the proposed development and the existing geographical distribution of childcare facilities and the emerging demographic profile of the area. One-bedroom or studio type units should not generally be considered to contribute to a requirement for any childcare provision and subject to location, this may also apply in part or whole, to units with two or more bedrooms".* (pp. 20 – 21)

A Childcare and School Assessment has been prepared by BSM and is submitted as part of this application under separate cover. It has assessed the provision and need for childcare facilities and schools in the area in light of the proposed Project, in accordance with the requirements of the Dublin City Development Plan (2016 – 2022). The assessment found that the surrounding area (1.5 km radius) contains 38 childcare facilities, providing for 1,524 places, with a further two permitted facilities proposed. Under the scope of the proposed Project, it is also proposed to build a new crèche, providing approximately 90 places. It has concluded on this basis that the proposed Project, in combination with the existing provision in the area, will meet the demand of future childcare places.

3.3.10 The Planning System and Flood Risk Management – Guidelines for Planning Authorities (2009)

The Planning System and Flood Risk Management – Guidelines for Planning Authorities was published by the Office of Public Works (OPW) and Department of Environment, Heritage and Local Government in 2009.

The guidelines introduce comprehensive mechanisms for the incorporation of flood risk identification, assessment and management into the planning process. They aim to, among other things; avoid inappropriate development in areas at risk of flooding, and avoid new developments increasing flood risk elsewhere. They mandate the preparation of Site Specific Flood Risk Assessments (SSFRA) for development applications which relate to areas at risk of flooding, and stipulate the content and level of detail to be presented therein.

In accordance with these guidelines, a SSFRA has been prepared for the proposed Project by BMCE Consulting Engineers, and has been submitted under separate cover. In short, it has concluded that the proposed Project is 'appropriate' in terms of flood risk, per the OPW guidelines. For further detail, please refer to the SSFRA submitted with this application under separate cover, and / or to Chapter 10 (Hydrology) herein.

3.3.11 National Cycle Manual (2011)

The National Cycle Manual was published by the National Transport Authority (NTA) in 2011 with a view to improving the cycling infrastructure in urban environments, and encouraging more people to cycle. It provides guidance on the integration of the bicycle into the design of urban areas.

The Dublin City Development Plan (Section 3.5.1, below) requires that bicycle parking be provided in accordance with the National Cycle Manual. Section 5.5 of the Cycle Manual deals with this topic. It stated that *"Cycle parking areas with a large number of parking places need careful design, and the parking area layout needs to be borne is mind when selecting the type of rack or stand to be used"*. The following recommendations of relevance to the proposed Project are made in relation to parking provision:

- Basic requirements for bicycle parking are that it performs the basic functions of (1) supporting the bicycle from falling over, (2) protecting the bicycle against theft and (3) allowing the cyclist room to position, lock and unlock the bicycle.
- Consideration should also be given to (1) lighting, (2) protection, (3) ease of access and (4) requirements at public transport.
- A gap of 2.5 m should be allowed between rows of bicycle parking to allow room to manoeuvre bicycles, which are typically around 2 m in length.
- Sheffield Stand type solutions should be spaced between 1.2 – 1.5 m apart to allow enough room to place and access the bicycles.
- It is noted that the Sheffield Stand is not the best solution for all situations. Other options cited are front-fork holding clamps, racks, lockers, wall / roof / other domestic holders, and sheds / huts / etc.
- Convenience is essential for residential bicycle parking.
- Parking should preferable not be provided via living areas.
- Parking should accommodate residents and visitors.
- Shared parking facilities are suitable for apartment complexes.
- On-street parking should be situated within 50 m of origin or destination.
- Internal stored parking areas for neighbourhoods may be located up to 250 m from the origin or destination, accessible by key / pass / chip system, supervised by camera, well laid out for convenience, and provide for a limited amount of bicycles (up to 50 – 60).
- In housing developments, one (1 no.) visitor bicycle space should be provided per two housing units.

Generally speaking, the proposed Project is an accordance with the above-listed recommendations. The long stay (i.e. residential) bicycle parking will be of the two-tier stacked type. For buildings where a basement is present, bicycle parking will be located underneath residential blocks and bicycle lifts will be installed to aid access. Where no basement is present, bicycle parking will be provided in secure rooms or covered sheds close to the building entrance.

The proposed Project deviates from the above-listed recommendations in two respects. Firstly, the internal bicycle storage areas for residents, which are proposed for the basement areas, will contain more than 50 – 60 bicycles. The following provision is proposed for the basement areas:

- A single level basement under Blocks B2, B3 and C1; containing 582 bicycle parking spaces;
- A single level basement under Block D2 containing 528 bicycle parking spaces; and
- A podium level basement and single level basement under Block A1, containing 500 bicycle parking spaces.

Provision for an additional 645 bicycle parking spaces for residents will be made in areas adjacent to buildings. These numbers (a total of 2,255 spaces for residents) are necessary in order to provide adequate bicycle storage to meet the needs of residents and promote sustainable and active personal mobility as an alternative to private car use.

Additionally, the recommendation to one (1 no.) visitor bicycle space be provided per two housing units is not practicable in this case, in which there are 1,614 units proposed – resulting in a recommended allocation of 807 visitor spaces. A total of 252 short-stay bicycle parking spaces will be provided across the Site and it is considered that this constitutes adequate and appropriate provision.

3.4 Regional Planning Context

3.4.1 Eastern and Midland Regional Assembly – Regional Spatial and Economic Strategy (2019 – 2031)

There are three administrative Regions in Ireland: the Northern and Western Region, the Southern Region, and the Eastern and Midland Region. Under national policy, Regional Assemblies are tasked with drafting Regional Spatial and Economic Strategies (RSESs), which effectively set the agenda for implementing the national level development policy – the NPF – at the Regional level. The proposed Project is situated in the Eastern and Midland Region, which takes in Counties Longford, Westmeath, Offaly, Laois, Louth, Meath, Kildare, Wicklow and Dublin. The Region is the smallest in terms of land area but the largest in population size and is identified as the *"economic engine of the state"* because it contains the capital city (p. 14).

The current RSES for the Region was published in 2019. It constitutes a strategic plan and investment framework to shape the future development of the Region to 2031 in accordance with the NPF. The RSES' overarching vision for the Region is as follows:

> *"To create a sustainable and competitive Region that supports the health and wellbeing of our people and places, from urban to rural, with access to quality housing, travel and employment opportunities for all."* (p. 6)

In accordance with the requirements of the NPF, the RSES also contains a Metropolitan Area Strategic Plan (MASP) for the Dublin Metropolitan Area (DMA). The vision statement for the DMA is to *"build on our strengths to become a smart, climate resilient and global city region, expanding access to social and economic* *opportunities and improved housing choice, travel options and quality of life for people who live, work, study in or visit the metropolitan area"* (p. 100).

The RSES is based on three key principles:

1. *Healthy Placemaking*
   To promote people's quality of life through the creation of healthy and attractive places to live, work, visit and study in.
2. *Climate Action*
   The need to enhance climate resilience and to accelerate a transition to a low carbon economy recognising the role of natural capital and ecosystem services in achieving this.
3. *Economic Opportunity*
   To create the right conditions and opportunities for the region to realise sustained economic growth and employment that ensures good living standards for all.

Under the headings of these three principles, the RSES sets out 16 Regional Strategic Outcomes (RSOs), which are closely aligned with the NPF's NSOs and the United Nations' SDGs:

Healthy Placemaking

- Sustainable Settlement Patterns
- Compact Growth & Urban Regeneration
- Rural Communities
- Healthy Communities
- Creative Places

Climate Action

- Integrated Transport & Land Use
- Sustainable Management of Water, Waste and other Environmental Resources
- Build Climate Resilience
- Support the Transition to Low Carbon and Clean Energy
- Enhanced Green Infrastructure
- Biodiversity & Natural Heritage

Economic Opportunity

- A Strong Economy supported by Enterprise & Innovation
- Improve Education, Skills & Social Inclusion
- Global City Region
- Enhanced Regional Connectivity
- Collaboration Platform

In relation to 'Compact Growth and Urban Regeneration', the RSO of greatest relevance to the proposed Project, it is stated that there is a need to *"Promote the regeneration of our cities, towns and villages by making better use of under-used land and buildings within the existing built-up urban footprint and to drive the delivery of quality housing and employment choice for the Region's citizens"* (p. 25). It is further stated that, in delivering compact urban growth, Local Authorities should *"Set out measures to reduce vacancy and the underuse of existing building stock and support initiatives that promote the reuse, refurbishment and retrofitting of existing buildings within urban centres"* (p. 39). 'Healthy Communities' is also relevant. This RSO aims to *"Protect and* *enhance the quality of our built and natural environment to support active lifestyles including walking and cycling …"* (ibid).

With a view to realising the RSOs, the RSES sets out a suite of Regional Policy Objectives (RPOs) to guide the development of the Region. Those of greatest relevance to the proposed Project are listed in Table 3.2, below.

The RSES contains a Growth Strategy for the Region, which supports *"the continued growth of Dublin as our national economic engine"* (p. 26) and is supported by a Settlement Strategy and Economic Strategy. A key challenge in terms of housing provision in the Region is identified as "*the continued growth rates of household formation coupled with a severe slowdown in the development of new housing stock during the economic recession, resulting in housing supply and affordability pressures in both sale and rental markets, particularly in Dublin and urban areas but affecting all of the Region"* (p. 17). For the the DMA specifically; housing supply, affordability, choice and quality / liveability are all identified as issues which need to be addressed *"to ensure Dublin can sustain its competitiveness, provide good quality of life for residents and continue to attract and retain talent and investment as a global city region"* (p. 100).

A number of 'growth enablers' for the Region are identified, which include promoting *"compact urban growth to realise targets of at least 50% of all new homes to be built, to be within or contiguous to the existing built up area of Dublin city and suburbs"* (p. 33). More specifically, growth enablers identified for the DMA include the following (p. 34):

- *"To sustainably manage Dublin's growth as critical to Ireland's competitiveness, achieving growth to 1.4 million people in Dublin City and Suburbs and 1.65 million people in the Dublin Metropolitan Area by 2031."*
- *"To realise ambitious compact growth targets of at least 50% of all new homes to be built, to be within or contiguous to the existing built up area of Dublin city and suburbs and a target of at least 30% for other metropolitan settlements, with a focus on healthy placemaking and improved quality of life."*
- *"To deliver strategic development areas identified in the MASP, located at key nodes along high-quality public transport corridors in tandem with the delivery of infrastructure and enabling services to ensure a steady supply of serviced sites and to support accelerated delivery of housing."*
- *"Enhance co-ordination across local authorities and relevant agencies to promote more active land management and achieve compact growth targets through the development of infill, brownfield and public lands, with a focus on social as well as physical regeneration and improved sustainability."*

The MASP seeks to focus housing delivery along high-quality public transport corridors (existing and planned) which have the capacity to accommodate significant development in an integrated and sustainable fashion. These include 'City Centre within the M50' and the 'Metrolink – LUAS Corridor'. The Project Site is broadly located within the 'Metrolink – LUAS Corridor' connecting Swords with the City Centre via Dublin Airport; and is situated within the 'Dublin City within the M50' area. The exact route of the Metrolink is currently under consultation, however the proposed Project is strategically positioned to utilise future transport investment in large scale transport in the area, given the proximity to the proposed Glasnevin Metrolink station at Cross Guns Bridge, less than a 10 minute walk away.

The RSES states that, for urban-generated development, development within or contiguous to existing urban areas (including on infill and brownfield sites); and which are well-served by walking, cycling and public transport; will be prioritised over that which does not meet these criteria.

As well as calling for increased residential density in Dublin City, the RSES emphasises the need for healthy placemaking, i.e. *"integration of better urban design, public realm, amenities and heritage to create attractive places to live, work, visit and invest in"* and *"sustainable communities to support active lifestyles including* *walking and cycling"* (p. 48). In built up areas, a general intention to minimise private car use in favour of public transport and walking or cycling, is expressed in the RSES. It is stated that new developments should *"give competitive advantage"* to these modes, for example by providing for filtered permeability and appropriately designed bicycle parking (p. 187).

The RSES contains an 'Asset Test' for the strategic location of new residential development, which asks a series of questions under the headings of scale, functions, services, placemaking, economic, connectivity, environment and infrastructure (p. 201):

> *Scale*
> Is there potential for compact sustainable development, based on settlements scale, rates of growth, local ambition and availability of serviced lands?
>
> *Functions*
> Is there a good level of local employment provision, based on its jobs ratio and net commuting, and / or potential to develop complementarities with other places?
>
> *Services*
> Will local services and amenities including community, education, health, leisure and retail be accessible as set out in the '10-minute settlement' concept?
>
> *Placemaking*
> Will the development reinforce a sense of place and character, and create a healthy and attractive environment in line with good urban design principles?
>
> *Economic*
> Is there a potential for better alignment of housing and employment provision, to strengthen local economies or drive economic development opportunities?
>
> *Connectivity*
> Is the development accessible to existing / planned public transport and is there potential to improve modal share of public transport, walking and cycling?
>
> *Environment*
> Does the environment have the carrying capacity for development? Is there potential to enhance environmental quality and / or support transition to low carbon / climate resilience?
>
> *Infrastructure*
> Is there a requirement for improvements to water, waste water, utilities and / or digital infrastructure and services to support the proposed development?

The role of the built environment in decarbonisation and climate adaptation is also highlighted in the RSES, which aims to *"Promote sustainable settlement patterns to achieve compact urban development and low energy buildings"* (p. 173). It is further stated that:

> *"The design, construction and operation of new buildings has a significant role to play in reducing energy demand and increasing energy efficiency into the future. Careful consideration should also be given to the adaptability of buildings over time, to enable the building stock to be retrofitted or refurbished to meet higher energy efficiency standards into the future."* (p. 180)

The RSES also states that Sustainable Drainage Systems (SuDS) should be incorporated into public and private developments to minimise the extent of impermeable hard surfacing and reduce the associated potential for flood risk impacts.

Table 3.2: Relevant Regional Policy Objectives (RPOs) of the Eastern and Midland Regional Assembly RSES

No.	
3.1	Key stakeholders including local authorities in the Region shall, through their policies and objectives including development plans, commit to the delivery of the Growth Strategy as detailed in the RSES.
3.2	Local authorities, in their core strategies shall set out measures to achieve compact urban development targets of at least 50% of all new homes within or contiguous to the built up area of Dublin city and suburbs and a target of at least 30% for other urban areas.
3.3	Local authorities shall, in their core strategies, identify regeneration areas within existing urban settlements and set out specific objectives relating to the delivery of development on urban infill and brownfield regeneration sites in line with the Guiding Principles set out in the RSES and to provide for increased densities as set out in the 'Sustainable Residential Development in Urban Areas', 'Sustainable Urban Housing; Design Standards for new Apartments Guidelines' and the 'Urban Development and Building Heights Guidelines for Planning Authorities'.
3.4	Ensure that all plans, projects and activities requiring consent arising from the Regional Spatial and Economic Strategy are subject to the relevant environmental assessment requirements including SEA, EIA and AA as appropriate. In addition the future strategic development of settlements throughout the Region will have full cognisance of the legal requirements pertaining to sites of International Nature Conservation Interest.
4.3	Support the consolidation and re-intensification of infill/brownfield sites to provide high density and people intensive uses within the existing built up area of Dublin City and suburbs and ensure that the development of future development areas is co-ordinated with the delivery of key water infrastructure and public transport projects.
5.3	Future development in the Dublin Metropolitan Area shall be planned and designed in a manner that facilitates sustainable travel patterns, with a particular focus on increasing the share of active modes (walking and cycling) and public transport use and creating a safe attractive street environment for pedestrians and cyclists.
5.4	Future development of strategic residential development areas within the Dublin Metropolitan area shall provide for higher densities and qualitative standards as set out in the 'Sustainable Residential Development in Urban Areas', 'Sustainable Urban Housing: Design Standards for New Apartments' Guidelines and 'Urban Development and Building Heights Guidelines for Planning Authorities'.
5.5	Future residential development supporting the right housing and tenure mix within the Dublin Metropolitan Area shall follow a clear sequential approach, with a primary focus on the consolidation of Dublin and suburbs, and the development of Key Metropolitan Towns, as set out in the Metropolitan Area Strategic Plan (MASP) and in line with the overall Settlement Strategy for the RSES. Identification of suitable residential development sites shall be supported by a quality site selection process that addresses environmental concerns.
7.12	Future statutory land use plans shall include Strategic Flood Risk Assessment (SFRA) and seek to avoid inappropriate land use zonings and development in areas at risk of flooding and to integrate sustainable water management solutions (such as SuDS, nonporous surfacing and green roofs) to create safe places in accordance with the Planning System and Flood Risk Assessment Guidelines for Local Authorities.
7.39	Local authorities shall report annually on energy usage in all public buildings and will achieve a target of 33% improvement in energy efficiency in all buildings in line with the requirements of the National Energy Efficiency Action Plan (NEEAP).

No.	
7.40	Local authorities shall include policies in statutory land use plans to promote high levels of energy conservation, energy efficiency and the use of renewable energy sources in existing buildings, including retro fitting of energy efficiency measures in the existing building stock and energy efficiency in traditional buildings. All new buildings within the Region will be required to achieve the Nearly Zero-Energy Buildings (NZEB) standard in line with the Energy Performance of Buildings Directive (EPBD).
7.42	Local authorities shall include proposals in statutory land use plans to facilitate and encourage an increase in electric vehicle use, including measures for more recharging facilities and prioritisation of parking for EVs in central locations.
8.3	That future development is planned and designed in a manner which maximises the efficiency and protects the strategic capacity of the metropolitan area transport network, both existing and planned and to protect and maintain regional accessibility.
9.1	Local authorities shall ensure the integration of age friendly and family friendly strategies in development plans and other relevant local policy and decision making, including provision for flexible housing typologies, buildings and public spaces that are designed so that everyone, including older people, disabled people and people with young children can move around with ease, avoiding separation or segregation.
9.3	Support local authorities, approved housing bodies and other sectoral agencies in the provision of a greater diversity of housing type and tenure, including social and affordable housing and exploring new models of low cost rental and affordable homeownership.
9.4	Design standards for new apartment developments should encourage a wider demographic profile which actively includes families and an ageing population.
9.10	In planning for the creation of healthy and attractive places, there is a need to provide alternatives to the car and to prioritise and promote cycling and walking in the design of streets and public spaces. Local authorities shall have regard to the Guiding Principles for ‘Healthy Placemaking’ and ‘Integration of Land Use and Transport’ as set out in the RSES and to national policy as set out in ‘Sustainable Residential Development in Urban Areas’ and the ‘Design Manual for Urban Roads and Streets (DMURS)’.
9.12	In Planning policy formulation and implementation local authorities and other stakeholders shall be informed by the need to cater for all levels of disability, through the appropriate mitigation of the built environment, and in particular for the needs of an ageing population.
9.13	Local authorities and relevant agencies shall ensure that new social infrastructure developments are accessible and inclusive for a range of users by adopting a universal design approach and provide for an age friendly society in which people of all ages can live full, active, valued and healthy lives.
9.14	Local authorities shall seek to support the planned provision of easily accessible social, community, cultural and recreational facilities and ensure that all communities have access to a range of facilities that meet the needs of the communities they serve.
9.17	To support local authorities in the development of regional scale Open Space and Recreational facilities particularly those close to large or growing population centres in the Region.
9.27	[The Eastern and Midlands Regional Assembly] will support local authorities to work with local communities to promote historic towns in the Region in the practice of heritage led regeneration, to promote the sensitive and adaptive reuse of historic building stock and industrial structures where appropriate, and to strengthen their capability to draw down European and national funding.
9.30	Support the sensitive reuse of protected structures.
10.25	Development plans shall identify how waste will be reduced, in line with the principles of the circular economy, facilitating the use of materials at their highest value for as long as possible and how remaining

No.	
	quantums of waste will be managed and shall promote the inclusion in developments of adequate and easily accessible storage space that supports the separate collection of dry recyclables and food and shall take account of the requirements of the Eastern and Midlands Region Waste Management Plan.

The proposed Project is aligned with the objectives of the Eastern and Midland Regional Assebly's RSES and the Dublin MASP, in that it is a SHD which will provide a large number of additional, high-quality and high-density residential units to let within the existing built-up footprint of Dublin City, providing housing for over 3,000 persons[6]. The following characteristics of the proposed Project are also in accordance with the vision and objectives of the NPF:

- Provision of a high quality, attractive, accessible and liveable residential hub, in accordance with the principles of healthy placemaking and the 'Asset Test' for the strategic location of new residential development, as set out in the RSES.
- Close proximity to community amenities and services, high capacity (existing and planned) public transport services, pedestrian and cycling infrastructure, and high density of employment opportunities.
- Provision of on-site amenities and services for residents, including attractive public realm, recreational areas / opportunities, childcare facilities and retail.
- Sensitive re-use of existing, underutilised building stock of architectural heritage and historic merit.
- Promotion, through design and location, of walking, cycling, EV use and public transport use as more sustainable and healthy alternatives to private car use.

The consistency of the proposed Project with the relevant design standards is discussed under the corresponding headings below. Regarding RPOs related to specific environmental topics such as SuDS and waste management (refer to RPOs No. 7.12 and 10.25, respectively); these matters are considered herein in the relevant specialist EIAR Chapters.

3.4.2 Transport Strategy for the Greater Dublin Area (2016 – 2035)

The Transport Strategy for the Greater Dublin Area 2016 – 2035, as prepared by the National Transport Authority, provides a framework for the planning and delivery of transport infrastructure and services in the Greater Dublin Area (GDA) over the next two decades. It also provides a transport planning policy around which statutory agencies involved in land use planning, environmental protection, and delivery of other infrastructure such as housing, water and power, can align their investment priorities. It is, therefore, an essential component, along with investment programmes in other sectors, for the orderly development of the Greater Dublin Area over the next 20 years.

The Strategy identifies the challenges for transport in the GDA as being:

- An assumed return to sustained economic growth;
- Substantial population growth;
- Full employment;
- That no one is excluded from society, by virtue of the design and layout of transport infrastructure and services or by the cost of public transport use; and
- That the environment in the GDA is protected and enhanced.

It is considered that since the publication of the Strategy in 2016 economic and population growth has continued to substantially increase and as such the objective of the plan are critical to ensuring a functional GDA region.

As such the proposed Project is consistent with the objectives of the GDA Transport Strategy by developing employment and residential development in proximity to each other and proximate to existing employment and public transport networks thereby reducing the requirement on the car and encouraging a shift to more sustainable transport methods.

3.5 Local Planning Context

3.5.1 Dublin City Development Plan (2016 – 2022)

The Site of the proposed Project is located within the administrative area of Dublin City Council (DCC). The Dublin City Development Plan (2016 – 2022) establishes the planning policy for development in the city, having regard to national and regional plans and policies, to 2022. The overarching policy of the Development Plan is for a 'sustainable, resilient Dublin'. It is stated that *"The alternative is to continue along an unsustainable path of low-density development with extensive urban sprawl, unsustainable travel patterns, high levels of fossil fuel consumption and a reliance on imported energy sources"* (p. 12). To achieve a sustainable and resilient city, the Development Plan focusses on five principles which constitute the interrelated and essential elements of a sustainable approach to future development in the city:

1. *Economic*
   Developing Dublin as the national gateway at the heart of the Dublin region and the engine of the Irish economy, with a network of thriving spatial and sectoral clusters, as a focus for employment and creativity.
2. *Social / Residential*
   Developing Dublin as a compact city with a network of sustainable neighbourhoods which have a range of facilities and a choice of tenure and house types, promoting social inclusion and integration of all ethnic communities.
3. *Cultural / Built Heritage*
   Making provision for cultural facilities throughout the city and increasing awareness of our cultural heritage and promoting safe and active streets through the design of buildings and the public realm.
4. *Urban Form*
   Creating a connected and legible city based on active streets and quality public spaces with a distinctive sense of place. Place making is particularly important in the strategic development and regeneration areas (SDRAs).
5. *Movement*
   Helping to build an integrated transport network and encouraging the provision of greater choice of public transport active travel.

These principles have informed the Development Plan's vision for Dublin City, as follows:

> *"Within the next 25 to 30 years, Dublin will have an established international reputation as one of Europe's most sustainable, dynamic and resourceful city regions. Dublin, through the shared vision of its citizens and civic leaders, will be a beautiful, compact city, with a distinct character, a vibrant culture*

> *and a diverse, smart, green, innovation-based economy. It will be a socially inclusive city of urban neighbourhoods, all connected by an exemplary public transport, cycling and walking system and interwoven with a quality bio-diverse green space network. In short, the vision is for a capital city where people will seek to live, work, experience, invest and socialise, as a matter of choice."* (p. 18)

At its outset, the Development Plan sets out a core strategy with a view to achieving this vision. The core strategy is discussed insofar as it relates to the proposed Project in the following section.

3.5.1.1 Core Strategy

To achieve the vision of the Development Plan, the core strategy contains a number of specific sub-strategies addressing housing, settlement, employment and enterprise, retail, and public transport. These are addressed, where relevant, below.

Regarding housing, the core strategy assumes a population growth of 60,000 persons in Dublin City for the policy period (2016 – 2022), resulting in a need for at least 29,500 additional residential units in the same period (assuming an average occupancy rate of two persons per unit). The housing strategy aims to exceed this figure, potentially delivering up to 55,000 units through the appropriate zoning of lands within the administrative area, under the scope of the Development Plan.

Appendix 2A of the Development Plan presents the detailed Housing Strategy to 2022. It emphasises the need for a greater variety of residential unit types relative to the baseline, in which we have a marked deficit of units for smaller households. Table 3 of Appendix 2A sets out the proportion of different sized units which the Plan aims to deliver in order to meet projected demand: 20% one-bed, 40% two-bed, 30% three-bed, 10% four-bed and 5% five-bed.

The settlement strategy for the city is of continued *"consolidation and increasing densities within the existing built footprint of the city […] in tandem with high-quality rail-based public transport"* (p. 25). The zoning of lands for residential development is centred around a series of 'strategic development and regeneration areas' (SDRAs), which are estimated to have the capacity to deliver 52,300 – 52,600 additional units when fully developed. In addition to these SDRAs, the Development Plan has zoned other lands across the city for residential development or mixed development including residential.

Under the Development Plan, the Site of the proposed Project is predominantly zoned as Z12 'Institutional Land (Future Development Potential)' which has the stated aim *"to ensure existing environmental amenities are protected in the predominantly residential future use of these lands"*. The Development Plan provides an overview of its vision for the Z12 lands as follows:

> *"These are the lands the majority of which are in institutional use, which could possible by developed for other uses. […] Where lands zoned Z12 are to be developed, a minimum of 20% of the site, incorporating landscape features and the essential open character of the site, will be required to be retained as accessible public open space. The predominant land-use on lands to be re-developed will be residential, and this will be actively encouraged.*
>
> *In considering any proposal for development on lands subject to zoning objective Z12, other than development directly related to the existing community and institutional uses, Dublin City Council will require the preparation and submission of a masterplan setting out a clear vision for the future for the development of the entire land holding. In particular, the masterplan will need to identify the strategy for the provision of the 20% public open space requirements associated with any residential development, to ensure a co-ordinated approach to the creation of high-quality new public open space*

on new lands linked to the green network and/or other lands, where possible. In addition, development at the perimeter of the site adjacent to existing residential development shall have regard to the prevailing height of existing residential development and to standards in Chapter 16, Section 16.10 – Standards for residential accommodation in relation to aspect, natural lighting, sunlight, layout and private open space.

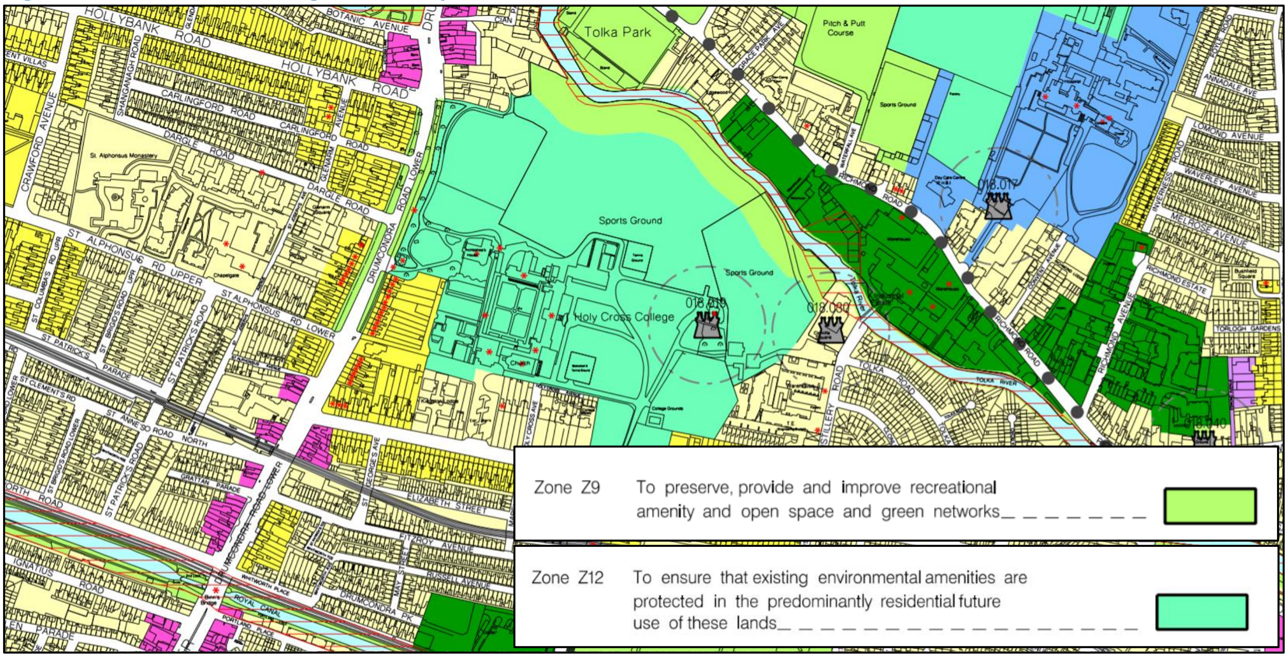
On Z12 lands, the minimum 20% public open space shall not be split up into sections and shall be comprised of soft landscape suitable for relaxation and children's play, unless the incorporation of existing significant landscape features and the particular recreational or nature conservation requirements of the site and area dictate that the 20% minimum public open space shall be apportioned otherwise.

And, for the avoidance of doubt, at least 10% social and affordable housing requirement, as set out in the housing strategy in this plan, will apply in the development of lands subject to the Z12 zoning objective." (p. 248)

In addition to the primarily residential objective of these lands, 'permissible uses' for lands zoned Z12 (according to the Development Plan) also include childcare facility, community facility, live-work units, open space, and shop (local), among others. 'Open for consideration uses' include car park, office, part off-licence, and shop (neighbourhood).

Lands zoned as Z12 have been included in the settlement strategy's calculations of the potential future residential units which can be delivered by the Development Plan. The lands have been earmarked in the residential core strategy as 'available suitable land for housing development'. Therefore, development of these lands as proposed will contribute to the delivery of additional residential units for Dublin City in a manner consistent with the Development Plan's core strategy.

Figure 3.2: Land Use Zoning at the Project Site



In relation to the creation of sustainable communities, the core strategy states that *"… the development plan puts a new emphasis on institutional lands as an important community resource for the city in providing* *educational, recreational, community and health facilities, for both the city and local neighbourhoods. The plan protects these lands as a strategic asset for the city"* (p. 36).

The settlement strategy identifies eight key district centres (KDCs), which *"represent the top-tier of urban centres outside the city centre"* (p. 26), one of which is Phibsborough, situated a c. 20 minute walk or 5 minute cycle from the Clonliffe Road entrance to the proposed Project (approx. 1.6 km). These KDCs are regarded as hubs of commercial and community amenities and services for surrounding populations, and it is stated that *"All of the designated KDCs closely align to public transport rail corridors"* (p. 26). Phibsbourough is currently served by the Drumcondra Irish Rail station to the north-east and by the Luas light rail Phibsborough stop to the west and will, in the future, be served by the Metrolink Glasnevin station to the north at Cross Guns Bridge. In addition to the city centre retail core, the Development Plan aims to concentrate higher-tier retail development in these KDCs.

In relation to transport, the core strategy is for *"a sequential approach to securing modal shift from private motorised modes of transport to more sustainable modes including walking, cycling and public transport"* (p. 29) in accordance with the NTA's Transport Strategy for the Greater Dublin Area (2016 – 2035) (refer to Section 3.4.2).

3.5.1.2 Development Plan Policies and Objectives

Throughout the remainder of the Development Plan, the core strategy is translated into specific, numbered policies and objectives of DCC to 2022. Those of greatest relevance to the proposed Project are listed in Table 3.3, below, and discussed, where relevant, in the following sections.

Specific environmental topics (hydrology, water, noise, air quality, architectural heritage, etc.) are addressed herein in the corresponding specialist chapters.

Table 3.3: Relevant Policies and Objectives of the Dublin City Development Plan (2016 – 2022)

No.	
CC3	To promote energy efficiency, energy conservation, and the increased use of renewable energy in existing and new developments.
CC4	To encourage building layout and design which maximises daylight, natural ventilation, active transport and public transport use.
CCO12	To ensure high standards of energy efficiency in existing and new developments in line with good architectural conservation practice and to promote energy efficiency and conservation in the design and development of all new buildings in the city, encouraging improved environmental performance of building stock.
CCO15	To facilitate the provision of electricity charging infrastructure for electric vehicles.
CC5	To address flood risk at strategic level through the process of strategic flood risk assessment, and through improvements to the city's flood defences (see appendix 11 [of the Development Plan]).
SC5	To promote the urban design and architectural principles set out in Chapter 15, and in the Dublin City Public Realm Strategy 2012, in order to achieve a quality, compact, well-connected city.
SC13	To promote sustainable densities, particularly in public transport corridors, which will enhance the urban form and spatial structure of the city, which are appropriate to their context, and which are supported by a full range of community infrastructure such as schools, shops and recreational areas, having regard to the safeguarding criteria set out in Chapter 16 [of the Development Plan] (development standards), including the criteria and standards for good neighbourhoods, quality urban design and excellence in architecture.

No.	
	These sustainable densities will include due consideration for the protection of surrounding residents, households and communities.
SC14	To promote a variety of housing and apartment types which will create a distinctive sense of place in particular areas and neighbourhoods, including coherent streets and open spaces.
SC15	To recognise and promote green infrastructure and landscape as an integral part of the form and structure of the city, including streets and public places.
SC16	To recognise that Dublin City is fundamentally a low-rise city and that the intrinsic quality associated with this feature is protected whilst also recognising the potential and need for taller buildings in a limited number of locations subject to the provisions of a relevant LAP, SDZ or within the designated strategic development regeneration area (SDRA).
SC17	To protect and enhance the skyline of the inner city, and to ensure that all proposals for mid-rise and taller buildings make a positive contribution to the urban character of the city, having regard to the criteria and principles set out in Chapter 15 [of the Development Plan] (Guiding Principles) and Chapter 16 [of the Development Plan] (development standards). In particular, all new proposals must demonstrate sensitivity to the historic city centre, the River Liffey and quays, Trinity College, the cathedrals, Dublin Castle, the historic squares and the city canals, and to established residential areas, open recreation areas and civic spaces of local and citywide importance.
SC18	To promote a co-ordinated approach to the provision of tall buildings through local area plans, strategic development zones and the strategic development and regeneration areas principles, in order to prevent visual clutter or cumulative negative visual disruption of the skyline.
SC19	To promote the development of a network of active, attractive and safe streets and public spaces which are memorable, and include, where appropriate, seating, and which encourage walking as the preferred means of movement between buildings and activities in the city. In the case of pedestrian movement within major developments, the creation of a public street is preferable to an enclosed arcade or other passageway.
SC20	To promote the development of high quality streets and public spaces which are accessible and inclusive, and which deliver vibrant, attractive, accessible and safe places and meet the needs of the city's diverse communities.
SC21	To promote the development of a built environment and public spaces which are designed to deter crime and anti-social behaviour, which promote safety and which accord with the principles of universal design, as set out in the Dublin City Public Realm Strategy.
SC25	To promote development which incorporates exemplary standards of high-quality, sustainable and inclusive urban design, urban form and architecture befitting the city's environment and heritage and its diverse range of locally distinctive neighbourhoods, such that they positively contribute to the city's built and natural environments. This relates to the design quality of general development across the city, with the aim of achieving excellence in the ordinary, and which includes the creation of new landmarks and public spaces where appropriate.
SC26	To promote and facilitate innovation in architectural design to produce contemporary buildings which contribute to the city's acknowledged culture of enterprise and innovation, and which mitigates, and is resilient to, the impacts of climate change.
SC28	To promote understanding of the city's historical architectural character to facilitate new development which is in harmony with the city's historical spaces and structures.
QH3 (i)	To secure the implementation of the Dublin City Council Housing Strategy in accordance with the provision of national legislation. In this regard, 10% of the land zoned for residential uses, or for a mixture of residential and other uses, shall be reserved for the provision of social and/ or affordable housing in order to promote tenure diversity and a socially inclusive city.

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QH5	To promote residential development addressing any shortfall in housing provision through active land management and a coordinated planned approach to developing appropriately zoned lands at key locations including regeneration areas, vacant sites and under-utilised sites.
QH6	To encourage and foster the creation of attractive mixed-use sustainable neighbourhoods which contain a variety of housing types and tenures with supporting community facilities, public realm and residential amenities, and which are socially mixed in order to achieve a socially inclusive city.
QH7	To promote residential development at sustainable urban densities throughout the city in accordance with the core strategy, having regard to the need for high standards of urban design and architecture and to successfully integrate with the character of the surrounding area.
QH8	To promote the sustainable development of vacant or under-utilised infill sites and to favourably consider higher density proposals which respect the design of the surrounding development and the character of the area.
QH9	To require that larger schemes which will be developed over a considerable period of time are developed in accordance with an agreed phasing programme to ensure that suitable physical, social and community infrastructure is provided in tandem with the residential development and that substantial infrastructure is available to initial occupiers.
QH10	To support the creation of a permeable, connected and well-linked city and discourage gated residential developments as they exclude and divide established communities.
QH11	To ensure new developments and refurbishments are designed to promote safety and security and avoid anti-social behaviour in accordance with the Safety and Security Design Guidelines contained in Appendix 14 [of the Development Plan].
QH12	To promote more sustainable development through energy end-use efficiency, increasing the use of renewable energy, and improved energy performance of all new development throughout the city by requiring planning applications to be supported by information indicating how the proposal has been designed in accordance with the development standards set out in the development plan.
QH13	To ensure that all new housing is designed in a way that is adaptable and flexible to the changing needs of the homeowner as set out in the Residential Quality Standards and with regard to the Lifetime Homes Guidance contained in Section 5.2 of the Department of Environment, Heritage and Local Government 'Quality Housing for Sustainable Communities – Best Practice Guidelines for Delivering Homes Sustaining Communities' (2007).
QH15	To require compliance with the City Council's policy on the taking-in-charge of residential developments.
QH16	To promote efficient and effective property management in order to secure the satisfactory upkeep and maintenance of communal areas and facilities in the context of the Multi-Unit Developments Act 2011, the Property Services (Regulation) Act 2011 and the establishment of the Property Services Regulatory Authority.
QH17	To support the provision of purpose-built, managed high-quality private rented accommodation with a long-term horizon.
QH18	To promote the provision of high quality apartments within sustainable neighbourhoods by achieving suitable levels of amenity within individual apartments, and within each apartment development, and ensuring that suitable social infrastructure and other support facilities are available in the neighbourhood, in accordance with the standards for residential accommodation.
QH19	To promote the optimum quality and supply of apartments for a range of needs and aspirations, including households with children, in attractive, sustainable, mixed-income, mixed-use neighbourhoods supported by appropriate social and other infrastructure.
QH20	To ensure apartment developments on City Council sites are models of international best practice and deliver the highest quality energy efficient apartments with all the necessary infrastructure where a need is identified, to include community hubs, sports and recreational green open spaces and public parks and

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	suitable shops contributing to the creation of attractive, sustainable, mixed-use and mixed-income neighbourhoods.
QH25	To encourage the re-introduction of residential use into the historic areas of the city, where much of the historic fabric remains intact (e.g. the Georgian and Victorian areas), provided development is consistent with the architectural integrity and character of such areas.
CEE16 (iv)	To encourage and facilitate the rehabilitation and use of vacant and under-utilised buildings, including their upper floors.
RD19	To promote the retail provision in the key district centres, district centres and neighbourhood centres, including the revitalisation of existing established centres …
MT2	Whilst having regard to the necessity for private car usage and the economic benefit to the city centre retail core as well as the city and national economy, to continue to promote modal shift from private car use towards increased use of more sustainable forms of transport such as cycling, walking and public transport, and to co-operate with the NTA, Transport Infrastructure Ireland (TII) and other transport agencies in progressing an integrated set of transport objectives. Initiatives contained in the government's 'Smarter Travel' document and in the NTA's draft transport strategy are key elements of this approach.
MT4	To promote and facilitate the provision of Metro, all heavy elements of the DART Expansion Programme including DART Underground (rail interconnector), the electrification of existing lines, the expansion of Luas, and improvements to the bus network in order to achieve strategic transport objectives. [Emphasis added].
MTO7	To promote and seek the development of a new commuter rail station at Cross Guns serving the existing rail line infrastructure. Such a provision may be a stand-alone facility or form part of a larger mixed use development.
MTO19	Subject to a feasibility assessment, to upgrade Cross Gunns Bridge Phibsborough for pedestrian and cyclist use.
MT13	To promote best practice mobility management and travel planning to balance car use to capacity and provide for necessary mobility via sustainable transport modes.
MT17	To provide for sustainable levels of car parking and car storage in residential schemes in accordance with development plan car parking standards (section 16.38 [of the Development Plan]) so as to promote city centre living and reduce the requirement for car parking.
MT19	To safeguard the residential parking component in mixed-use developments.
MT21	To improve the management and control of traffic in the city, to increase internal and external sustainable accessibility, to improve road safety, to safeguard commercial servicing requirements, to mitigate the impact of construction works and to minimise the adverse environmental impacts of the transport system.
MTO23	To require Travel Plans and Transport Assessments for all relevant new developments and/or extensions or alterations to existing developments, as outlined in Appendix 4 [of the Development Plan].
MTO45	To implement best practice in road design as contained in statutory guidance and in the DMURS (the use of which is mandatory) with a focus on place-making and permeability (for example, by avoiding long walls alongside roads) in order to create street layouts that are suited to all users, including pedestrians and cyclists.
SI3	To ensure that development is permitted in tandem with available water supply and wastewater treatment and to manage development, so that new schemes are permitted only where adequate capacity or resources exists or will become available within the life of a planning permission.
SIO3	To require all new development to provide a separate foul and surface water drainage system and to incorporate sustainable urban drainage systems.

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SIO4	To minimise wastage of water supply by requiring new developments to incorporate water conservation measures, and to promote water conservation by all water users.
SI4	To promote and maintain the achievement of at least good status in all water bodies in the city.
SI5	To promote the enhancement of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems.
SI6	To promote the protection and improvement of the aquatic environment, including through specific measures for the progressive reduction or cessation of discharges and emissions.
SIO6	To implement the European Union Water Framework Directive through the implementation of the appropriate River Basin Management Plan and Programme of Measures.
SIO7	To take into consideration the relevant River Basin Management Plan and Programme of Measures when considering new development proposals.
SI10	To have regard to the Guidelines for Planning Authorities on the Planning System and Flood Risk Management, and Technical Appendices, November 2009, published by the Department of the Environment, Community, and Local Government as may be revised/updated when assessing planning applications and in the preparation of plans both statutory and non-statutory.
SI13	To implement and comply fully with the recommendations of the Strategic Flood Risk Assessment prepared as part of the Dublin City Development Plan.
SI14	That development of basements or any above-ground buildings for residential use below the estimated flood levels for Zone A or Zone B will not be permitted.
SIO8	All development proposals shall carry out, to an appropriate level of detail, a Site-Specific Flood Risk Assessment (SSFRA) that shall demonstrate compliance with: ▪ The Planning System and Flood Risk Management, Guidelines for Planning Authorities, Department of the Environment, Community and Local Government, November 2009, as may be revised/updated and the Strategic Flood Risk Assessment (SFRA) as prepared by this Development Plan. ▪ The site-specific flood risk assessment (SSFRA) shall pay particular emphasis to residual flood risks, site-specific mitigation measures, flood-resilient design and construction, and any necessary management measures (the SFRA and Appendix B4 of the above mentioned national guidelines refer). Attention shall be given in the site-specific flood risk assessment to building design and creating a successful interface with the public realm through good design that addresses flood concerns but also maintains appealing functional streetscapes. All potential sources of flood risk must be addressed in the SSFRA.
SIO10	That recommendations and flood maps arising from the Fingal-East Meath CFRAM Study, the Dodder CFRAM Study and the Eastern CFRAM Study are taken into account in relation to the preparation of statutory plans and development proposals. This will include undertaking a review of the Strategic Flood Risk Assessment for Dublin city following the publication of the Final Eastern CFRAM Study, currently being produced by the OPW.
SI18	To require the use of Sustainable Urban Drainage Systems in all new developments, where appropriate, as set out in the Greater Dublin Regional Code of Practice for Drainage Works. The following measures will apply: ▪ The infiltration into the ground through the development of porous pavement such as permeable paving, swales, and detention basins ▪ The holding of water in storage areas through the construction of green roofs, rainwater harvesting, detention basins, ponds, and wetlands ▪ The slow-down of the movement of water.

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SIO14	To require that any new paving of driveways or other grassed areas is carried out in a sustainable manner so that there is no increase in storm water run-off to the drainage network.
SI19	To support the principles of good waste management and the implementation of best international practice in relation to waste management in order for Dublin city and the region to become self-reliant in terms of waste management.
SI20	To prevent and minimise waste and to encourage and support material sorting and recycling.
SI21	To minimise the amount of waste which cannot be prevented and ensure it is managed and treated without causing environmental pollution.
SI22	To ensure that effect is given as far as possible to the 'polluter pays' principle.
SIO16	To require the provision of adequately-sized recycling facilities in new commercial and large-scale residential developments, where appropriate.
SIO18	To promote the re-use of building materials, recycling of demolition material and the use of materials from renewable sources. In all developments in excess of 10 housing units and commercial developments in excess of 1000 sq.m, a materials source and management plan showing type of materials/proportion of re-use/recycled materials to be used shall be implemented by the developer.
SIO20	To promote sustainable design and construction to help reduce emissions from the demolition and construction of buildings.
SIO21	To encourage the use of internal ducting/ staircores within all new mixed-use developments, where appropriate, to facilitate air extraction/ventilation units and other associated plant and services.
SIO26	To protect residents of mixed-use developments from noise emanating from other uses such as shops, offices, nightclubs, late night busking, public houses and other night time uses through the planning system.
SIO27	To give careful consideration to the location of noise-sensitive developments, including the horizontal and vertical layout of apartment schemes, so as to ensure they are protected from major noise sources where practical.
SI26	To ensure that the design of external lighting proposals minimises light spillage or pollution in the surrounding environment and has due regard to the residential amenity of the surrounding area.
SI27	To require lighting design to be appropriate to the end use in relation to residential areas, footpaths, cycle paths, urban streets and highways, i.e. use of low-level bollard lighting along cycle paths.
GI2	That any plan/project, either individually or in combination with other plans or projects that has the potential to give rise to significant effect on the integrity of any European site(s), shall be subject to an appropriate assessment in accordance with Article 6(3) and 6(4) of the EU Habitats Directives.
GI5	To promote permeability through our green infrastructure for pedestrians and cyclists.
GIO1	To integrate Green Infrastructure solutions into new developments and as part of the development of a Green Infrastructure Strategy for the city.
GI11	To seek the provision of additional spaces in areas deficient in public open spaces – by way of pocket parks or the development of institutional lands.
GI13	To ensure that in new residential developments, public open space is provided which is sufficient in quantity and distribution to meet the requirements of the projected population, including play facilities for children.
GI23	To protect flora, fauna and habitats, which have been identified by Articles 10 and 12 of Habitats Directive, Birds Directive, Wildlife Acts 1976 – 2012, the Flora (Protection) Order 2015 S.I No. 356 of 2015, European Communities (Birds and Natural Habitats) Regulations 2011 to 2015.

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GI15	To protect, maintain, and enhance the natural and organic character of the watercourses in the city, including opening up to daylight where safe and feasible. The creation and/or enhancement of riparian buffer zones will be required where possible. It is the policy of Dublin City Council to maintain and enhance the safety of the public in its use and enjoyment of the many public parks, open spaces, waterways and linkages within the city…
GIO18	To protect and improve the natural character of watercourses, including the Dodder, and to promote access, walkways, cycleways and other compatible recreational uses along them, having regard to environmental sensitivities.
GIO20	To establish, where feasible, river corridors, free from development, along all significant watercourses in the city.
GI28	To support the implementation of the Dublin City Tree Strategy, which provides the vision for the long-term planting, protection and maintenance of trees, hedgerows and woodlands within Dublin City.
GI29	To adopt a pro-active and systematic good practice approach to tree management with the aim of promoting good tree health, condition, diversity, public amenity and a balanced age-profile.
GI30	To encourage and promote tree planting in the planning and development of urban spaces, streets, roads and infrastructure projects.
GIO25	To protect trees in accordance with existing Tree Preservation Orders (TPOs) and, subject to resources, explore the allocation of additional TPOs for important/ special trees within the city based on their contribution to amenity or the environment.
GIO27	To protect trees, hedgerows or groups of trees which function as wildlife corridors or 'stepping stones' in accordance with Article 10 of the EU Habitats Directive.
GIO29	To encourage trees to be incorporated in (a) the provision of temporary green spaces (e.g. pop-up parks) either planted into the soil or within moveable containers as appropriate and (b) within sustainable urban drainage systems (SUDS), as appropriate.
GI33	To seek the provision of children's play facilities in new residential developments. To provide playgrounds to an appropriate standard of amenity, safety, and accessibility and to create safe and accessible places for socialising and informal play.
GIO31	To encourage and facilitate the introduction of amenities in parks such as table tennis, games tables, outdoor gyms, adult exercise equipments, bowling greens, etc.
CHC1	To seek the preservation of the built heritage of the city that makes a positive contribution to the character, appearance and quality of local streetscapes and the sustainable development of the city.
CHC2	To ensure that the special interest of protected structures is protected. Development will conserve and enhance Protected Structures and their curtilage and will: a) Protect or, where appropriate, restore form, features and fabric which contribute to the special interest b) Incorporate high standards of craftsmanship and relate sensitively to the scale, proportions, design, period and architectural detail of the original building, using traditional materials in most circumstances c) Be highly sensitive to the historic fabric and special interest of the interior, including its plan form, hierarchy of spaces, structure and architectural detail, fixtures and fittings and materials d) Not cause harm to the curtilage of the structure; therefore, the design, form, scale, height, proportions, siting and materials of new development should relate to and complement the special character of the protected structure e) Protect architectural items of interest from damage or theft while buildings are empty or during course of works

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	f) Have regard to ecological considerations for example, protection of species such as bats. Changes of use of protected structures, which will have no detrimental impact on the special interest and are compatible with their future long-term conservation, will be promoted.
CHC6	To ensure a sustainable future for historic and other buildings subject to heritage protection. The City Council will encourage and support works to upgrade the environmental performance of the existing building stock that incorporates good standards of design and appearance. Where these works involve historic buildings subject to protection (this includes buildings referenced on the Record of Protected Structures and non-protected structures in an Architectural Conservation Area), the works shall not adversely affect the special interest of the structure and thus a sensitive approach will be required, taking into account: ▪ The significance of the structure, and ▪ The extent of intervention, including impact on historic fabric, traditional construction, visibility, siting and design. The installation of renewable energy measures and equipment will be acceptable where sited and designed to minimise the visual impact and does not result in any significant loss of historic fabric or otherwise affect the significance of the structure.
CHC8	To facilitate off-street parking for residential owners/occupiers where appropriate site conditions exist, while protecting the special interest and character of protected structures and Conservation Areas.
SN1	To promote good urban neighbourhoods throughout the city which are well designed, safe and suitable for a variety of age groups and tenures, which are robust, adaptable, well served by local facilities and public transport, and which contribute to the structure and identity of the city, consistent with standards set out in this plan.
SN2	To promote neighbourhood developments which build on local character as expressed in historic activities, buildings, materials, housing types or local landscape in order to harmonise with and further develop the unique character of these places.
SN4	To have regard to the Department of Housing, Planning, Community and Local Government's Guidelines on Sustainable Residential Development in Urban Areas and its accompanying Urban Design Manual, 2010, the Guidelines on Local Area Plans and the related Manual, 2013 and the joint DTTS and DCLG's Design Manual for Urban Streets and Roads (DMURS), 2013 and the NTA's Permeability Best Practice Guide, 2015, in the making of sustainable neighbourhoods.
SN5	To ensure that applications for significant large new developments (over 50 units) are accompanied by a social audit and an implementation and phasing programme in relation to community infrastructure, so that facilities identified as needed are provided in a timely and co-ordinated fashion.
SN29	To promote built environments and outdoor shared spaces which are accessible to all. New developments must be in accordance with the principles of Universal Design, the City Development Plan's Access For All Standards, and the National Disability Authority's 'Building For Everyone'.

3.5.1.3 Location and Density of Residential Development

Refer to Policies SC5, SC13, MT4, MTO7, MTO19 and MT13 in Table 3.3, above.

The Development Plan's objectives for the spatial distribution of development, including residential development, are in accordance with the NPF's policy of compact urban development, whereby new development is concentrated within the existing footprint of urban areas, and in areas proximate to public transport services, employment opportunities and community amenities. It is stated that:

> *"Higher densities will be promoted in the city centre, within KDCs, SDRAs and within the catchment of high capacity public transport. The density standards set out in this plan will promote the development of high quality, sustainable densities and the consolidation of urban form."* (p. 62)

> *"The speedy re-development of extensive vacant/under-utilised sites, especially in the city centre zoned area, is critical to sustainable development. Putting in place a critical mass of investment and development in the short-term is essential to break the negative cycle of underdevelopment and to overcome the barriers to progress that have existed."* (p. 95)

In order to promote compact development and efficient use of resources, re-development of existing building stock is promoted in the Development Plan:

> *"The re-use of existing buildings should always be considered as a first option in preference to demolition and new build."* (p. 305)

In terms of the density of new developments, the Development Plan states that:

> *"The density of a proposal should respect the existing character, context and urban form of an area and seek to protect existing and future residential amenity. Public transport capacity will also be used to determine the appropriate density allowable."* (p. 315)

The Development Plan sets out indicative plot ratio standards for the various zoning types, which are indicative of the desired amount of floor-space in relation (proportionally) to the site area, and is determined by the gross floor area of the building(s) divided by the site area. For Z12 development lands, an indicative plot ratio of 0.5 – 2.5 is stated. The proposed plot ratio in this case is 1.49.

The Development Plan also establishes indicative site coverage standards for zoned lands, which are indicative of acceptable proportion of a site to be covered by building structures (not including hard landscaping). For Z12 development lands, an indicative site coverage of 50% is stated. It is pointed out higher plot ratios and site coverages may be applied where a development site is adjoining major public transport termini and corridors, provided an appropriate mix of residential and commercial uses is proposed. The proposed site coverage in this case is 23%.

It is considered that the location and density of the proposed Project is in accordance with the Development Plan in a number of respects, including the following:

- Location in close proximity to existing and planned high-capacity public transport services, including Irish Rail commuter services, Luas light rail (green line) services, existing and planned public bus services and planned Metrolink rail services.
- Location of Site on underutilised greenfield lands within existing built-up footprint of Dublin City.
- Location in close proximity to existing commercial / community amenity hubs, including Drumcondra and Phibsborough, the latter of which has been designated as a KDC under the Development Plan.
- Sensitive re-use of existing building stock in a manner that is consistent with architectural heritage conservation.
- On-site provision of residential amenities, including lounges / breakout areas, secure car and bicycle parking, EV charging points, a car club, a café, shop and crèche.
- High density development (net density of c. 202 units per hectare), promoting efficient use of land and delivery of high volume of residential units without generating urban sprawl.

3.5.1.4 Design of Residential Development

Refer to Policies CC4, SC5, SC14, SC15, SC19 – SC21, SC26, SC26, QH3 (i), QH5 – QH11, QH13, QH15 – QH19, SN1, SN2 and SN4 in Table 3.3, above. Note that building height is addressed as a separate topic in Section 3.5.1.5, below.

The following excerpts provide an overview of the Council's vision for delivery of quality residential development, insofar as it relates to the proposed Project:

> *"It is important that the city has housing that is affordable and attractive to all who want to live in the city, including: high quality spacious housing units with good levels of amenity in terms of green open space, daylight and sunlight; adaptable and flexible units that readily provide for changing needs over time including the needs of families with children; high-quality, well-designed communal areas; good property management; agreed phasing of larger developments to ensure appropriate infrastructure is provided in tandem with residential development; and sustainable building designs which are energy efficient and utilise renewable energy sources."* (p. 75)
>
> *"Varied housing typologies will be sought within neighbourhoods in order to encourage a diverse choice of housing options in terms of tenure, unit size, and building design in residential communities."* (p. 78)
>
> *"The Census 2011 indicates that 32% of households in Dublin city are now renting privately compared to 20% nationally. A key challenge is the shortage of supply of rental accommodation compared to demand, which is causing price inflation. The City Council seeks to foster a strong, sustainable, professional and well-regulated private rented sector and in this regard supports the provision of purpose-built, managed, high-quality, private rented accommodation with a long-term horizon"* (p. 80).
>
> *"… household size is decreasing and the number of older people is increasing. This indicates that there will be an increasing need for different types of residential accommodation, as an integrated part of a neighbourhood, rather than in spatially segregated areas."* (p. 214)

There is an emphasis on quality design, consistent with the Site context; and provision of a variety of residential unit types, supporting residential amenity / services, and a high quality public realm incorporating green infrastructure and recreational amenities. The Development Plan's Housing Strategy sets out the following key criteria for quality housing (Appendix 2A of the Development Plan, p. 21):

- High-quality spacious dwelling units with good levels of amenity in terms of green open space, daylight and sunlight.
- Affordable dwellings for social rental to ensure a mixed income profile that will reduce undue social segregation in any compact neighbourhood.
- Adaptable and flexible dwelling units that readily provide for changing needs over time and the life-cycle, including the needs of families with children and elderly households.
- Dwellings with high quality, well designed communal areas.
- Dwellings with good property management.
- The agreed phasing of larger developments to ensure appropriate infrastructure is provided in tandem with residential development.
- Sustainable building designs which are energy efficient and utilise renewable energy sources (refer to Section 3.5.1.6, below).

It is pointed out that the need for greater availability of affordable, varied and high-quality housing in Dublin City is not only imperative in the context of the ongoing housing and homelessness crises but also to ensure the competitiveness of Dublin as a hub of employment and the primary economic engine of the country, which is itself dependent on the attractiveness and viability of living and working in the city. As stated in the Development Plan's Housing Strategy, *"Quality, affordable housing provision plays a key role in underpinning and maintaining economic growth and competitiveness for Dublin city"* (Appendix 2A of the Development Plan, p. 21).

The proposed Project will provide high quality rented apartment units ranging from studio apartments to three-bed apartments, with the potential for future combination of units, as appropriate, to meet future demand.

In terms of housing quality, Chapter 16 of the Development Plan sets out development standards, including the standards for apartments, based on the Department of Environment, Community and Local Government's 2015 guidelines entitled 'Sustainable Urban Housing: Design Standards for New Apartments – Guidelines for Planning Authorities'. These have been superseded by the 2020 guidelines, which are discussed in relation to the proposed Project in Section 3.3.6, above, and in the Housing Quality Assessment (HQA) submitted under separate cover, which has been prepared by HJL/OMP/ODT/MCM Architects, demonstrating the compliance of the proposed Project with the relevant quantitative standards required under the Sustainable Urban Housing – Design Standards for New Apartments (2020). For this reason, the design standards specific to apartments set out in the Development Plan are not discussed further herein.

However, the Development Plan also sets out high level development principles that are applicable to all new developments, and with which the proposed Project is consistent, including the following:

- Regard should be given to the existing character of the built environment, in terms of heritage, scale, pattern of streetscape, materials, detailing, etc.
- Regard should be given to the existing character and value of the natural environment, including parks, gardens, open spaces, watercourses and their corridors. It is stated that *"For larger sites, including institutional lands, development proposals must take cognisance of the existing landscape character and quality"* (p. 312).
- Contemporary architecture is encouraged where it is complementary of its surrounding context.
- Permeability across developments and universal accessibility are promoted, while gated developments are discouraged.
- Developments should exhibit inclusive design, informed by the needs of the widest possible range of different users, with particular regard to the needs of vulnerable groups such as the elderly and disabled. It is pointed out that access *"may not just be about physical access, but should also consider the ways in which services and information can be provided to meet the needs of all users"* (p. 308).
- Design of development should promote safety and discourage antisocial behaviour and crime, with particular regard to the promotion of natural / passive surveillance and clear definition of private and public spaces, providing a sense of ownership and responsibility for all areas.
- Large-scale developments should provide an appropriate mix of amenities and services, including retail, residential, entertainment, cultural, community and / or employment-generating uses, to enhance the existing range of amenities and services in the area.
- Large-scale developments should ensure waste storage facilities, servicing and parking are sited and designed sensitively to minimise their visual impact and avoid any adverse impacts on users of highways in the surrounding neighbourhoods.

The Development Plan points out that landscaping should form an integral part of overall design proposals. A number of key principles are set out in relation to landscaping, with which the proposed Project is consistent, including the following:

- Hard landscaping should be minimised in favour of soft landscaping.
- Existing trees and vegetation should be retained where possible.
- SuDS should be integrated into landscaping proposals, particularly where significant areas of hard landscaping are proposed.
- Outdoor furniture should be integrated into overall landscape design and positioned such that it does not create an obstacle for persons with disabilities.
- Materials and finishes should be of good quality, durable and sympathetic to their context.

In relation to residential developments, the Development Plan requires that

- Developments with over 15 units or 1,500 m² must demonstrate that the proposal constitutes a positive urban design response to the local context, contributes to placemaking and provides social infrastructure to facilitate the creation of a 'sustainable neighbourhood'.
- Developments with over 50 units or 5,000 m² must include an audit of existing facilities in the area and demonstrate how the proposal will contribute to the range of supporting community infrastructure. This must include an assessment of the capacity of local schools to accommodate the proposal in accordance with the Department of Education and Science & Department of the Environment, Housing and Local Government's *Code of Practice on the Provision of Schools and the Planning System* (2008).
- Developments with over 100 units or 10,000 m² shall include an Urban Design Statement addressing the items listed on p. 332 of the Development Plan.
- It is stated that *". In the case of very large-scale developments (800+ units), the phased completion of the dwellings must be linked with the provision of new schools"* (p. 345).

In accordance with the above-listed requirements, a Social and Community Audit and separate Childcare and Schools Assessment have been prepared by BSM and submitted under separate covers as part of this application. In relation to the requirement for an Urban Design Statement, it is considered that this requirement is sufficiently covered under the following documents submitted under separate covers as part of this application: the Architectural Design Statement by HJL, the Site Strategy Document by HJL, and the Landscape Design Statement by NMP Landscape Architecture.

It is required that the names of developments *"shall reflect local historical, heritage or cultural associations and the basic generic description (i.e., Court, Quay, Road, etc.) must be appropriate"* (p. 333). Additionally, names (in Irish and English) must be agreed with the planning authority prior to the commencement of the development, in order to avoid confusion with similar names in other locations. It is currently proposed that the development will be named 'Holy Cross College' during its operation. The name in Irish and English will be finalised in agreement with the planning authority in advance of operation.

In relation to basements, it is the stated policy of DCC to:

> *"… discourage any significant underground or basement development or excavations below ground level of, or adjacent to […] properties which are listed on the Record of Protected Structures. Development of all basements or any above ground buildings for residential use below the estimated flood levels for flood zone areas 'Zone A' or 'Zone B' will not be permitted."* (p. 338)

The proposed Project includes a number of basements. The Site of the proposed Project is situated in Flood Zone C (refer to Site Specific Flood Risk Assessment submitted under separate cover as part of this application). None of the proposed basements are underneath or immediately adjacent to Protected Structures, although they will be situated in proximity to Protected Structures. Chapter 14 of this EIAR (Cultural Heritage - Architectural Heritage) assesses the impacts of the proposed Project on the architectural heritage resource, including Protected Structures on the Site.

Where developments include retail premises, the Development Plan stipulates that there should be sufficient storage provided to reduce the frequency of deliveries, and that shopfronts should be of good contemporary design (where appropriate), complement the upper parts of the building and the surrounding context, be universally accessible (where possible) and, in the case of buildings of historic or architectural interest, retain or re-instate features of interest (e.g. corbels, console brackets, fascias, pilasters, stallrisers, etc.). Shopfronts should not feature solid or perforated external shutters and should not be largely or entirely openable. The Development also makes specific recommendations in relation to shopfront signage, convenience goods stores, takeaways, off-licences, restaurants and ATMs (pp. 349 – 354). The proposed retail units will be in accordance with the above-stated requirements.

Parking standards are stipulated in the Development Plan, whereby the administrative area is divided into three Parking Zones subject to different requirements. The location of the proposed Project is situated in Parking Zone 2, which occurs alongside transport corridors. In Zones 1 and 2, the car parking standard for residential developments is one space per dwelling. This number should be regarded as the maximum parking provision, with parking below these standards permissible (provided there is no negative impact on amenities of surrounding properties or safety), and parking above these standards deemed acceptable only in appropriate exceptional circumstances. It is stated that *"Car parking standards are maximum in nature and may be reduced in specific, mainly inner city locations where it is demonstrated that other modes of transport are sufficient for the needs of residents. […] Apartment parking spaces are mainly to provide for car storage to support family friendly living policies in the city and make apartments more attractive for all residents. It is not intended to promote the use of the car within the city"* (p. 361). The proposed Project will provide a car parking ratio of 0.3 spaces per residential unit, while a bicycle parking ratio will be 1.3 spaces per unit. It is considered that this will promote more sustainable and active mobility among residents and visitors, and is appropriate in the context of existing and planned high capacity public transport service provision in the immediate environs.

At least 5% of car parking spaces should be designated as disabled parking. It is also required that larger developments provide accommodation for delivery vehicles, taxis and motorcycle parking – the latter of which should be provided at a rate of 4% the number of car parking spaces provided. It has been confirmed that the proposed parking provision meets or exceeds these thresholds.

It is stated that the design of multi-storey and underground car parks should be in accordance with *Design Recommendations for Multi-Storey and Underground Car Parks* (Fourth Edition, 2011), published by the Institute of Structural Engineers. Acceptable parking bay widths and aisle widths are stipulated.

In terms of bicycle parking, the standard for residential developments in all zones is one space per unit, with additional spaces (not specified) required for larger developments and visitor bicycle parking decided on a case-by-case basis. Secure bicycle racks should be provided within 25 m of a destination for short-term parking (e.g. shop) and within 50 m for long-term parking. In multi-storey car parks, it is required that bicycle facilities be provided at ground floor level, segregated from vehicular traffic; with designated cyclist access to the car park also being provided in a segregated manner, where possible. The provision of bicycle parking should be in accordance with the National Cycle Manual (refer to Section 3.3.11). The proposed bicycle parking (provided at a ratio of 1.3 spaces per residential unit) exceeds the standard set out above.

Appendix 13 of the Development Plan states that:

> *"For new residential schemes, one childcare facility will be required unless there are significant reasons to the contrary. A benchmark provision of one childcare facility per seventy-five dwellings is recommended (and a pro-rata increase for developments in excess of seventy-five houses)."* (Appendices, p. 190)

Provision of childcare at the proposed Project is addressed in Section 3.3.9, above.

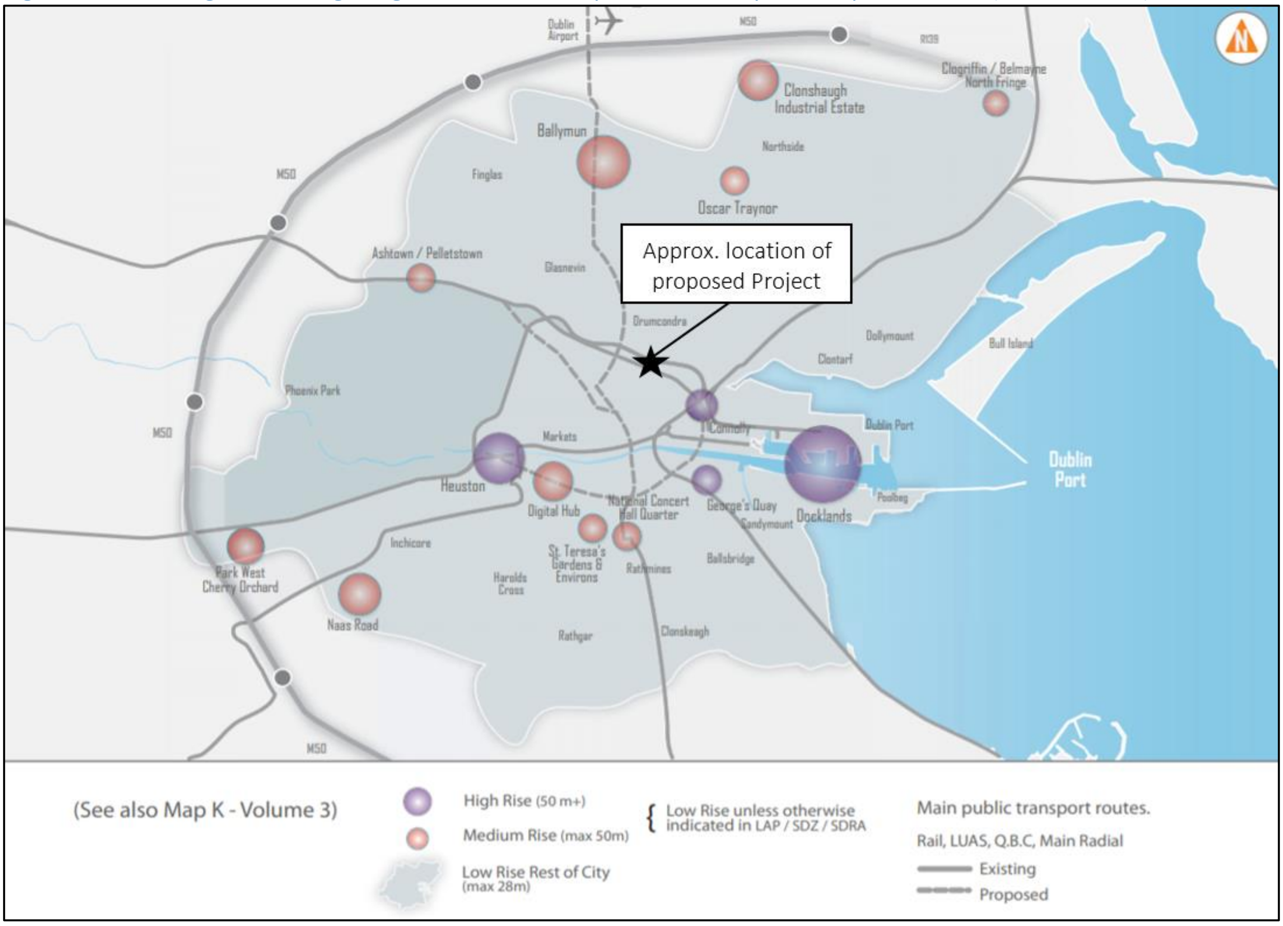
The proposed Project has been designed in a manner to ensure an appropriate mix and location of Part V residential units. The Applicant is committed to meeting the 10% Part V requirement for social / affordable housing and will agree this with DCC.

It is considered that the proposed Project will deliver a high quality residential development in accordance with the Development Plan with the exception of its building height restrictions, which are addressed in the following section.

3.5.1.5 Building Height

Refer to Policies SC16 – SC18 in Table 3.3, above.

Figure 3.3: Envisaged Building Heights in Dublin, as per Dublin City Development Plan (2016 – 2022)



In terms of building height, the Development Plan states that:

> *"Dublin City Council acknowledges the intrinsic quality of Dublin as a low-rise city and considers that it should remain predominantly so. The vast majority of the city area is identified as not being suitable for mid-rise or taller buildings. […] However, taller buildings can also play an important visual role and can make a positive contribution to the skyline of a city. Dublin City Council recognises the merit of taller buildings, including landmark buildings, in a very limited number of locations at a scale appropriate for Dublin. Accordingly, the spatial approach to taller buildings in the city is in essence to protect the vast majority of the city as a low-rise city, including established residential areas and conservation areas within the historic core, while also recognising the potential and the need for taller buildings to deliver the core strategy. […] Taller buildings (over 50m) are acceptable at locations such as at major public transport hubs, and some SDRAs. […] As such, it is policy to provide for taller buildings in those limited locations identified in the building height in Dublin map in order to promote investment, vitality and identity."* (pp. 64 – 65)

Figure 3.3 illustrates this approach, with acceptable locations for taller buildings (shown as red and purple nodes) pinpointed on SDRAs and SDZs, as defined in the Development Plan. The location of the proposed Project does not fall within any of these areas, and is identified in Figure 3.3 as being part of the 'Low Rise Rest of City'.

The Development Plan further stipulates that low rise areas outside of the inner city (the area bounded on the north side of the city by the North Circular Road and Royal Canal) are subject to a maximum height limit of 16 m (roughly five storeys), with the exception of 'rail hubs' (defined as areas within 500 m of existing and proposed Luas, mainline, DART, DART Underground and Metro stations), for which the limit is 24 m (roughly eight storeys). Since the location of the proposed Project is in the outer city but located within 500 m of the Drumcondra Rail Station, the applicable height limit stipulated in the Development Plan is 24 m.

Since the proposed building heights across the Site vary between two and 18 storeys (approx. max height of 62.5 m), the proposed Project contravenes the building height limits stipulated in the Development Plan. Accordingly, a Material Contravention Statement has been prepared in respect of this application, and is submitted under separate cover. Refer also to Section 3.3.7, above.

3.5.1.6 Energy Efficiency and Decarbonisation

Refer to Policies CC3, CC5, QH12, MT2, MT4, MTO7, MTO19, MT13, MT17; and Objectives CCO12 and CCO15 in Table 3.3, above.

The Development Plan aims to promote increased energy efficiency, greater use of renewables and facilitation of less carbon intensive lifestyles in new developments in Dublin City:

> *"The City Council will support a sustainable approach to housing development by promoting high standards of energy efficiency in all housing developments, promoting improvements to the environmental performance of buildings including the use of renewable energy, and through the spatial planning, layout, design and detailed specification of proposals."* (p. 79)

> *"Development proposals will be expected to minimise energy use and emissions that contribute to climate change during the lifecycle of the development with an aspiration towards zero carbon…"* (p. 305)

> *"All proposals for development should seek to meet the highest standards of sustainable design and construction with regard to the optimum use of sustainable building design criteria such as passive solar principles and also green building materials […]. For larger schemes, consideration should be*

> *given to district heating schemes and combined heat and power (CHP). In order to reduce energy consumption, the following key design considerations should be considered at an early stage in the design process and incorporated, where feasible:*
>
> - *Passive solar design including the orientation, location and sizing of windows.*
> - *The use of green building materials: low embodied energy products such as low carbon cement and recycled materials.*
> - *The use of natural ventilation or mechanical ventilation with heat recovery.*
> - *Energy-efficient window glazing units and frames.*
> - *Building envelope air tightness.*
> - *Appropriate use of thermal mass and insulation.*
> - *Appropriate renewable technologies.*
> - *Measures to conserve water."* (p. 308)
>
> *"In Dublin, the retrofitting of sustainability measures to existing buildings is of crucial importance, as this will always represent a much greater proportion of the building stock than new buildings. Retrofitting seeks to ensure that all new development considers how environmental performance can be improved; this may include measures to reduce energy consumption and improve efficiency and incorporate renewable technologies…"* (p. 310)

Promoting a modal shift away from private car use in favour of public transport use and walking / cycling for personal mobility is a key element in the decarbonisation of the city as whole, as well as providing public health benefits associated with increased physical activity and reduced vehicular emissions. The Development Plan aims to promote such a modal shift and emphasises the importance of the location and design of new residential developments in promoting or hindering this modal shift (refer to Section 3.5.1.3, above).

The Development Plan also aims to ensure that new developments incorporate climate change adaptation measures, where appropriate, e.g. flood defences. The subject of flood risk is addressed in Section 3.3.10, above, and in greater detail in Chapter 10 (Hydrology).

In terms of energy efficiency and carbon emissions, the proposed Project is considered to be in accordance with the Development Plan. An Energy & Sustainability Report has been prepared by O'Connor Sutton Cronin (OCSC) in respect of the proposed Project, and has been submitted under separate cover as part of this application. It demonstrates that the proposed Project is in accordance with the relevant policy and legislation, including Parts L (2019 NZEB for residential developments, and 2017 NZEB for non-residential developments) and F of the Building Regulations, and the European Communities (Energy Performance of Buildings) Regulations 2006. Key efficiency / low-carbon features of the proposed Project include:

- Building Energy Rating (BER) target of A2/A3.
- Façades specified to minimise heat loss.
- Use of efficient central plant and lighting system during operation.
- Water efficiency measure such as low consumption sanitary fittings.
- Provision of EV charging points.
- Use of solar photovoltaic (PV) panels.
- Promotion of public transport use and walking / cycling as alternatives to private car use, due to location in close proximity to existing infrastructure, coupled with supportive design features (e.g. provision of bicycle parking and pedestrian / cyclist friendly public realm, limitation of car parking spaces to 0.3 per residential unit).

- Retention of existing trees insofar as possible, coupled with new vegetation as part of landscaping proposals.

This topic is addressed in greater detail in Chapter 11 (Air and Climate).

3.5.2 Dublin City Tree Strategy (2016 – 2020)

The Dublin City Tree Strategy (2016 – 2020) sets out DCC's policy regarding trees and tree work in the administrative area, and a framework of objectives, actions and targets to implement same. It aims to *"protect the trees that we have"* (p. 41).

The following policies are of relevance to the proposed Project:

- *"Dublin City Council will use its powers to protect trees that are a potential habitat for (or used by) protected species. The Council will have regard to legislative requirements and the procedures outlined in the Council's Biodiversity Action Plan."* (p. 17)
- *"Dublin City Council will protect trees, hedgerows or groups of trees which function as wildlife corridors or 'stepping stones' in accordance with Article 10 of the EU Habitats directive and the procedures outlined in the Council's Biodiversity Action Plan."* (p. 17)
- *"Dublin City Council will consider the protection of existing trees when granting planning permission for developments and will seek to ensure maximum retention, preservation and management of important trees, groups of trees and hedges."* (p. 18)
- *"Where there are trees within an application site, or on land adjacent to it that could influence or be affected by proposed development (including street trees), the planning application must include a detailed submission prepared by a suitably qualified Arboriculturist in accordance with British Standard 5837: 2012 'Trees in relation to design, demolition and construction – Recommendations'."* (p. 18)
- *"Where trees and hedgerows are to be retained, the Council will require a developer to lodge a tree bond to cover any damage caused to them either accidentally or otherwise as a result of non-compliance with agreed / specified on site tree-protection measures."* (p. 19)
- *"Dublin City Council will encourage and promote tree planting in the planning and design of private and public developments."* (p. 19)
- *"Encourage the use of trees within sustainable urban drainage systems (SUDS), as appropriate." (p. 20)*
- *"All tree works will be undertaken as per British Standard BS 3998:2010 Tree Work — Recommendations and current Health and Safety requirements. All staff / contractors undertaking tree works shall be competent, with appropriate training, experience and qualifications."* (p. 26)

In accordance with the requirements of the Strategy, a tree survey and arboricultural impact assessment have been completed in respect of the proposed Project in accordance with British Standard 5837: 2012 (refer to the Arborist's Report by the Tree File submitted under separate cover as part of this application).

There is a large number of existing trees on the Site, including mature trees of high biodiversity value, and the approach for the proposed Project has been to retain existing trees insofar as possible. However, given the significant spatial constraint imposed by the trees distributed across the Site, the removal of a certain number of trees cannot be avoided. The tree survey has identified a total of 518 trees on the wider Holy Cross College lands, of which 296 are situated within the proposed Project Site. Of these 296 trees, it has been estimated that 117 (39.5%) will need to be removed under the scope of the proposed works. This number includes the loss of 25 low quality 'category U' trees that were recommended for removal regardless of any development works. It follows that there will be a loss of 92 trees that might otherwise have been suitable for retention as a result of the proposed works. It should be noted that it is proposed to plant 686 new trees under the scope of the proposed works. Refer to Chapter 5 (Description of the Proposed Project) for further information in relation to tree removal, retention and protection.

The biodiversity value of trees and treelines on the Site is considered under the scope of Chapter 8 (Biodiversity).

3.6 Conclusion

As detailed in Sections 3.2 – 3.5, above, it is considered that the proposed Project is consistent with the objectives of the relevant multilateral, national, regional and local policy documents, with the exception of the building height restrictions as set out in the Dublin City Development Plan (2016 – 2022). This contravention is addressed in Sections 3.3.7 and 3.5.1, above, and in the Material Contravention Statement, prepared by BSM in respect of this application, and submitted under separate cover.

3.7 Planning History of the Site

The Project Site and the wider Masterplan site, have been subject to a number of planning applications in recent years which primarily relate to its institutional uses, as set out in Table 3.4, below.

Table 3.4: Previous Planning Applications Related to the Project Site

Ref.	Description	Decision
2935/20 ABP Ref: PL29N.308193	PROTECTED STRUCTURE: The subject site encompasses an area of 0.51 hectares. The development will consist of: the construction of a part -2 to part -7 storey 8,485 sq.m. hotel building comprising 200 - bedrooms arranged over floors 1-6.	Granted 08-Apr-2021
2361/16	PROTECTED STRUCTURE: Permission sought for the demolition of one disused single storey bungalow, 81 sq. metres, at this site located at Clonliffe Road, Dublin 3. The bungalow is within the curtilage of Clonliffe College, a Protected Structure.	Granted 14-Apr-2016
2607/11	PROTECTED STRUCTURE - Planning permission for external safety & health works within the curtilage of ''The Assembly Hall'' (a protected structure), comprising:- (1) Removal of existing external lecture theatre escape stairs and replacement with new stairs, walkway, handrails & guarding (2) Removal & replacement of balustrading/guarding to existing external rear stairs and area. (3) Construction of new rear pedestrian emergency exit gate and replacement of existing rear vehicular delivery gates. (4) Addition of 3no. handrails to front external approach steps.	Granted 17-Jun-2011
3032/10	PROTECTED STRUCTURE - Change of use of the ground floor of the northerly wing (377sqm) of the Diocesan Offices building from educational use to office use. The building is located within the curtilage of protected structures.	Granted 06-Aug-2010
2947/10	PROTECTED STRUCTURE- Planning permission for external health and safety works within the curtilage of 'The Assembly Hall' (a protected structure), comprising:- (1) Removal and replacement of existing external Lecture Theatre escape stairs, handrails and guarding. (2) Removal and replacement of balustrading/guarding to existing external rear stairs and area. (3) Addition of 3no. handrails to front external approach steps.	Granted 28-Jul-2010

Ref.	Description	Decision
1652/06	Application by the Board of Management of Mater Dei Institute Of Education for planning permission for addition of a new mezzanine floor within The Assembly Hall; (a protected structure), for formation of 3 no. study rooms, for 2 no. new stairs, and for associated fire safety, partitioning, and other works - all at 204/206, Clonliffe Road, Dublin 3. These works do not involve any alterations to the exterior of the building.	Granted 12-Apr-2006

4 Consideration of Alternatives

4.1 Introduction

Consideration of alternatives is an important aspect of the EIA process and is necessary to evaluate the likely environmental consequences of a range of development strategies for the Site within the constraints imposed by environmental and planning conditions.

This Chapter provides an overview of alternative designs that have been considered for the proposed Project.

4.2 Legislative Context

Article 5 (1) of the 2014 EIA Directive requires the consideration of reasonable alternatives which are relevant to the project and taking into account the effects of the project on the environment. It states under Article 5 (1) (d) that the information contained in the EIAR shall include:

> *"… a description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment."*

Part 1 (d) of Schedule 6 of the PDR 2001 (as amended) transposes this requirement, stating that an EIAR shall include:

> *"A description of the reasonable alternatives studied by the person or persons who prepared the EIAR, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the proposed development on the environment."*

In accordance with 2017 EPA Draft EIAR Guidelines, different types of alternatives may be considered at several key stages during the process. As environmental issues emerge during the preparation of the EIAR, alternative designs may need to be considered early on in the process, or alternative mitigation options may need to be considered towards the end of the process. The EPA Draft Guidelines (2017) state that:

> *"The objective is for the developer to present a representative range of the practicable alternatives considered. The alternatives should be described with 'an indication of the main reasons for selecting the chosen option'. It is generally sufficient to provide a broad description of each main alternative and the key issues associated with each, showing how environmental considerations were taken into account in deciding on the selected option. A detailed assessment (or 'mini-EIA') of each alternative is not required."*

The Guidelines also state that the range of alternatives considered may include the 'do-nothing' alternative.

4.3 Alternatives Examined

This Chapter provides an outline of the main alternatives examined during the design phase and sets out the main reasons for choosing the proposed Project. The alternatives may be described at five levels:

1. 'Do-Nothing' Alternative
2. Alternative Locations
3. Alternative Layouts
4. Alternative Designs
5. Alternative Processes.

4.3.1 'Do-Nothing' Alternative

The 'Do-Nothing' alternative considers the likely scenario that would arise, assuming the proposed Project were not progressed, i.e. if nothing were done. Note that this Chapter discusses the Do-Nothing scenario in terms of development (or lack thereof) in the absence of the proposed Project. The likely impacts of a Do-Nothing scenario in relation to the various environmental topics (e.g. architectural heritage, biodiversity, traffic and so on) is discussed in the respective chapters of this EIAR. For instance, Chapter 14 (Cultural Heritage – Architectural Heritage) discusses the implications of a Do-Nothing scenario for the Protected Structures on the Site.

In this case, the Do-Nothing scenario might entail:

a) A continuation of the existing status and use of the lands and buildings (i.e. very limited use by the Catholic Archdiocese and charitable organisations); or
b) Development (likely residential) under the scope of a separate application / proposal, at some point in the future.

In the context of the ongoing housing crisis in Dublin City, the former scenario (a) is considered to represent an inefficient, uneconomical and socially suboptimal use of the Holy Cross College lands. The opportunity cost, in this scenario, would include the 1,614 proposed residential units, which would otherwise provide rented accommodation for over 3,000 persons[7].

The latter scenario (b) is considered somewhat more likely, taking into consideration the following contextual factors and trends:

- The Holy Cross College lands are zoned as Z12, 'Institutional Land (Future Development Potential)' under the Dublin City Development Plan (2016 – 2022), for which a *"predominantly residential future"* will be *"actively encouraged"* by the Council;
- The lands are strategically located in terms of public transport / mobility, proximity to employment and community amenities;
- The lands and buildings (including Protected Structures) are increasingly underutilised and this trend is not likely to change in the absence of re-development for new purposes;
- Significant demand for housing in Dublin City; and
- The policy context at national and regional levels for 'compact urban development', whereby additional units are preferentially delivered within the existing built-up footprint of urban areas.

4.3.2 Alternative Locations

Based on the zoning of the Holy Cross College lands, as described above, it is considered that the Site is entirely suitable for the proposed nature of this SHD application. It is not considered that the consideration of alternative locations is relevant in this case. As stated in the EPA 2017 Draft EIAR Guidelines:

> *"Some locations have more inherent environmental sensitivities than others. Depending on the type of project and the range of alternatives which the developer can realistically consider, it may be possible to avoid such sites in favour of sites which have fewer constraints and more capacity to sustainably assimilate the project. It can be useful to ensure that a range of options, that may reasonably be available, are included in the evaluation."* (Section 3, p. 36)

[7] Based upon an average household occupancy of 1.9 for new development areas in Drumcondra.

It is also stated that *"Clearly in some instances some of the alternatives described below will not be applicable – e.g. there may be no relevant 'alternative location'…"* (Section 3, p. 34). In this case, considering that the lands in question are zoned for the proposed use, the environmentally sensitive design of the proposed Project, and, as detailed in the various specialist chapters of this EIAR, the fact that there are no particular environmental sensitivities at the Site such that the Applicant would be prompted to find an alternative location, this category is not considered relevant.

4.3.3 Alternative Design & Layout

During the design process for the proposed Project, a range of iterations of the proposed Site layout were considered. This EIAR demonstrates that the Site and the surrounding area have the environmental capacity to accommodate the proposed Project without significant risk of impact upon environmental sensitivities due to the location or nature of the proposed Project.

The proposed layout is designed to function, in combination with the already permitted developments on the wider Masterplan site, as a mixed-use (predominantly residential) development on a significantly underutilised and strategically located Site. A detailed discussion of the architectural design rationale and strategy for the proposed Project and wider Masterplan site is presented in the (i) Masterplan Development Document, (ii) Site Strategy Document, and (iii) Architectural Design Statement, all of which have been prepared by HJL and submitted under separate covers as part of this application.

As discussed in Chapter 6 (Consultation), the proposed Project has been subject to a series of consultation meetings with Dublin City Council (DCC) and a tri-partite pre-application consultation meeting with DCC and An Bord Pleanála prior to lodgement, with design alterations arising out of this process.

Alternative layouts considered in the design process, and key factors which have influenced design changes, are discussed in the following sections.

4.3.3.1 Alternative Layout 1 – Masterplan Conceptual Design

This layout was an early stage Masterplan proposal for the Holy Cross College lands presented to DCC, indicating early proposed massing and block arrangement. The blocks were placed in highlighted pockets of land identified through study and analysis of the site characteristics, history and Site constraints.

The proposal put forward aimed to achieve the following key objectives:

- Create distinct neighbourhoods that responded to the nearby Drumcondra Road and Clonliffe Road;
- Integrate the proposal successfully with the mature landscape of the existing Site; and
- Deliver 20%+ public open space across the Site and link in with a proposed riverside walk along the banks of the River Tolka (not part of the proposed Project which is the subject of this application).

Following initial correspondence with DCC, further consideration was subsequently given to the following environmental aspects and site constraints:

- Proximity and impact on the existing trees, as further studies were undertaken;
- Daylight and sunlight levels in residential units;
- Positioning of blocks, height and massing relative to the Site perimeter;
- Relationship of blocks to the existing historic buildings of the Holy Cross College;
- The design of the interface between public and private open space;
- Pedestrian and vehicular internal circulation; and
- Site access and egress.

Figure 4.1: Alternative Layout 1

This alternative design was not realised as further reduction of impact on existing trees was required, heights of buildings relative to the existing historic buildings needed further consideration and further review of the communal areas and public realm provisions.

4.3.3.2 Alternative Layout 2 – Amended Masterplan Proposal

The proposal evolved from the initial conceptual design, and the amended design was cognisant of the issues raised through recurring engagement with DCC relating to site conditions and landscaping.

The Masterplan amendments focused on:

- Improving daylight and sunlight to residential units;
- Increasing daylight to the proposed communal open spaces;
- Further consideration and development of the formal setting of the formal green to the front of the existing Seminary Building, through revised block massing and height;
- Development of key character areas across the scheme, identifying architectural form and materiality to identify neighbourhoods within the scheme; and
- Further development to the massing and block layout to retain existing trees on the site insofar as possible.

Discussions with DCC on the delivery of the Masterplan identified a number of shared interfaces between land owners that would be addressed in subsequent iterations of the Masterplan design.

This alternative design was not realised as increase of daylighting performance of units was desired, and further review appropriate block massing and building separation to the formal green.

Figure 4.2: Alternative Layout 2

4.3.3.3 Alternative Layout 3 – Pre-application Layout

This emerging design was presented at pre-application stage and the design arrived at as the result of a series of meetings with DCC, which included presentations on the various key areas throughout the site.

This emerging design resulted in:

- Improved dual aspect count for residential units (50%);
- Resolution of building heights within the zone of influence of the blocks in close proximity to the existing buildings;
- Increased number of existing trees retained on Site; and
- Development of the taller focal blocks at key appropriate locations on the Site.

This alternative design received comments relating to:

- Proximity and impact of perimeter blocks to neighbouring buildings;

- Building materiality, which was to be of a high quality throughout; and
- Interface with the adjoining Archbishop's lands.

This alternative design was ultimately not realised due to proximity to neighbournig buildings and required further review of appropriate massing and heights in such areas.

Figure 4.3: Alternative Layout 3

4.3.3.4 Proposed Layout

The proposed Project has been developed through various iterations, responding to comments received from DCC and An Bord Pleanála during the pre-application process.

The proposed layout being put forward in this application has had particular consideration to the following factors:

- Mass and heights of perimeter block to the east of the site;
- Relationship of perimeter blocks to neighbouring building and proximity to the boundary line;
- Impact on adjoining amenity spaces; and
- Strengthening connection of communal open spaces to the wider scheme.

The design of the proposed Project is detailed in the following Chapter (5 – Description of the Proposed Project).

The current design was arrived at in order to have less impact on mature trees, increase performance of daylighting to the units and sunlight to the courtyards, increase the separation distances between the proposed blocks and the distances and proximity to adjoining residencies, and also to further improved enclosure of the public realm and communal areas.

Figure 4.4: Proposed Layout

4.3.4 Alternative Processes

Having regard to the nature of the proposed Project as a SHD, for which the planning application is being submitted to An Bord Pleanála, this is not considered a relevant class of alternatives in this case.

5 Description of the Proposed Project

5.1 Introduction

This Chapter was prepared by Brady Shipman Martin, and describes the Site and surrounds, the need for the proposed Project, and the characteristics of the proposed Project, together with the proposed design parameters. In accordance with Article 5(1)(a) of the 2011 Directive as amended by Directive 2014/52/EU, the description of the proposal should comprise

> *"...information on the site, design, size and other relevant features of the project."*

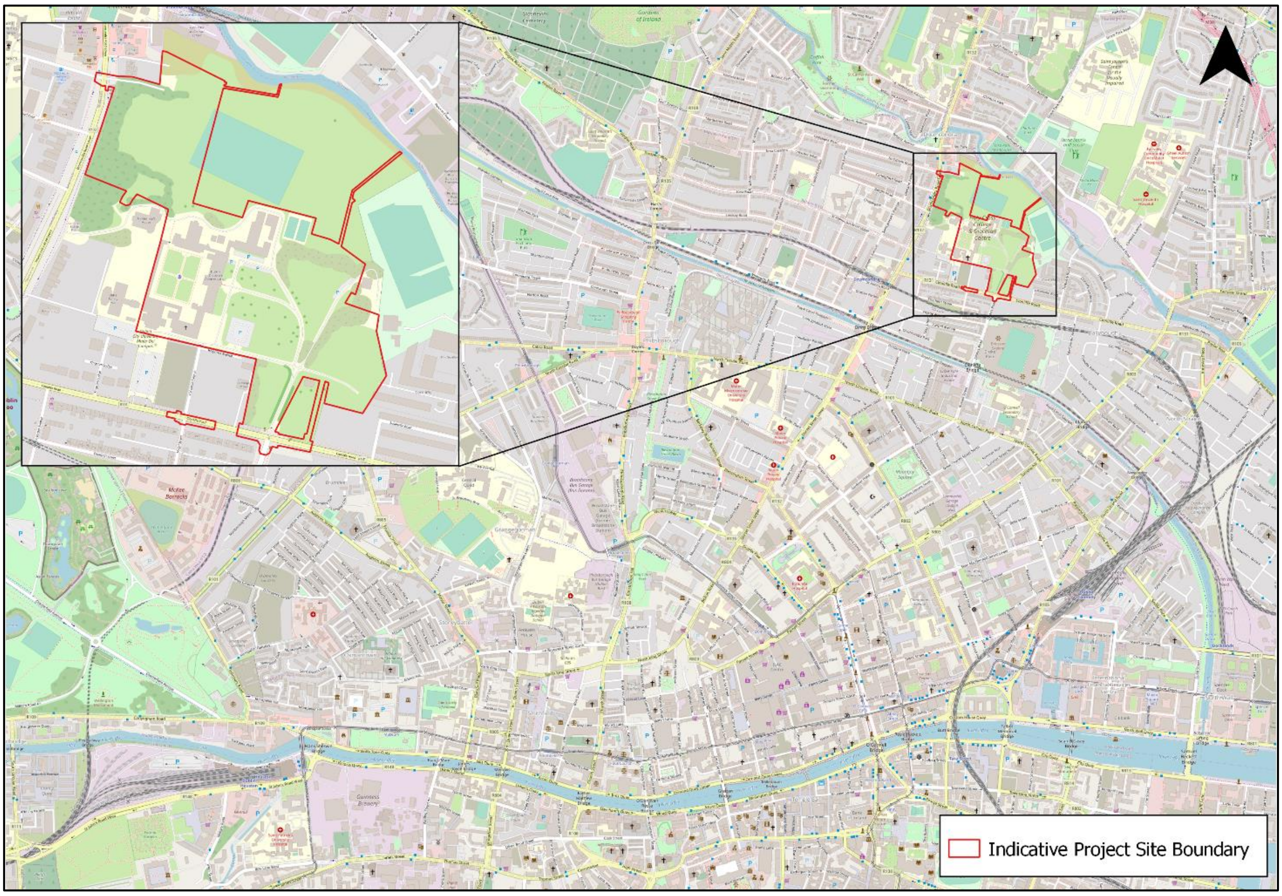
This description sets the basis against which the specialist assessments presented in this EIAR have been undertaken.

5.2 Background to the Site

5.2.1 Site Location

The Site of the proposed Project is located at Holy Cross College, Clonliffe Road, Dublin 3 and Drumcondra Road Lower, Drumcondra, Dublin 9. It is a Site of approx. 8.9 ha, with a development area of c. 8 ha. The Site is located c. 1.7 km north of Dublin City Centre. It is bound by Drumcondra Road Lower, Mater Dei College and the Archbishop's House (a Protected Structure) to the west; Clonliffe Road to the south; Cornmill Apartments and Belvedere College Rugby Grounds to the east; and by the River Tolka to the north.

Figure 5.1: Location of the Proposed Project (© OpenStreetMaps, 2021)



5.2.2 Site History

The Holy Cross College Lands were acquired by the Roman Catholic Archdiocese of Dublin in 1859. College facilities were developed, including a seminary for the Catholic Church in Ireland, and administration offices for the Archdiocese and various diocesan activities. The seminary ceased operation in 2000 but the buildings still accommodate administration offices for the Archdiocese, the various diocesan activities and offices for some charitable organisations (Crosscare and DePaul). These activities are vacating the properties.

The Archdiocese has since entered into an agreement with the Gaelic Athletic Association (GAA) to acquire these lands. The GAA have subsequently entered into an agreement to onward sell these to Hines Real Estate Ireland (through the applicant CWTC Multi Family ICAV acting on behalf of its sub-fund DBTR DR1 Fund). The Archdiocese will retain the Archbishop's House and surrounding lands in the south-west corner of the Holy Cross College property, which includes the Mater Dei building and a large surface car park. The GAA are retaining a permitted hotel site and future proposed pitches.

The Site is part of the wider Holy Cross College lands, for which a Masterplan has been prepared on behalf of Hines and the GAA, in accordance with the requirements of the 'Z12' zoning of the lands under the scope of the Dublin City Development Plan 2016 – 2022. The Holy Cross College lands comprises and area of c. 14.5 ha, of which it is proposed to develop c. 12 ha under the scope of the Masterplan. For further information, refer to the Masterplan by Henry J Lyons Architects, submitted under separate cover as part of this application.

5.2.3 Site Description

The Site comprises a number of green spaces and existing large institutional buildings (approx. 11,865 m²) associated with its current / former use (some of which are Protected Structures). The Site has many large mature trees, giving it a unique character in the context of the surrounding residential areas and busy roads. The northern portion of the site is set back from the busy Drumcondra Road, separated by large mature trees, while the southern part of the site fronts onto Clonliffe Road.

The Site sits between the established residential communities of Drumcondra to the west and north and Clonliffe Road and Ballybough to the south and east. Both are established, mature suburbs of Dublin City with the surrounding area predominately developed. The immediate area gives access to a range of public facilities including community centres, healthcare, libraries, shops and sports / recreation facilities.

The site is approximately 400 m from the Drumcondra Rail Station to the south west, and adjacent to Drumcondra Road, which is a quality bus corridor (QBC), served by several public bus routes. It is anticipated that, in the future, the site will be served by Bus Connects 'Core Bus Corridor No. 2' (Swords to City Centre).

5.2.4 Existing Land Use & Activities

As described above, the Site itself is predominantly used for offices and activities of the Archdiocese and charitable organisations, which occupy relatively little space in the large Site, and will be vacating the Site in the future. The land and buildings on the Site are significantly underutilised at present. The surrounding area features a mix of uses, predominantly residential (in all directions), but also including scattered commercial / retail enterprise, light industrial and warehousing to the north, and sports facilities to the south-east (Croke Park), north-east (Belvedere Rugby ground, Dublin Port Stadium Stella Maris Football Club) and north (Shelbourne Football Club).

5.2.5 Site Specific Flood Risk Assessment

A Site Specific Flood Risk Assessment (SSFRA) has been prepared in respect of the proposed Project by BMCE and submitted as part of this application under separate cover. The SSFRA has been prepared in accordance with the requirements of current planning legislation and the OPW Guidelines, 'The Planning System and Flood Risk Management – Guidelines for Planning Authorities' (2009) ('the FRM Guidelines').

The objective of the SSFRA is to inform the planning authority regarding flood risk for the Site of the proposed Project. The FRM Guidelines propose that a Justification Test be applied to assess the appropriateness, or otherwise, of particular developments that are being considered in areas of moderate or high flood risk. The Tolka River is situated to the north of the Project Site, and will be connected to the site via two proposed outfalls. Otherwise, the Project Site is separated from the River Tolka by playing fields.

The River Tolka has a history of flooding following heavy rainfall. A number of studies have been completed which relate to the Tolka, including the Greater Dublin Strategic Drainage Study (GDSDS) in 2001 – 2005 and the Tolka Flood Study in 2002. At that time, the aim of the study was to identify works that could be undertaken straight away to reduce the risk of flooding in the worst affected areas. Works adjacent to the Project Site included the construction of a wall to the north and south east of the sports ground, a new bridge at Distillery Road, a low crest level weir and 20 m of river channel widening. It is stated on the Government's website that *"Since the Scheme was completed there have been no reports of flooding from the River Tolka in these areas."*

The findings of the SSFRA for the proposed Project may be summarised as follows:

- Based on available recorded information as outlined in the SSFRA, it would appear that the Site has not been subject to flooding in recent history.
- The risk of tidal flooding is considered low as the Site lies outside the 0.1% Annual Exceedance Probability (AEP)[8].
- The risk of fluvial flooding is considered low due to the location of the Site outside the 0.1% AEP fluvial, coupled with the 50% AEP tidal flood extent, and the considerable level difference between the proposed finished levels and the river bank levels in the vicinity.
- The risk of flooding due to ground water ingress is considered low. Waterproofing construction methods and measures will be employed to seal and prevent ingress of ground water into the basements.
- The risk of pluvial flooding is considered low, due to the site location and design of the proposed Project.
- Based on the flood risk identification carried out, the proposed Project falls within Flood Zone C. Hence, in accordance with the OPW criteria, the proposed Project is deemed 'Appropriate' in terms of flood risk. Therefore, no Justification Test and / or Stage 3 Detailed Flood Risk Assessment is required.

5.3 The Need for the Proposed Project

The development of the proposed Project is supported by both national and regional policy and guidance documents, as detailed in Chapter 3 (Planning and Development Context) and in the Planning Report and Statement of Consistency prepared by BSM and submitted under separate cover as part of the planning application pack.

[8] The probability of a flood event occurring in any year.

5.4 Main Features of the Proposed Project

5.4.1 Overview

The proposed Project will consist of the demolition of a number of existing office / former college buildings on Site, including the New Wing and Library Wing Buildings, (c. 6,130 m²) and the construction of a residential development with a gross floor area of c. 119,459 m² (excluding basement parking areas) set out in 12 no. residential blocks, ranging in height from 2 to 18 storeys to accommodate 1,614 no. Build to Rent (BTR) apartments with associated residential tenant amenity, 1 no. retail unit, 1 no. café, and a crèche.

The Site will accommodate a total of 508 no. car parking spaces and 2,507 no. bicycle parking spaces in three separate basement / podium areas and at surface level. Landscaping will include extensive new public open spaces and communal courtyards, podiums and roof terraces.

The 12 no. residential buildings range in height from 2 storeys to 18 storeys, accommodating 1,614 no. BTR apartments comprising:

- 540 studios,
- 603 no. 1 bed units,
- 418 no. 2 bed units and
- 53 no. 3 bed units.

The breakdown of residential accommodation is as follows:

- Block A1 is a 4 to 8 storey building, including setbacks, balconies and terraces, accommodating 305 no. units
- Block A2 is a 7 storey building, including setbacks and balconies, accommodating 73 no. units
- Block A3 is an 8 storey building, including setbacks and balconies, accommodating 87 no. units
- Block A4 is a 6 to 13 storey building, including setbacks, balconies and terraces, accommodating 104 no. units
- Block B1 is a 5 to 6 storey building, including setbacks and balconies, accommodating 92 no. units
- Block B2 is a 6 to 8 storey building, including setbacks and balconies, accommodating 137 no. units
- Block B3 is a 5 to 6 storey building, including setbacks and balconies, accommodating 80 no. units
- Block C1 is a 6 to 8 storey building, including setbacks and balconies, accommodating 146 no. units
- Block C2 is a 5 to7 storey building, including setbacks and balconies, accommodating 96 no. units
- Block D1 is an 18 storey building, including setbacks, balconies and terraces, accommodating 151 no. units
- Block D2 is an 4 to 8 storey building, including setbacks and balconies, accommodating 239 no. units
- The Seminary Building and South Link Building (E1 and E2) are existing Protected Structures of 2 to 4 storeys with a proposed 5 storey extension to the rear of the Seminary Building and conversion of both buildings to accommodate 104 no. residential units including balconies.

Residential tenant amenity space is provided throughout the existing and proposed blocks, totalling c. 3,463 m² and communal external amenity space is provided adjacent each block and at roof level on Blocks A1, A4, and D2, totalling c.13,729 m².

The Site contains a number of Protected Structures, including the Seminary Building, Holy Cross Chapel, South Link Building, Assembly Hall and the Ambulatory. The application proposes the renovation and extension of the Seminary Building to accommodate residential units and the renovation of the existing Holy Cross Chapel and Assembly Hall buildings for use as residential tenant amenity. The wider Holy Cross College lands also includes Protected Structures, including The Red House and the Archbishop's House (these are not included in the application boundary and no works are proposed to these Protected Structures with the exception of the proposed works to the Drumcondra Road boundary wall which is listed under the Protected Structure of the Archbishop's House as noted below). The works to the Protected Structures within the Site are set out as follows:

- *The Seminary Building (RPS Ref 1901):* The works consist of the careful refurbishment and alteration of the existing four storey Seminary Building to provide residential accommodation, with the addition of a new five storey residential block to the rear (west elevation); floor levels carry through on the four lower levels. It is proposed that the existing structure, the Library Wing, on the northern elevation of the Seminary and the connecting corridors to the Seminary will be demolished; new infill concrete walls are located to fill the gap where elements are removed. Materials that can be salvaged from these blocks will be surveyed, their location noted, and re-used in the conservation and restoration works in The Seminary Building. The projecting WC blocks to the rear (west) elevation of the building are also proposed to be demolished. The external envelope of the building, with existing chimneys, stone and render finishes, windows and doors is maintained and re-used; the stone cross from the pediment is removed and built into a wall in the new residential block which forms an extension to the existing Seminary Building. Selected window opes on the lateral north and south elevations are lowered from door opes to provide for balcony access. The proposed Project proposes 56 no. apartments installed within the existing shell on the east side of a corridor running along the rear of the plan; the 48 no. apartments in the new block are linked to this corridor through a number of the window opes of the rear elevation which are lowered to ground level. Lightwells, lifts and staircases are also accessed in this way.

- *The South Link Building (RPS Ref 1901):* The South Link Building consists of a two- storey stone and render block with slate roof and bellcote between Holy Cross Chapel and the Seminary Building; this building will be conserved and restored. Alterations to the South Link Building include the insertion of a new doorway within the existing front (eastern) façade to link the front of the building to the cloister garden, and the insertion of two no apartments in the ground and first floor space. The existing organ at first floor level will be moved to a new location within the Holy Cross Chapel.

- *Holy Cross Chapel (RPS Ref 1901):* Holy Cross Chapel is retained and restored as a tenant amenity space. External alterations include a new metal door and ramp to the south elevation; interior alterations are limited to services and decoration; a section of the existing tiled floor will be lifted to allow for service connections to furniture installations. The following items will be moved from the Chapel as a part of the works: main altar, 2 no. side altars, 2. no paintings to either side of chancel arch, stations of the Cross, 2 no. marble statues to narthex, loose pews, confessional, fixed furniture to sacristy. Method statements for these works are included in the application documents.

- *The Assembly Hall (RPS Ref 1901):* The Assembly Hall comprises a two- storey hall with its front façade, steps and projecting porch orientated towards Clonliffe Road. The building is conserved and restored as a tenant amenity space as a part of the proposal; the existing balcony level within the main space is removed. The existing stage area is also removed to provide a gym area; bicycle storage is provided within the envelope to the north-west. Existing doors and windows are retained and repaired. A new window is provided into the cloister, with smaller secondary opes cut between spaces.

- *The Ambulatory (RPS Ref 1901):* All of the above referenced buildings are linked by a cloister colonnade (i.e. the Ambulatory) around two sides of a central garden; there is a part section of the colonnade on the north side and an indented (enclosed) section directly outside Holy Cross Chapel; the fourth (east) side is completed by the rear elevation of the Seminary Building. The Ambulatory will be retained as part of the proposed Project. The cloister garden will be restored and conserved as a part of the proposed Project for circulation and amenity use. Mosaic panels to the cloister will be retained and covered to supply a base for a removable light fitting. The courtyard garden will be re-designed and re-planted as a part of the proposed Project.

- ***Drumcondra Rd Boundary Wall Entrance (Listed under Archbishop's House RPS 2361):*** The existing entrance gates and the adjoining walls are part of the Archbishop's House Protected Structure. It is proposed to take down the existing stone gate pier to the south, and reconstruct this pier in a new location further to the south, widening the gate opening in this location. This will involve the taking down of a small portion of the stone boundary wall.

Extensive areas of public open space of c.20,410 m² or 25% of the Site is provided for, including woodland walk, formal lawn seminary garden, dog park and, playground. The proposed landscaping scheme provides for the removal of some existing trees on the site as well as extensive new planting.

Non-residential uses include a crèche of c. 627 m² and 1 no. retail unit of c. 329 m² in Block A4, and 1 no. café unit of c. 273 m² in Block D1. Total gross floor area of proposed other uses is 1,229 m².

Figure 5.2: Site Layout – Ground Floor Level

The proposed Project will include:

- A single level basement under Blocks B2, B3 and C1, containing 158 car spaces, 582 cycle parking spaces, plant, storage areas, waste storage areas and other associated facilities;
- A single level basement under Block D2 containing 86 car spaces, 528 cycle parking spaces, plant, storage areas, waste storage areas and other associated facilities; and
- A part podium level basement, part single level basement under Block A1, containing 233 car spaces, 500 cycle parking spaces, plant, storage areas, waste storage areas and other associated facilities.

The remainder of residents bicycle stores, totalling 645 spaces, are located proximate to residential buildings. In addition 31 no. parking spaces are located at surface level to include visitor, accessible, EV, car club and loading spaces as well as 252 no. short stay bicycle parking spaces.

The Site will be accessed by vehicles, cyclists and pedestrians from a widened existing entrance on Clonliffe Road, at the junction with Jones's Road; and through the opening up of an existing access point on Drumcondra Road Lower at the junction with Hollybank Road to act as a left in / left out access. No through route for vehicular access through the Site for the public is proposed. An additional cyclist and pedestrian access is proposed through an existing access point on Holy Cross Avenue. Access from the Clonliffe Road entrance will also facilitate vehicular access to future proposed GAA pitches and clubhouse to the north of the Site, and to a permitted hotel on Clonliffe Road (DCC Reg. Ref.: 2935/20, ABP Reg. Ref.: PL29N.30819).

The proposed Project includes all Site landscaping works, green roofs, boundary treatments, lighting, servicing, signage, ESB Substations, PV panels at roof level on all residential blocks except E1/E2 and D2, and associated and ancillary works, including Site development works above and below ground.

5.4.2 Design Rationale

The Site Strategy and design evolution followed a number of key structuring principles and in response to Site specific characteristics. Key design decisions were made during the pre-planning engagement with DCC, to optimise the living environment for current and future residents and to ensure that public accessibility was at the heart of the scheme. These included:

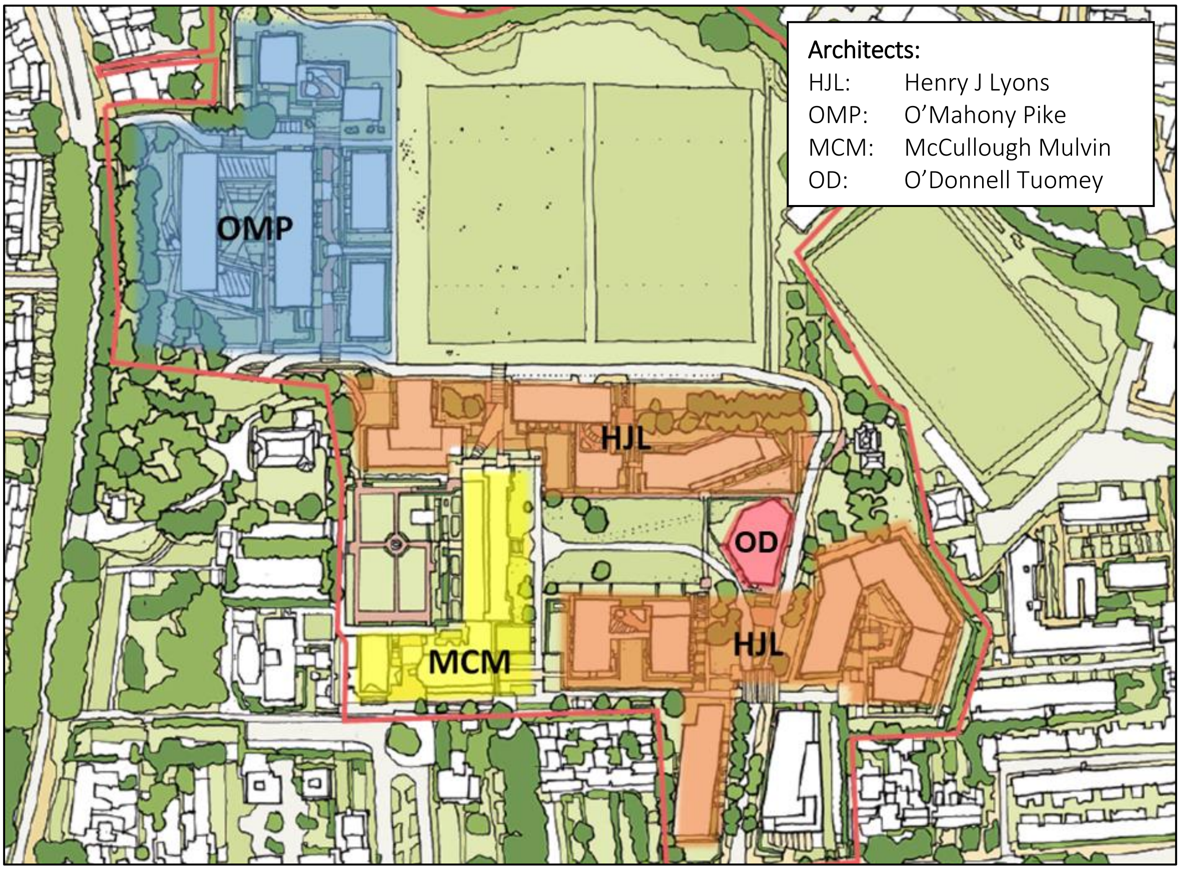
- Site characteristics: preservation of its institutional and wooded character. Retaining existing trees and responding to the scale of the existing buildings.
- Site Context: ensuring minimal impact on adjacent residential areas
- Topography: respond to the characteristics of the site.
- Existing protected structures: To enhance and protect the built heritage, historic setting, and strong landscape character of the lands
- Open space strategy: to deliver public open space provision of 20% in accordance with Z12 zoning while retaining existing good quality trees and providing generous spacing between apartment blocks.
- Location and orientation of apartment blocks in the institutional setting.
- Connectivity and Permeability: Provision of pedestrian links with future pitches and the River Tolka.
- Massing and positioning of apartment blocks to ensure good daylight levels to all apartment units, open space and existing dwellings.
- Passive supervision to all open space to ensure they are safe and well used spaces.
- The taller buildings are positioned along the main entry routes within the site. These landmark buildings create focal points along the routes to the different neighbourhoods.
- Smaller blocks and large buffer of public open space located adjacent to Clonliffe Road to minimise visual impact in the area.

The proposed Project has been designed to sit comfortably within its surrounds, minimising impact on adjacent development and the Protected Structures.

The scheme as submitted for planning has been prepared with inputs from a number of scheme architects, as shown in Figure 5.3, below:

- Executive Architects & Blocks B1, B2, B3, C1, C2 & D2 – Henry J Lyons (HJL)
- Blocks A1 - A4 - O'Mahony Pike (OMP)
- The Seminary Building, South Link Building, The Assembly Hall & The Church (Block E1-E4) – McCullough Mulvin Architects (MCM)
- Block D1 - O'Donnell Tuomey Architects (OD)

Figure 5.3: Elements from Various Scheme Architects

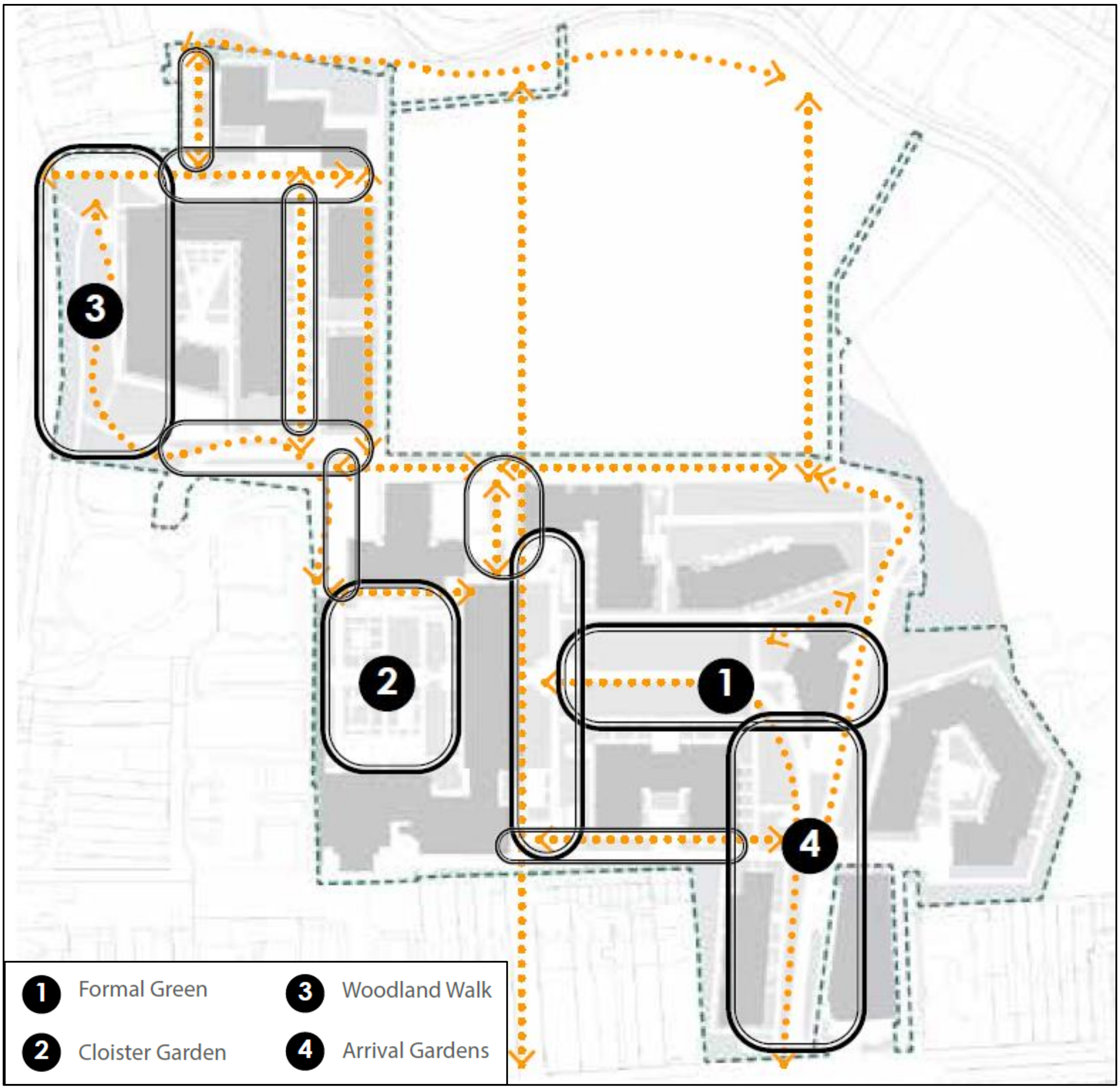


The architectural design of the proposed buildings are detailed in Henry J Lyons' (HJL) Architectural Design Statement and Site Strategy Document submitted as part of this application under separate cover.

5.4.3 Landscape Strategy and Design

The approach to the Site has evolved to protect and enhance the historic buildings and structures, arrivals route and to retain as many existing trees as is possible. Given the nature of the Site and its unique characteristics, it does not lend itself well to providing the full allocation of public open space all in one location. As such, the 25% public open space requirement stipulated in the Dublin City Development Plan (2016 – 2022) has been conceived as a necklace of spaces which seamlessly blend together, unifying the public realm whilst transitioning from one landscape character typology to another. This approach creates a variety of memorable spatial experiences, diversity of use and a celebration of place.

Figure 5.4: Landscape Design – Overarching Strategy



The landscape design of the proposed Project promotes health and wellbeing through active and passive measures including the provision of allotment gardens, nature trails, dog parks and the variety of spatial typologies, which have a positive mental impact both to look upon and to be in. These are the key building blocks to encourage a healthy neighbourhood, located in close proximity and appropriately to adjacent ground floor programme.

Figure 5.5: Landscape Design – Planting Proposal

The landscape design of the proposed Project is diverse and appropriate to its location in terms of responding to specific character areas. For example, woodland play is proposed in the woodland areas and kickabout or frisbee for the formal lawn. Flexibility of space will allow residents and visitors to use space informally and invent programme. A series of multi-use games areas (MUGAs) are proposed throughout the Project Site to cater for basketball, kickabouts, climbing walls or walls to hit a tennis ball against. Exercise stations will be dotted along the various walking and jogging loops, as well as sculpture, picnic tables and BBQ area, and areas for yoga, meditation or quiet contemplation, reading, etc.

By the nature of its location, the Site is well connected to its context, public transport and key arteries into and out of the City Centre. It has access to rail and bus networks within walking distance. The proposed Project leans more on cycle, walking and car sharing than the provision of parking to facilitate private car ownership. Pedestrian permeability, public or resident, is critical to the success of a vibrant 'place' and thus finds itself as a key driver at the heart of the landscape strategy.

The open space for the proposed Project has been planned without boundaries as an open permeable and welcoming piece of public realm. The semi-private space will bleed into the public open space with a series of smaller pocket spaces designed for seating, exercise or play. Some roof garden has been proposed to capture views and create a unique amenity for residents. Communal open space – whilst visually permeable – will have defined boundaries to secure it – a 1.1 m railing with hedge either side to ensure residents' safety, and tree planting with pergola surrounding it.

The proposed hierarchy of space radiates out from the Formal Lawn, the primary space. With highly active areas, secondary spaces and a series of smaller tertiary spaces arranged throughout the wider Masterplan area as connective tissue, tying the area together as one cohesive Masterplan and a series of interconnected spaces.

For a more detailed description of the proposed landscape design, refer to the Landscape Design Statement prepared by NMP Landscape Architecture, submitted under separate cover as part of this application.

5.4.4 Tree Felling & Tree Protection

A tree survey and arboricultural impact assessment have been carried out by the Tree File Consulting Arborists ('the Arborist' hereafter) in respect of the proposed Project, in accordance with *BS5837:2012 – Trees in Relation to Design, Demolition and Construction – Recommendations*. Please refer to the Arboricultural Report prepared by the Arborist and submitted under separate cover as part of this application.

The existing Site features a large number of mature trees, and the design and layout of the proposed Project has aimed to retain as many of these as is feasible and practicable. However, in order to facilitate the build and for reasons of safety, it has been established that a number of existing trees will need to be felled. As stated in the Arboricultural Report:

> *"In respect of tree constraints, it is noted that the current tree population asserts a "root protection zone" constraint over more than 22% of available space within the red line area. […] The efficient development of the site must be considered considering the apparent availability of only circa 78% of total site space. This must also be considered considering the dispersed nature of trees across the site that is oftentimes unsympathetic to the efficient use of space. The efficient development of the site appears impossible without the loss of some trees. […] Appreciating the above and as far as is practicably possible, the design ethos has been to design around the existing landscape. Most new structures will be in gaps and opening within the wooded landscape. Therefore the current design is considered broadly sympathetic to the existing landscape and its tree population. In this respect, a recognisable majority of the sites tree cover has been maintained."*

The tree survey has identified a total of 518 trees on the wider Holy Cross College lands, of which 296 are situated within the proposed Project Site. Of these 296 trees, it has been estimated that 117 (39.5%) will need to be removed under the scope of the proposed works. This number includes the removal of 25 low quality 'category U' trees that are recommended for removal regardless of any development works. It follows that there will be a loss of 92 trees that might otherwise have been suitable for retention as a result of the proposed works. It should be noted that it is proposed to plant c. 686 new trees under the scope of the proposed works.

In order to maximise tree retention, where feasible, amendments have been made to the design of the proposed Project, including bespoke structures, such as elevated access on minimal foundations and retaining walls to avoid grading and earthworks near trees. In order to protect trees to be retained from damage during the construction phase, a suite of tree protection measures shall be implemented, as detailed in the Arboricultural Report, including protective fencing, use of 'low-impact' / 'no-dig' processes in certain areas.

The Arboricultural Report includes a Tree Protection Plan and Arboricultural Method Statement, which shall be implemented in full during the proposed works.

5.4.5 Drainage

The proposed drainage design is detailed in the Infrastructure Planning Report prepared by Barrett Mahony Civil & Structural Consulting Engineers (BMCE) and the corresponding drawings from BMCE, submitted under separate cover as part of this application.

The design of the drainage system will be detailed in accordance with Part H of the Building Regulations, *EN 752: Drain and Sewer Systems outside Buildings*, the *Greater Dublin Regional Code of Practice for Drainage Works*, Irish Water's *Code of Practice for Wastewater*, and in accordance with all Dublin City Council Drainage Division and Irish Water requirements.

5.4.5.1 Proposed Foul Drainage System

The proposed foul drainage system will be designed to take discharges from the new residential units. Drainage from kitchen / canteen facilities will discharge through a grease separator designed in accordance with IS EN 1825 Part 1 and Part 2 and / or to Irish Water requirements. The foul system will connect to the Irish Water network at three locations, including two connection points into the existing 675 mm combined sewer below the future proposed GAA pitches, and a third connection on Clonliffe Road. Refer to BMCE drawings CLA-BMD-00-ZZ-DR-C-1008 – Sheets S1 – S8 (submitted under separate cover) for layout of the proposed foul drainage.

It is calculated that the proposed Project will have a total hydraulic loading of 598 m^3 per day during the operational phase. This equates to an average flow of 6.9 litres/second (over a 24-hour period) and a peak flow of 39.36 litres/second.

A Pre-connection Enquiry application was submitted to Irish Water to confirm capacity in the receiving network and a confirmation of feasibility was obtained (refer to appendices of BMCE's Infrastructure Planning Report, submitted under separate cover).

5.4.5.2 Proposed Surface Water Drainage System

Surface water run-off from the proposed Project will drain by gravity and will be attenuated prior to discharge into the River Tolka via two (2) new surface water outfalls, with the exception of Building C2 adjacent to Clonliffe Road, which will discharge at a restricted attenuated flow into the Irish Water combined sewer on Clonliffe Road.

The locations of the two (2) proposed outfalls have been selected by the design team (including the engineer, ecologist and landscape architect, with inputs from IFI) in order to minimise any potential for impacts on the River Tolka. Informal consultations were held (by telephone and email) with Inland Fisheries Ireland (IFI), who confirmed in an email dated 2 February 2021 that IFI have no objection to the surface water plans in principal.

The surface water drainage system features a range of sustainable drainage systems (SuDS) measures to attenuate rate and quality of surface water run-off, including the following:

- Roof gardens / green roofs;
- Blue roof attenuation;
- Bio-retention tree pits;
- Filter drains;
- Shallow infiltration systems;
- Rainwater harvesting;
- Permeable paving; and
- Extensive soft landscaping, including street planting.

In response to DCC Drainage Division comments received regarding SuDS and the requirement for a minimum two-stage treatment train, the design team have reviewed the surface water strategy in detail, and have amended the surface water design in order to incorporate additional SuDS where feasible. The amended design seeks to place greater emphasis on integrating increased opportunities for interception of surface water at source, through natural retention measures. Surface water run-off will go through a minimum of two-stage treatment prior to discharge by gravity into the receiving systems.

Due to existing Site constraints, including mature trees adjacent to existing roads, the construction of SuDS is not easily achievable at all locations. At suitable locations, a break will be introduced in the proposed kerbs to allow run-off to infiltrate to ground and into tree pits. Where this option is not available, it is the design intent to install proprietary surface water treatment systems, including catchpits, hydrocarbon interceptors and sediment removers (such as 'Downstream Defender' or similar), prior to discharge into the river.

Please refer to BMCE drawings CLA-BMD-00-ZZ-DR-C-1005-S1 and CLA-BMD-00-ZZ-DR-C-1005-S2 (submitted under separate cover) showing the amended SuDS strategy layouts.

The proposed surface water drainage system will be designed in accordance with DCC Drainage Division and Irish Water requirements. Refer to BMCE drawings CLA-BMD-00-ZZ-DR-C-1008 – Sheets S1 – S8 (submitted under separate cover) for layout of the proposed surface water drainage.

For further information on the proposed drainage design, please refer to the aforementioned documents submitted as part of the application pack.

5.5 Construction Phase & Construction Works

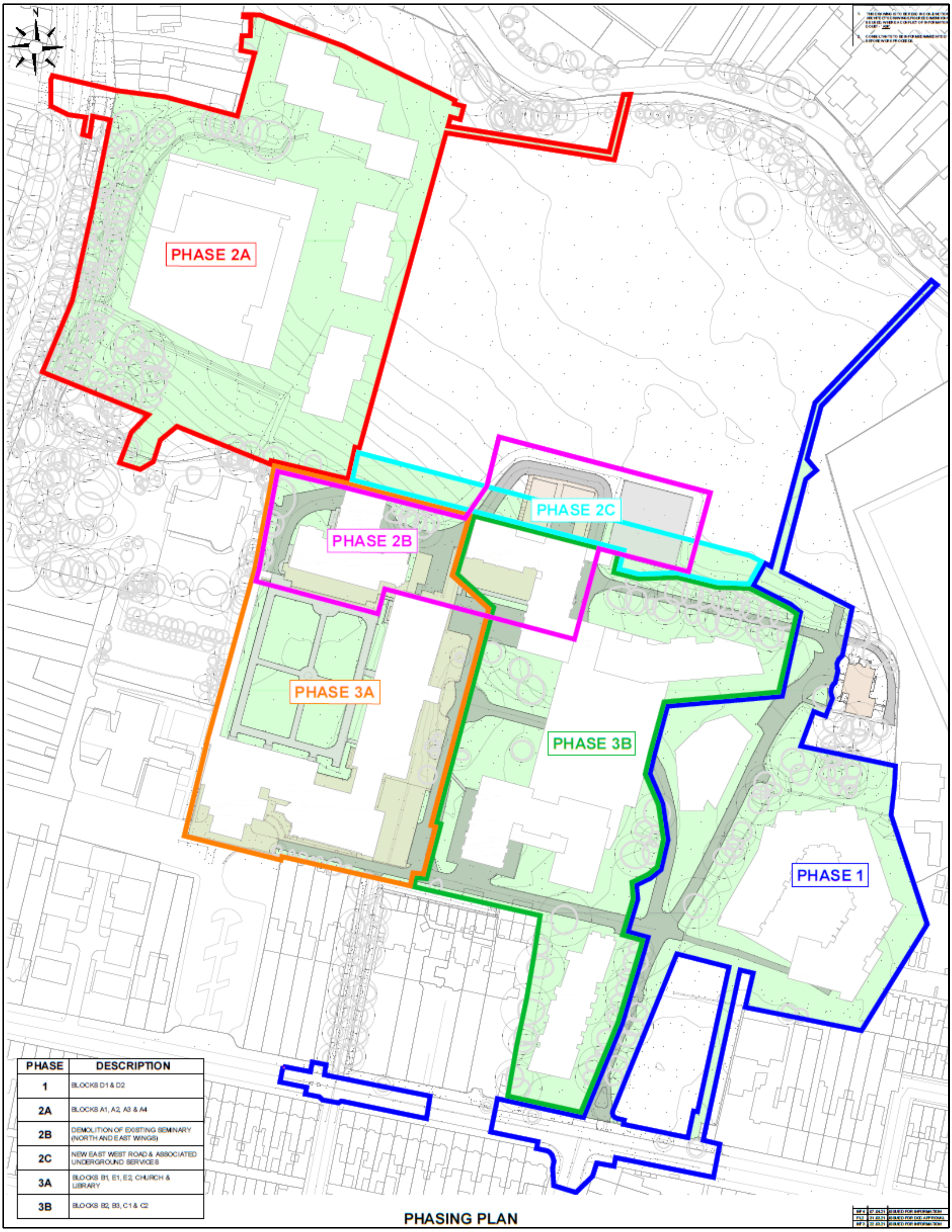
5.5.1 Indicative Construction Sequence

The duration of the construction phase is anticipated to be somewhere in the region of 36 months (or three years). The indicated construction sequence for the proposed Project is as follows:

- Phase 0 - Enabling Works (fencing, hoarding, tree protection, construction of temporary access roads from Clonliffe and Drumcondra Roads and Block A1 basement creation);
- Phase 1 - Blocks D1 and D2 construction with construction vehicular access of Clonliffe Road;
- Phase 2a - Blocks A1 – A4 construction with construction vehicular access off Drumcondra Road;
- Phase 2b – Demolition of selected Block E areas;
- Phase 2c - East West Road construction;
- Phase 3a - Blocks E1 (Seminary, Library and Church) refurbishment works and Blocks E2 & Block B1 construction with construction vehicular access off Clonliffe Road; and
- Phase 3b – Blocks B2 – B3, Blocks C1 – C2 construction with construction vehicular access off Clonliffe Road.

Refer to Figure 5.6, below for phasing plan, indicating footprints of the above-listed phases.

Figure 5.6: Site Phasing Plan



5.5.2 Indicative Construction Methodology

The following indicative construction methodology has been adapted from the Construction Management Plan, drafted by DCON Safety Consultants on the basis of initial scheme design inputs. Specific methodologies of work will be defined in advance of commencement of works by each contractor.

5.5.2.1 Preparatory and Site Set-up Works (all Blocks)

These works are expected to include the following elements:

- Site cabin delivery and placement;
- Completion of all outstanding pre-construction surveys;
- Contractor temporary service installations;
- Construction of appropriate hoarding to neighbouring properties;
- Establishment of tree protection measures in accordance with Section 5.4.4;
- Installation of CCTV coverage or other agreed security measures;
- Set-up of noise / dust / vibration monitoring stations in predetermined areas closest to sensitive receptors, as required by conditions of planning permission;
- Review of pest control needs by specialist contractor; and
- New builders' supply main board to be installed in appropriate determined location, agreed between the mechanical and electrical (M&E) designer, contractor and temporary works electrician.

5.5.2.2 Substructure Construction (Blocks A1, B2, B3, C1 and D2)

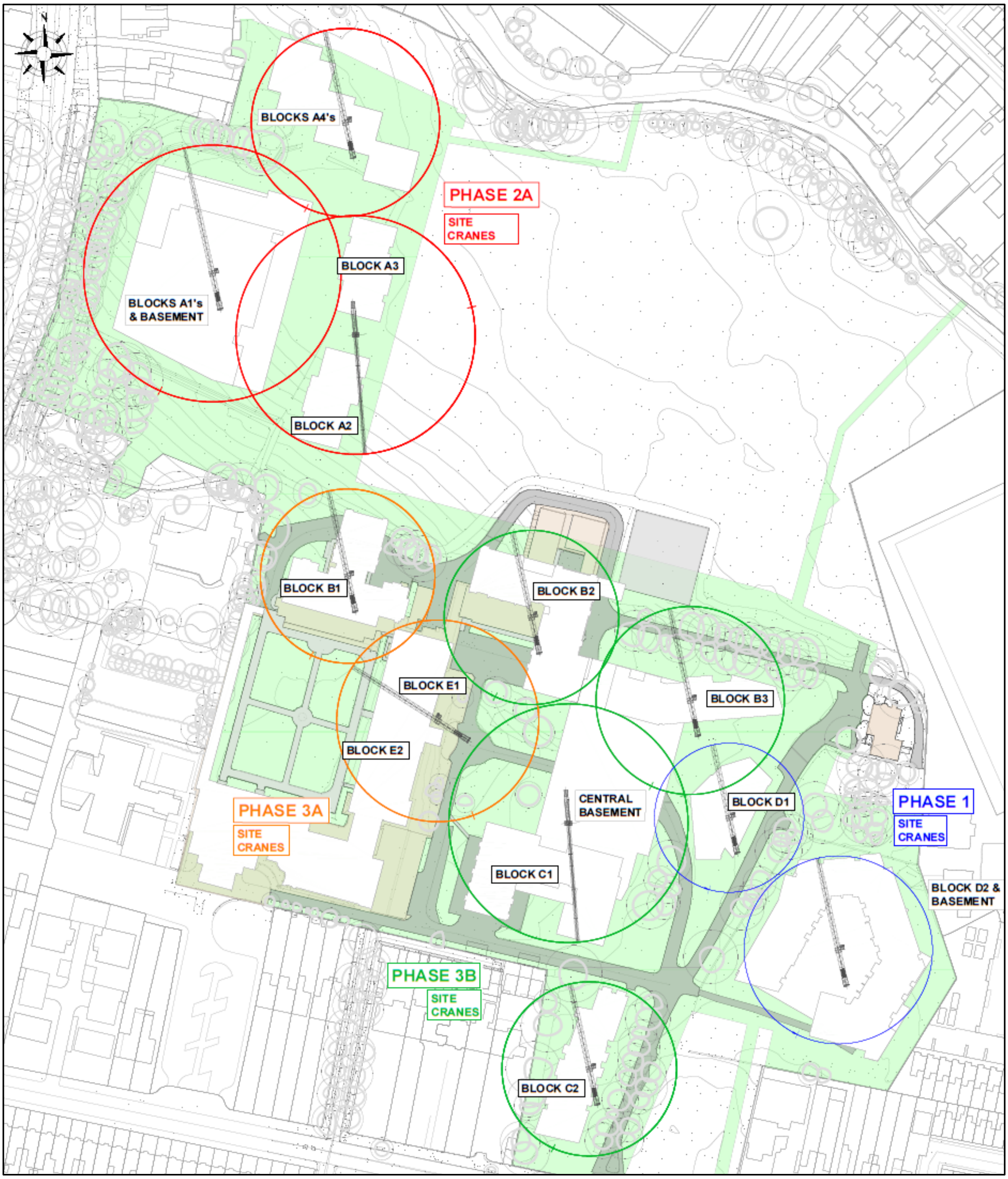
Substructure works will include groundworks, formwork, basement creation (up to ground flood podium), rising concrete elements, attenuation and drainage.

5.5.2.3 Residential Block Construction (Blocks A, B, C, D and E2)

Residential block construction is expected to proceed as follows:

- Cores will be installed initially. These are central to each block footprint. For the upper-level slabs to be completed, the core must be cast to that level. To minimise program impact, zones will be created to each basement or podium slab level to allow it to be cast without the core being complete to that level. For example, a proprietary vertical wall formwork system that is self-climbing may be used to cast the core. The core system will be supported by a tower crane for lifting of materials, an Alimak or alterative means, to get construction personnel and tools to the system, and its own satellite concrete placing boom to place concrete.
- Lobby slabs, header beams and stairs will follow the core walls and will be cast as soon as practical to maintain structural stability of the core walls and provide access to cast the core slabs. When the last vertical wall elements are cast, the jump form will be removed in a strategic sequence, for safety reasons, and to allow the lift motor rooms to be cast as early as possible to get builders' lifts operating.
- Structure trades and works will be supported by tower cranes for lifting of materials, formwork hoists for the lifting of recycled formwork, Alimaks or alterative means for the transportation of operatives and materials to decks, satellite placing booms for the placement of concrete, and proprietary perimeter edge screens for provision of fall protection to operatives. Figure 5.7, below, illustrates indicative locations of tower cranes for the various blocks / phases.

Figure 5.7: Site Cranes – Phases 1, 2A, 3A and 3B



- The façade will be erected as soon as practical to commence waterproofing floors, so that finishes and fit-out can commence. The roof embellishments will commence when the structure is complete. These works will not be completed until all plant has been lifted into the plant rooms and the façade has been installed to the corresponding level to complete the water tightness of the fabric.
- When slabs are cast and the formwork is stripped, service installation will commence. These works will not be completed until the façade to the corresponding level is completed, for reasons of personnel safety and weatherproofing.
- Once façades and services are installed, internal finishes will be completed. Plant, equipment and materials will be lifted to the floors via several means (tower cranes, Alimaks or builders' lifts), depending on what stage the building is at.
- When the fabric of the tower is complete, and the tower cranes have been removed, the gantries will also be removed, allowing external works to be completed. As some of the external works will be to footpaths and roads to mesh them in with the new building, some footpath and lane closures will be required. These will be coordinated with DCC.

5.5.2.4 Demolition Works

As part of Phase 2b, selected Block E areas will be demolished, including two existing commercial office buildings and external structures connected to the Seminary Building. These are set out below in Figure 5.8, below. This excludes internal demolition to the Protected Structures which is set out in Chapter 14 (Cultural Heritage – Architectural Heritage).

Demolition works will be carried out, comprising of four principal stages:

1. Preparatory works;
2. Asbestos removal;
3. Soft strip; and
4. Hard demolition.

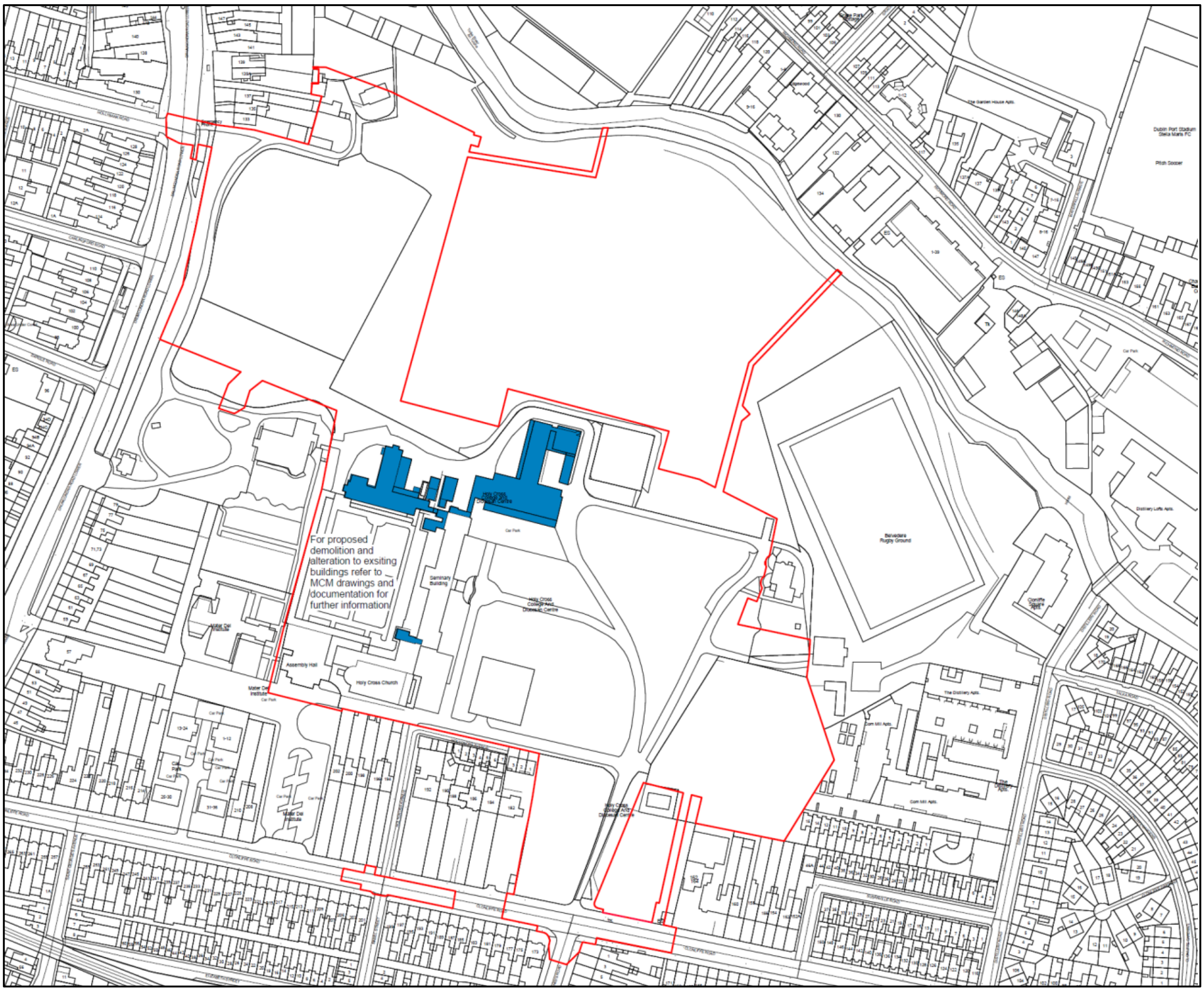
Preparatory works will include completion of structural and services surveys, establishment of noise / dust / vibration monitoring stations (as required by conditions of planning permission) and isolation of all services.

Asbestos removal works will be carried out to structures prior to demolition, subject to Health and Safety Authority (HSA) approval, as required. This will involve removal of asbestos and asbestos containing materials (ACMs) under licence, and reoccupation certification for all areas prior to soft strip.

Soft strip works will be carried out to structures following asbestos removal (where required) and prior to demolition, subject to safe isolation of energy services. This will include the removal of all non-load-bearing internal structures, finishes, fixtures, furniture and equipment.

Following soft strip works, hard demolition of all non-protected structures to be removed will be carried out, including removal of all building structural members, external façades and roof finishes.

Figure 5.8: Buildings to be Demolished



5.5.2.5 Refurbishment Works (Block E1 – Seminary, Library and Church)

In advance of the commencement of refurbishment works proper, isolation of services, asbestos removal and soft strip works will be carried out to the structures in question. Refurbishment works are generally expected to proceed as follows:

- An external independent scaffold will be erected, designed for alterations to facilitate other trades cleaning or repointing the external façade.
- Appropriate temporary works will be carried out, as required, to stabilise external walls prior to any internal remodelling taking place.
- Construction materials will be loaded out by crane.
- Replacement windows, as required, will be fixed as the frame progresses to maintain water-tightness.
- Internal works will commence, including services, carpentry, decoration, floor finishes and installation of fitted furniture.

5.5.2.6 Surface Water Outfalls

The outfalls will be constructed in consultation and agreement with Inland Fisheries Ireland (IFI), and set back from the riverbank. The vast majority of works will be up to and including the headwall detail, which is set

c. 5 m back from the bank edge. All of the outfall works will be constructed in advance (with the riverbank unaffected), with the last piece of work to be done to 'break through' the river bank for the last few metres to open new channels to the river itself. On completion of the works, the newly created outfall areas will be landscaped and planted to match the existing riverbanks.

5.5.3 Construction Access

Construction Site access will be provided for construction personnel, Church staff and pedestrians via a number of entrances / exits on a phased basis, as illustrated in Figures 5.9 – 5.12, below.

Figure 5.9: Construction Vehicle Access – Phase 1A (Construction of Temporary Access Road)

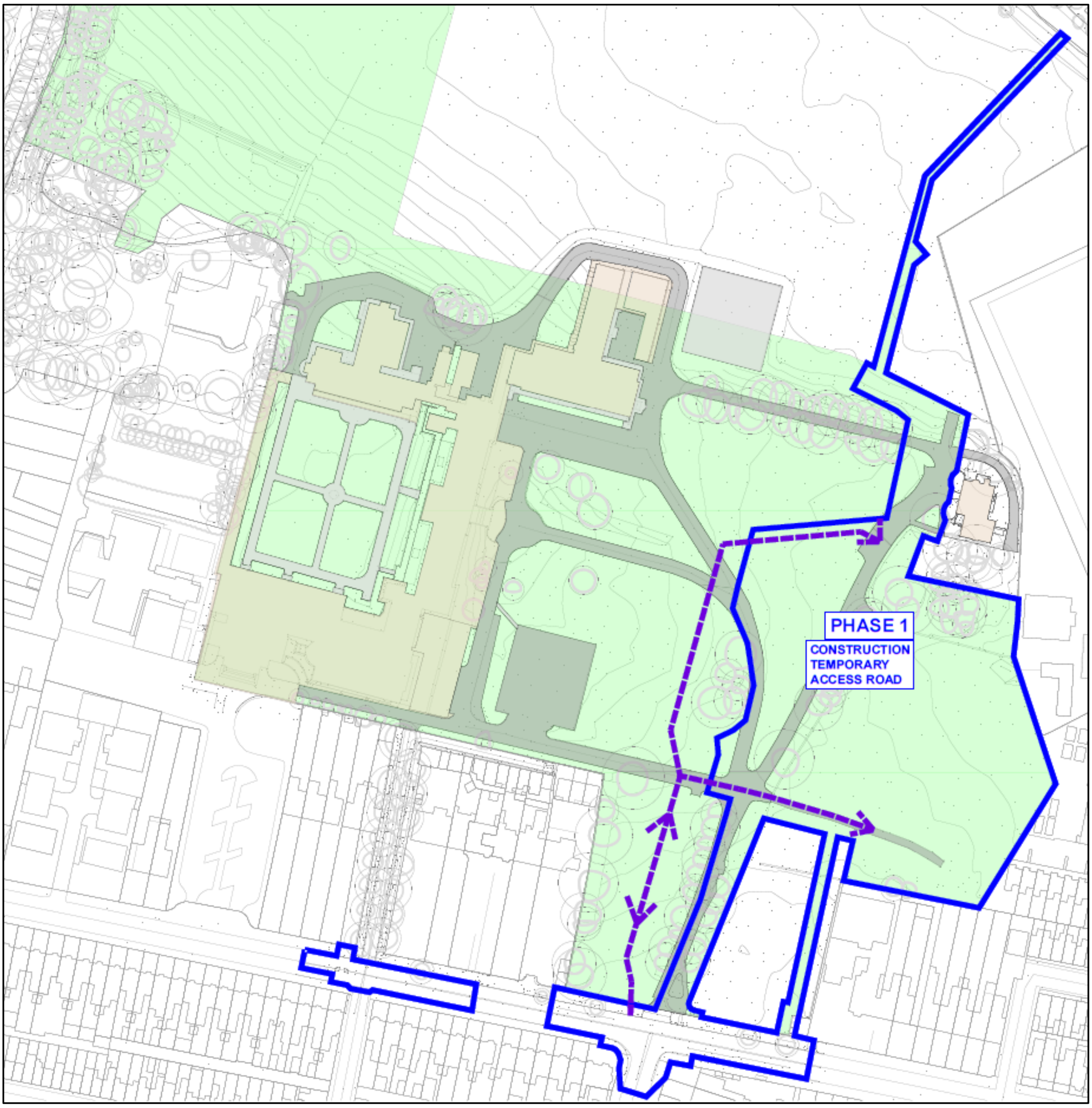


Figure 5.10: Construction Vehicle Access – Phases 1, 2A, 2B, 2C, 3A and 3B

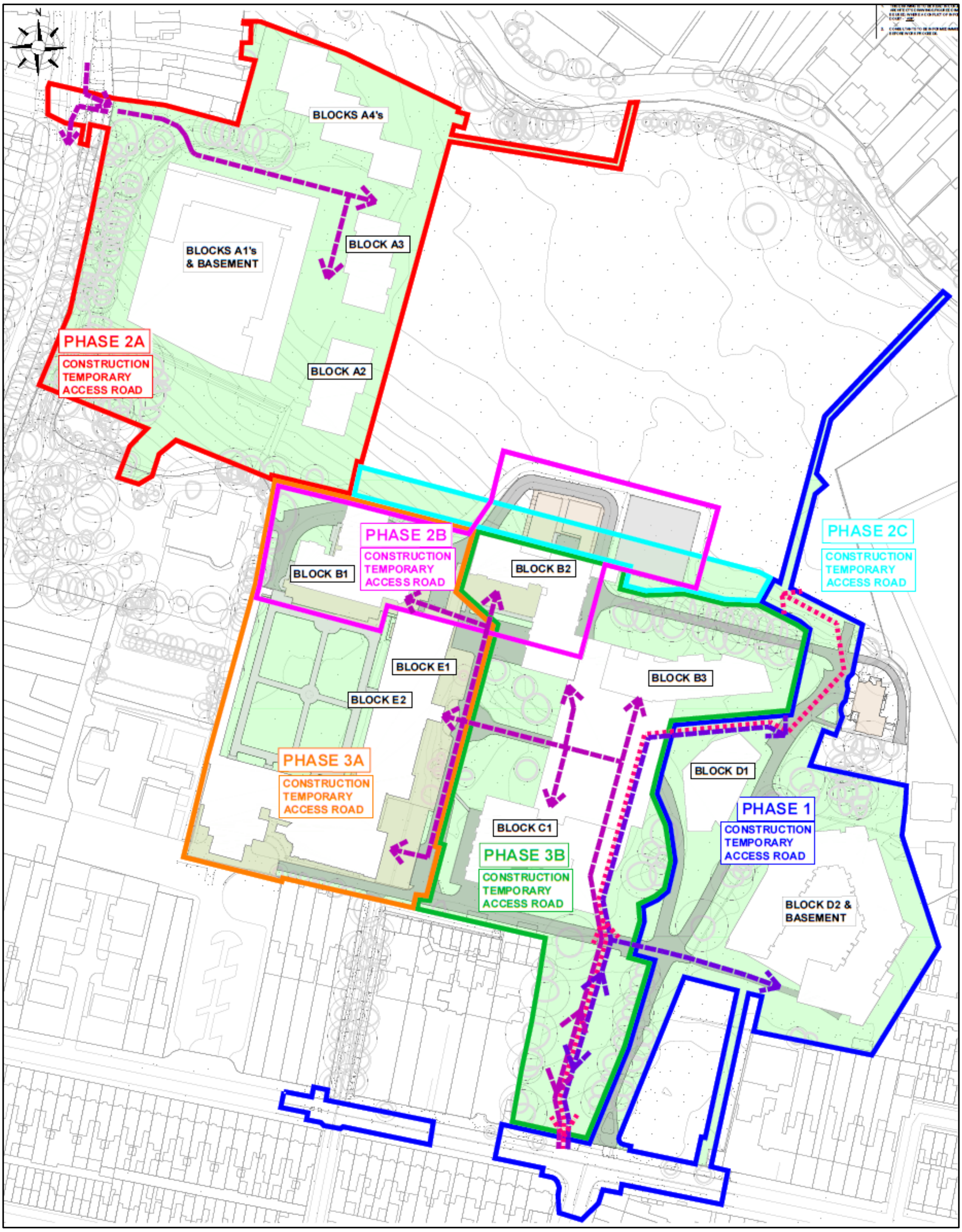


Figure 5.11: Church Staff & Pedestrian Access – Phases 1 and 2A

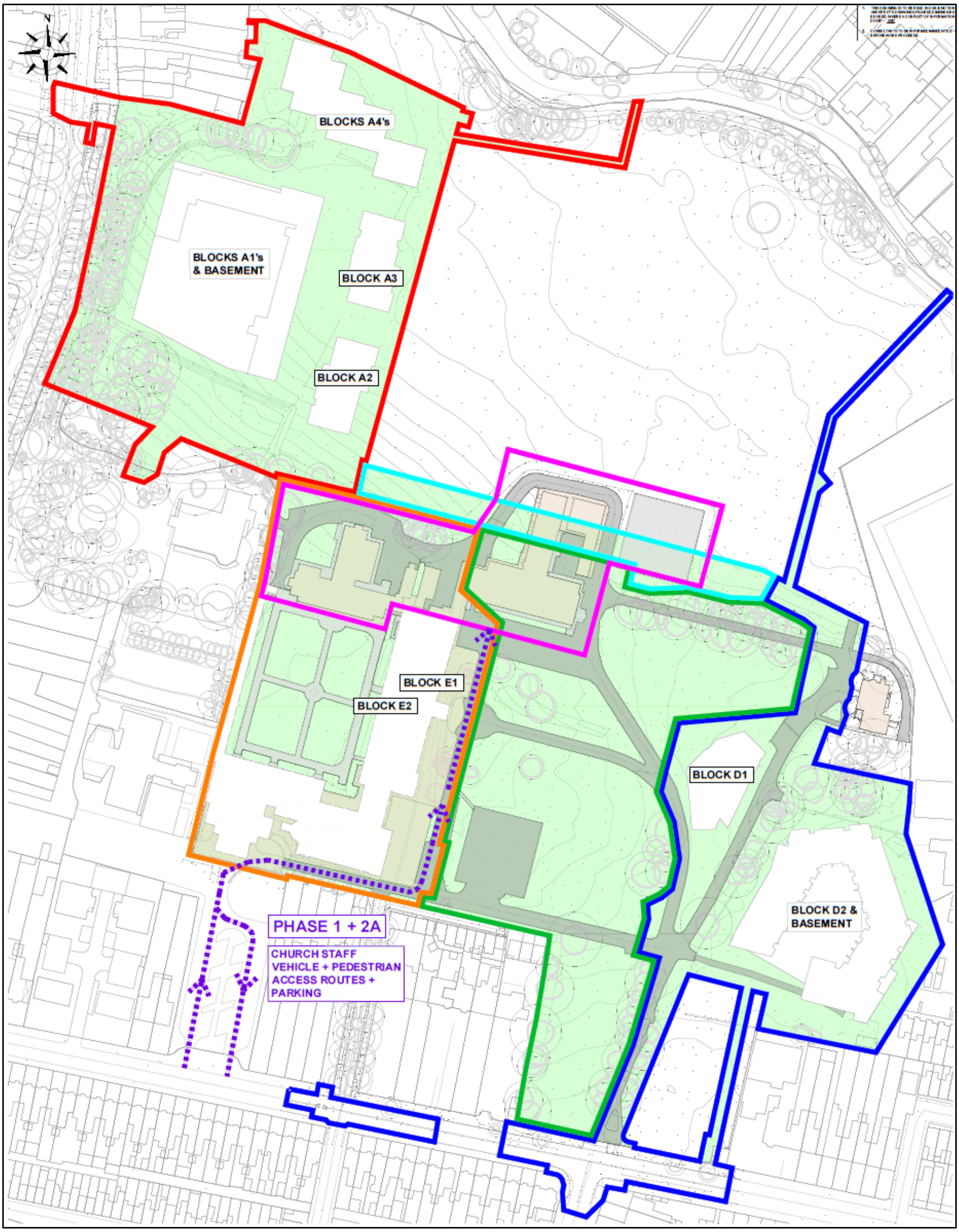
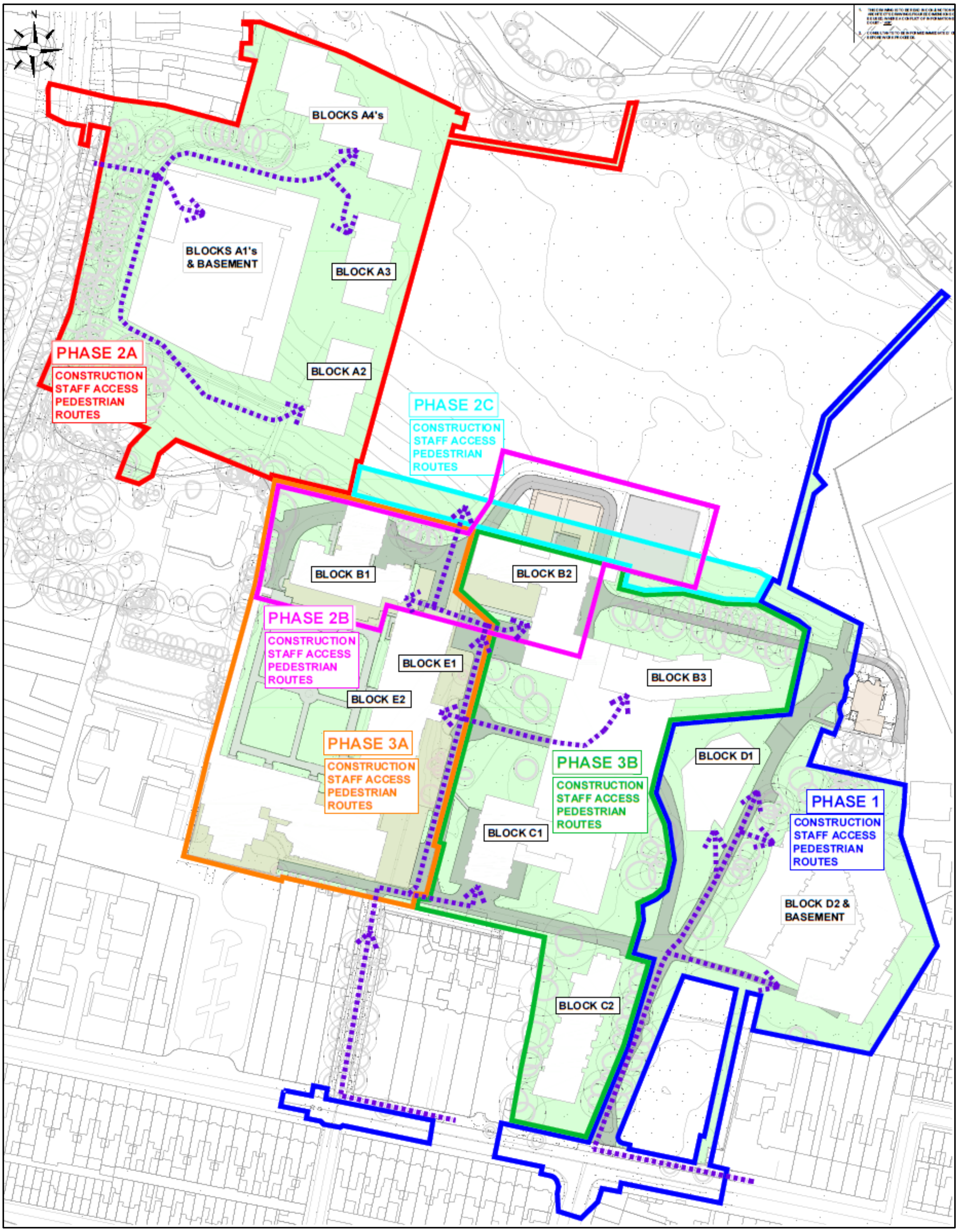


Figure 5.12: Construction Personnel Pedestrian Access – Phases 1, 2A, 2B, 2C, 3A and 3B



The majority of construction vehicles accessing the Site will do so via the M50 to the north. As illustrated above, traffic bound for Blocks A1 – A4 will enter via an existing entrance on Drumcondra Road. Traffic bound for Blocks B, C, D and E will travel onwards on Drumcondra Road, turning left onto Clonliffe Road and entering the Site via a temporary access road at the Clonliffe Road / Jones Road junction. The traffic signals at this junction may need to be temporarily modified in agreement with the DCC Transportation Department. Both of these access points will be left in / left out only.

Upon exiting the Site, the majority of construction traffic is expected to travel towards Annesley Road, before turning left towards Fairview / Marino and onwards to the M50, or alternatively, along East Wall Road to the M1 (Dublin Port) Tunnel.

The construction Site access strategy will be such as to avoid / minimise impacts on members of the public. Construction traffic will be limited to specific haulage routes. Where possible, Site deliveries will be scheduled in a staggered manner, avoiding peak traffic hours.

Access to neighbouring properties will be maintained throughout the proposed works. In order to minimise impacts to the public bus services using the QBC on Drumcondra Road, proximate works will be carried out in agreement with TII.

To minimise non-essential traffic associated with the proposed works, construction personnel will be encouraged to travel to Site using public transport or other sustainable modes of personal mobility, and on-Site parking will be limited. In order to avoid overspill issues on the surrounding road network, proximate on-street parking will be managed / restricted in agreement with local residents and DCC.

As stated in the Construction Management Plan (CMP), it will be a condition of works that maintenance of access to local roadways, footways and Dublin Bus stops will be secured. With the exception of hoarding construction works, temporary traffic management interventions, and utility connection works, it is not expected that the proposed works will impact on the use of bounding roadways and footways.

In advance of the commencement of works, contractors will be required to draft Traffic Management Plans in accordance with the requirements of the Department of Transport's 2018 manual, *Temporary Traffic Measures and Signs for Roadworks*, and in agreement with the Transportation Department of DCC. All contractors will also be required to appoint a Traffic Management Coordinator, who will be responsible for the oversight of Site traffic management and the implementation of the corresponding Traffic Management Plan.

5.5.4 Site Compounds

Site compounds will be situated in the lands made available (LMA), with compounds for each block situated within the corresponding area, as indicated in Figure 5.13, below. Compounds will move as construction progresses and each contractor may identify other locations within their site area (but always within the LMA / Site boundary as indicated herein). Construction compounds will provide space for waste management segregation, materials delivery and storage, parking and Site personnel welfare. The location and operation of site compounds shall be in accordance with any relevant mitigation measures set out in this EIAR, as well as any additional conditions attached to the planning permission.

Figure 5.13: Indicative Site Compound Locations

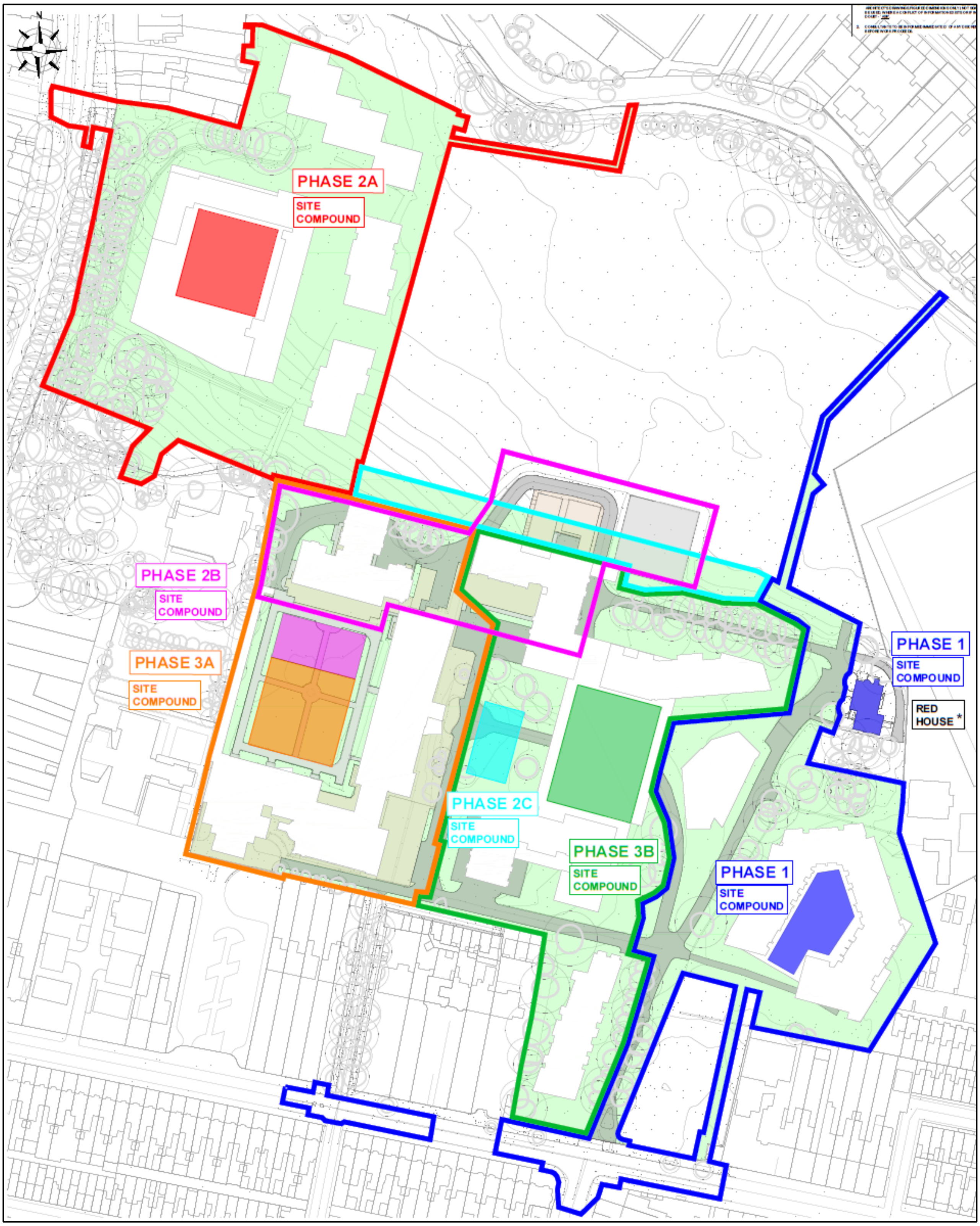
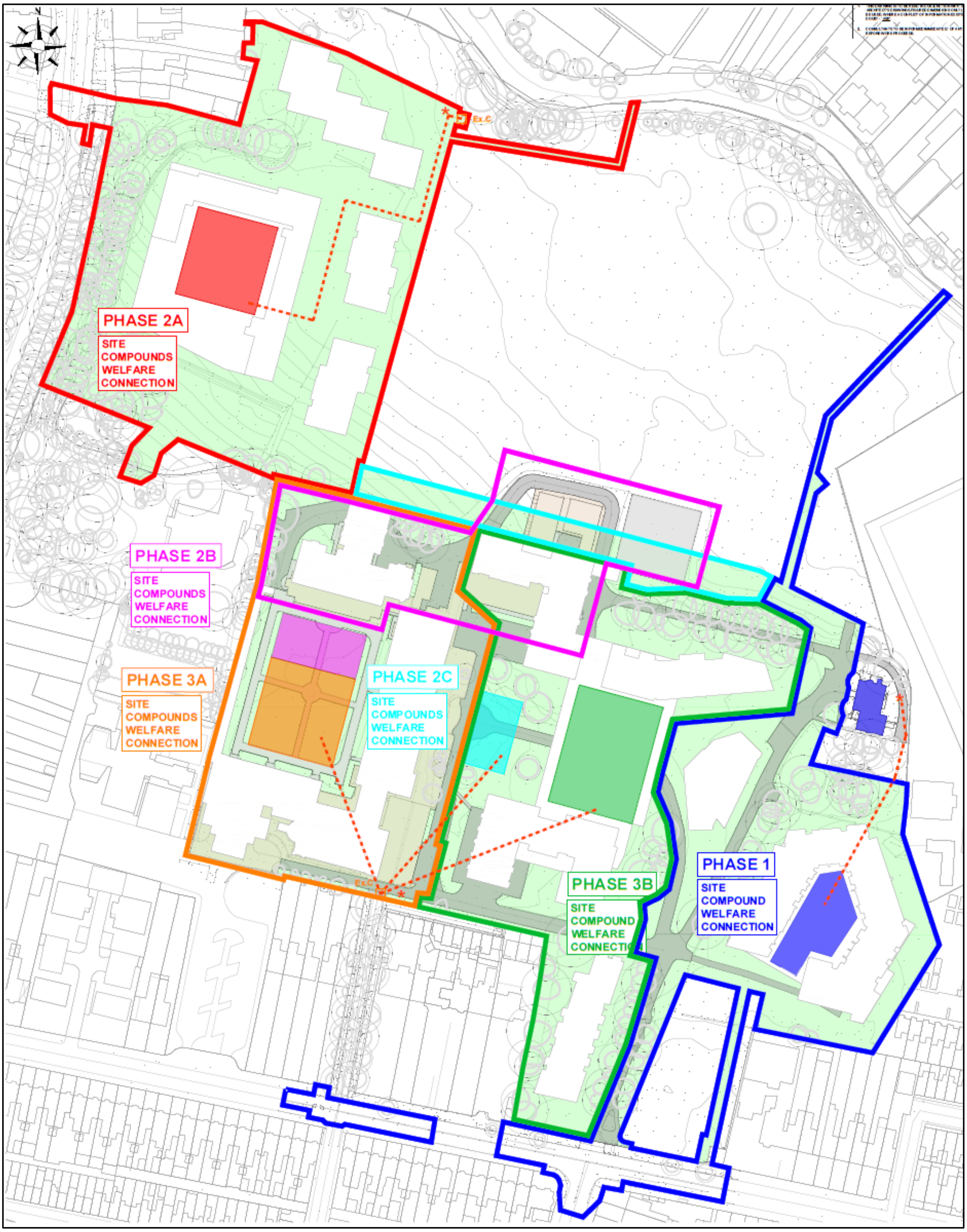


Figure 5.14: Site Compound Connections to Existing Services



5.5.5 Construction Working Hours

Construction works will be limited to the times below, as per the Construction Management Plan (CMP) and Chapter 12 (Noise & Vibration), unless otherwise stipulated in the conditions to the planning permission:

- Monday to Friday 07:00 to 19:00 hrs
- Saturdays 08:00 to 14:00 hrs
- Sundays and Public Holidays No work on site*

* However, where required for specific circumstances (e.g. exceptional / emergency circumstances, such as connections to public service systems or utilities), it may be necessary for certain construction operations to be undertaken outside these times. The timing of such works will be agreed in advance with Dublin City Council.

5.5.6 Construction Phase Plans

5.5.6.1 Construction Management Plan

A Construction Management Plan (CMP) (also referred to as the 'Development Construction Management Plan (DCMP)) has been prepared in respect of the proposed Project by DCON Safety Consultants and submitted under separate cover as part of this application. The aim of the CMP is to ensure that all works are planned and managed in a safe and organised manner, undertaken and coordinated by competent contractors, and while obtaining the necessary confidences of all project stakeholders. It presents:

- A construction programme sequence supported by projected construction methodologies;
- Techniques that will be adopted by the contractor during the construction of the proposed Project;
- A summary of foreseeable potential impacts resulting from the proposed works and mitigating factors; and
- A pro forma construction management plan boiler plate for each contractor prior to works commencing on Site.

The CMP shall be finalised by the successful Contractor prior to the commencement of the construction phase, in accordance with any corresponding conditions of the planning permission.

5.5.6.2 Construction Environmental Management Plan

A Construction Environmental Management Plan (CEMP) has been prepared in respect of the proposed Project by DCON Safety Consultants and submitted under separate cover as part of this application. The CEMP identifies the control measures to alleviate environmental impacts and specifies an environmental monitoring programme. It addresses construction phase measures in relation to:

- Direct impacts – those impacts associated directly with the environmental aspect, such as increased dust, noise or vibration levels.
- Indirect impacts – those impacts associated indirectly with the environmental aspect, such as transport and disposal of waste.
- Normal situations – progress according to plan.
- Abnormal situations – the Project programme not progressing as planned because of unforeseen or unpredictable circumstances.
- Emergency situations – an unplanned or unwanted situation has occurred, such as fire, explosion or malicious damage.

The finalised CEMP, prepared by the successful Contractor, shall include a full Schedule of Environmental Commitments, including all of the mitigation measures stipulated in this EIAR and any additional conditions attached to the planning permission. It shall be finalised by the successful Contractor prior to the commencement of the construction phase, in accordance with any corresponding conditions of the planning permission.

5.5.6.3 Construction Phase Health & Safety Plan

The appointed Contractor will be required to prepare a Construction Phase Health and Safety (H&S) Plan in advance of the commencement of works, and all on-Site contractors and subcontractors will also be required adhere to this Plan.

5.5.6.4 Tree Protection Plan & Arboricultural Method Statement

As discussed in Section 5.4.4, above, the Arboricultural Report (prepared by the Arborist and submitted under separate cover as part of this application) includes a Tree Protection Plan and Arboricultural Method Statement, which include measures for the protection of trees to be retained during the proposed works. The successful Contractor shall be responsible for ensuring that these are fully implemented during the construction phase.

5.5.6.5 Construction Surface Water Management Plan

An Outline Construction Surface Water Management Plan (CSWMP) has been prepared by BMCE and submitted under separate cover as part of this application. The CSWMP aims ensure that surface water quality and quantity is managed throughout the construction process to mitigate impacts off site(and in particular on the nearby Tolka River). It provides the water management principles and minimum measures to be implemented by the Contractor to ensure that work is carried out with minimal impact on the water environment during the proposed works. The CSWMP shall be finalised by the successful Contractor prior to the commencement of works, in accordance with any corresponding conditions of the planning permission, and shall be implemented by all on-Site contractors and subcontractors, as appropriate, throughout the construction phase.

5.5.6.6 Community Liaison Plan

Given the nature of the proposed Project and that there may be, at any given stage, multiple contractors on Site, there is a need to have an effective management of public relations and complaint handling to ensure good relations and a mutual trust between all key stakeholders during construction. These key stakeholders will include but not be limited to the residents and neighbouring businesses, Dublin City Council, An Garda Síochána, the NTA and TII.

The dissemination of accurate and timely information in relation to ongoing and proposed works, changes to traffic layouts and other activities, in advance to the key stakeholders will lend itself to reducing queries, complaints and nuisance during construction.

Accordingly, the Applicant shall develop a Community Liaison Plan in advance of the commencement of the proposed works, in accordance with the requirements set out in the CMP, as well as any corresponding conditions of the planning permission. The Community Liaison Plan will include a Good Neighbour Policy covering the following areas:

- Designated Community Liaison Official (CLO);
- Early implementation;
- Good client, staff and neighbourhood liaison;
- Reduction of nuisance factors;

- Clear access for neighbouring premises; and
- Clear and concise and accurate information.

The Applicant will establish a Designated Community Liaison Officer (CLO) so that particular issues / complaints raised by local residents may be quickly identified and responded to. The details of the CLO will be shared with local residents once appointed. The CLO shall be responsible for the preparation and implementation of the Community Liaison Plan.

The Community Liaison Plan will be updated, as required, taking in to account:

- Changes in the design and construction programme;
- Changes in stakeholder and community needs; and
- Changes in contractor activities and stakeholder and community information requirements.

The Community Liaison Plan will include, as sub–plans, separate 'Stakeholder and Community Involvement Plans' that are specific to separate projects and contractor activities.

Further details of the Community Liaison Plan are set out in the CMP, submitted under separate cover.

5.5.6.7 Construction Traffic Management Plans

As stipulated in the CMP, a site-specific construction Traffic Management Plan will be prepared by each contractor in advance of their respective works commencing on-Site. These will be in accordance with the Dublin City Council document '*Directions for the Control & Management of Roadworks in Dublin City*', with Chapter 18 of this EIAR (Traffic & Transportation) and any corresponding conditions attached to the planning permission. They will address the movement of construction traffic, machinery and plant, and loading / unloading areas, with a view to minimising disruption and other construction traffic-related impacts.

5.5.6.8 Dust Minimisation Plan

A Dust Minimisation Plan (Appendix 11.2) has been prepared by AWN Consulting in respect of the proposed Project. It sets out measures to minimise the generation and dispersal of dust during the construction phase of the proposed Project, under the following headings:

- Site management;
- Preparing and maintaining the Site;
- Operating vehicles / machinery and sustainable travel;
- Operations;
- Waste management;
- Measures specific to demolition;
- Measures specific to earthworks;
- Measures specific to construction; and
- Measures specific to trackout.

5.5.6.9 Construction Travel Plan

As stipulated in Chapter 18 (Traffic & Transportation), a Construction Travel Plan shall be developed by appointed Contractor, addressing access to / from the Site for construction personnel and detailing how more sustainable mobility modes (e.g. carpooling, public transport use, walking and cycling) will be promoted, and individual private car use minimised, among construction personnel.

5.5.6.10 Construction & Demolition Waste Management Plan

A Construction & Demolition Waste Management Plan (C&D WMP) (Appendix 19.1) has been prepared by AWN Consulting in respect of the proposed Project. It includes information on the legal and policy framework for C&D waste management in Ireland, estimates of the type and quantity of waste to be generated by the construction phase of the proposed Project and makes recommendations for management of different waste streams.

5.6 Description of the Operational Phase of the Proposed Project

The proposed Project is a residential development consisting of residential apartments buildings ranging in height from two to 18 storeys with residential tenant amenity.

The primary direct significant environmental effects will arise during the construction phase. As a result, the operational phase of the proposed Project is therefore relatively benign and not likely to give rise to any significant additional impacts in terms of activities, materials or natural resources used or effects, residues or emissions which are likely to have a significant impact on human beings, flora and fauna, soils, water, air and climate.

The likely environmental impacts of the operational phase of the proposed Project are fully addressed in the various specialist chapters of this EIAR.

6 Consultation

6.1 Introduction

This Chapter describes the consultation process of the proposed Project. The 2014 Directive places emphasis on effective public participation in the decision-making procedures for EIA cases. Early involvement of the public and other stakeholders ensured that the views of groups and individuals were taken into consideration throughout the preparation of the EIAR.

It was recognised at an early stage of the project that public and stakeholder engagement is a critical component to the process. The structure, presentation and the Non-Technical Summary (NTS) of the EIAR, as well as public access, all facilitate the dissemination of the information contained in the EIAR. The core objective is to ensure that the public and local community are aware of the *likely environmental effects* of projects prior to the granting of consent.

Informal scoping of potential environmental impacts was undertaken with the Planning Authority through pre-application meetings. Direct and formal public participation in the EIA process will be through the statutory planning application process under the new SHD procedures.

Consultation was undertaken which identified the environmental and community issues that needed to be taken into consideration in designing the proposed Project for the Site.

Section 4(1) of the PDA 2000 provides that an application for permission for a SHD shall be made directly to An Bord Pleanála and not to a Planning Authority, as was the case previously.

The SHD process comprises three mandatory stages, which are outlined in Table 6.1.

Table 6.1: SHD Consultation Stages[9]

Stage	Description
Stage 1	**Consultation** with the Planning Authority (under *Section 247 of the Planning & Development Act, 2000, as amended*).
Stage 2	**Pre-Application Consultation** with An Bord Pleanála (under *Section 6 of the Planning & Development (Housing) and Residential Tenancies Act, 2016*).
Stage 3	**Planning Application** to be submitted directly to An Bord Pleanála.

6.2 Stage 1 – Consultation

The context and approach to the Project Site and the design rationale for the proposed Project have been subject to considerable consultation with the DCC Planning Department under Section 247 of the PDA 2000, as amended. A series of meetings have been held with the Council's Planning Department on the substance of the proposed Project, as listed in Table 6.2, below.

[9] DHPLG (2017). *SHD Pre-Application Consultation. Guidance for Prospective Applicants.*

Table 6.2: List of Consultation Meetings Held in Respect of the Proposed Project

Date	Attendees / Details
4th February 2020	Mary Conway (Deputy City Planner) Joint Meeting with representative of the GAA and the Archdiocese
5th May 2020	Mary Conway (Deputy City Planner) Mary McDonald (Senior Executive Architectural Conservation Officer - Acting)
22nd May 2020	Mary Conway (Deputy City Planner) Deirdre O'Reilly (Senior Planner)
16th June 2020	Mary Conway (Deputy City Planner) Deirdre O'Reilly (Senior Planner) Mary McDonald (Senior Executive Architectural Conservation Officer - Acting)
29th June 2020	Mary Conway (Deputy City Planner) Mary McDonald (Senior Executive Architectural Conservation Officer - Acting)
9th July 2020	Mary Conway (Deputy City Planner) Deirdre O'Reilly (Senior Planner)
14th July 2020	Mary Conway (Deputy City Planner) Mary McDonald (Senior Executive Architectural Conservation Officer - Acting)
22nd July 2020	Mary Conway (Deputy City Planner) Deirdre O'Reilly (Senior Planner) Mary McDonald (Senior Executive Architectural Conservation Officer - Acting)
4th August 2020	Mary Conway (Deputy City Planner) Mary McDonald (Senior Executive Architectural Conservation Officer - Acting)
18th August 2020	Mary Conway (Deputy City Planner) Mary McDonald (Senior Executive Architectural Conservation Officer - Acting)
31st August 2020	Mary Conway (Deputy City Planner) Deirdre O'Reilly (Senior Planner)
1st September 2020	Mary Conway (Deputy City Planner) Mary McDonald (Executive Architectural Conservation Officer)
7th October 2020	Mary Conway (Deputy City Planner) Kieran O'Neill (Senior Executive Landscape Architect)
13th October 2020	Mary Conway (Deputy City Planner) Deirdre O'Reilly (Senior Planner) Mary McDonald (Senior Executive Architectural Conservation Officer - Acting)
22nd October 2020	Mary Conway (Deputy City Planner) Deirdre O'Reilly (Senior Planner)
9th March 2021	Mary Conway (Deputy City Planner)

Date	Attendees / Details
	Garrett Hughes (Senior Planner) Audrey Taylor (Executive Planner) Mary McDonald (Senior Executive Architectural Conservation Officer - Acting)

Discussions on the proposed Project have also taken place with the Council's Conservation Department, Traffic & Transportation Department and the Parks Department.

Additionally, the Applicant also held two non-statutory public information events on the 9th of July 2020 and the 8th of April 2021. Because of public health restrictions related to the Covid-19 pandemic, these events were both held online via live online forum / Q&A events, where members of the public were invited to submit comments and questions in relation to the proposed Project, which were addressed by members of the design team.

6.3 Stage 2 – Pre-Application Consultation

The new SHD Pre-Application process requires a number of key steps to be completed which are:

- **Request for a Pre-Application Consultation** meeting by the prospective applicant to An Bord Pleanála.
- **Planning Authority submits their opinion and Section 247 records** to An Bord Pleanála, following request for a Pre-Application Consultation.
- **Pre-Application Consultation Meeting** will be held with An Bord Pleanála, the Planning Authority and the prospective applicant.
- **Record** of the Pre-Application Consultation.
- **Forming and Issuing of Opinion** by An Bord Pleanála.

A tri-partite meeting took place with An Bord Pleanála and DCC on the 18th of January 2021. Following pre-application consultations, an Opinion was received from An Bord Pleanála on the 3rd of February 2021. This provided details of the Prescribed Bodies to be notified in the SHD planning application, which are as follows:

- The Department of Housing, Local Government and Heritage (Built Heritage and Nature Conservation);
- The Heritage Council;
- An Taisce – the National Trust for Ireland
- An Comhairle Ealaíon;
- Fáilte Ireland;
- Transport Infrastructure Ireland;
- Irish Water;
- Dublin County Childcare Committee; and
- Inland Fisheries Ireland.

6.4 Stage 3 – Planning Application

The planning application is submitted directly to An Bord Pleanála, and this stage allows for further consultation. The application and all accompanying documents will be available on public display for review by the public and interested parties. Submissions on any aspect of the proposed Project may be made to An Bord Pleanála and such submissions will be taken into account in the determination of the application by the Board.

7 Population & Human Health

7.1 Introduction

This Chapter of the EIAR was prepared by Brady Shipman Martin and provides a description of the local population / community in the vicinity of the proposed Holy Cross College Strategic Housing Development (SHD) ('the proposed Project' hereafter), located at Holy Cross College, Clonliffe Road, Dublin 3 and Drumcondra Road Lower, Drumcondra, Dublin 9.

This Chapter considers and assesses the potential effects of the proposed Project on the people and businesses in the surrounding community, during the construction and operational Phases. There is significant potential for interactions between population and human health and other environmental topics addressed in the EIAR, since socioeconomic and human health impacts can arise due to effects of a proposed Project on traffic and transportation, air quality and climate, noise and vibration, landscape and visual amenity, material assets and flood risk, among others. These interactions are addressed in this Chapter and in the relevant specialist chapters of this EIAR.

The proposed Project is described in Chapter 5 (Description of the Proposed Project), and is only described herein insofar as is relevant to the assessment of impacts on population and human health.

The 2014 EIA Directive updated the list of topics to be addressed in an EIAR and has replaced '*Human Beings*' with '*Population and Human Health*'. The term '*human health'* is not defined in the 2014 EIA Directive; however, the European Commission (EC) *Guidance on the Preparation of the Environmental Impact Assessment Report (Directive 2011/92/EU as amended by 2014/52/EU)* (2017) states that:

> *"Human health is a very broad factor that would be highly Project dependent. The notion of human health should be considered in the context of other factors in Article 3(1) of the EIA Directive and thus environmentally related health issues (such as health effects caused by the release of toxic substances to the environment, health risks arising from major hazards associated with the Project, effects caused by changes in disease vectors caused by the Project, changes in living conditions, effects on vulnerable groups, exposure to traffic noise or air pollutants) are obvious aspects to study. In addition, these would concern the commissioning, operation, and decommissioning of a Project in relation to workers on the Project and surrounding population"* (p. 37).

The EPA *Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports* (2017) state that:

> *"In an EIAR, the assessment of impacts on population and human health should refer to the assessments of those factors under which human health effects might occur, as addressed elsewhere in this EIAR e.g. under the environmental factors of air, water, soil etc."* (p. 29)

This Chapter also meets the requirement for assessment of '*Human Beings'* as per Schedule 6 of the PDR 2001.

7.2 Methodology

The assessment considers attributes and characteristics associated with population, community and residential settlement, economic activities and employment, community infrastructure and tourism and recreation. It has been carried out in accordance with the following guidance, and tailored accordingly based on professional judgement:

- EPA (2017). *Guidelines on the Information to be Contained in Environmental Impact Statements*;

- EPA (2015). *Advice Notes on Current Practice in the Preparation of Environmental Impact Statements*;
- IEMA (2017). *Health in Environmental Impact Assessment: A Primer for a Proportionate Approach*.

A desktop study was carried out to characterise the environment in relation to human beings including the receiving population, to identify neighbouring industry and dwellings and to assist in the characterisation of land use. The following sources were referred to:

- Central Statistics Office (CSO). Census data from 2011 and 2016;
- CSO (2020). *Quarterly Labour Force Survey Q4 2020;*
- CSO Small Area Population (SAP) Statistics;
- Dublin City Council. *Dublin City Development Plan 2016-2022;*
- Department of Housing, Planning & Local Government (DHPLG) (2020). My Plan map-viewer;
- Eastern & Midlands Regional Assembly (2019). *Regional Spatial and Economic Strategy 2019-2031*; and
- The World Health Organisation (WHO) (2020).

This assessment has also considered the potential indirect and direct socio-economic impacts of the construction and operation of the proposed Project.

Receptors were identified and assessed for sensitivity, magnitude and significance to provide an appropriate and adequate assessment of how they could be impacted by the construction and operational Phases of the proposed Project. Impacts have been characterised in terms of quality, significance and duration, in accordance with the definitions set out in Section 1.6 in Chapter 1, as per the EPA 2017 EIAR guidelines.

7.3 Baseline Environment

This Section provides a description of the relevant aspects of the baseline environment in relation to population and human health. The baseline environment is considered in this Section under the following headings:

- Social patterns (population);
- Land use and settlement patterns;
- Economic and employment activity;
- Tourism and amenity; and
- Human health.

7.3.1 Social Patterns (Population)

The CSO provides data on population and socio-economic aspects of the population at different levels from the State, county level, Local Electoral Area (LEA), individual Electoral Districts (ED) to Small Areas (SA) within each County. The most recent census by the CSO was undertaken in 2016.

The CSO data illustrates that the population of the Irish State increased between 2011 and 2016 by 3.7%, bringing the total population of the Irish State to 4,761,865 (see Table 7.4, below). The rate of growth slowed from 8.1% in the previous census, attributable to the slower economic activity in the early part of the census period resulting in a reduced level of immigration, albeit offset to a degree by strong natural increase. The economy has recovered in recent years with consequent population growth predominantly attributed to natural increase, greater economic activity, increased job opportunities and continued immigration.

In the same period, the population in the administrative area of Dublin City Council (DCC) increased by +4.8%.

The Site (as defined hereafter) is located in the LEA of North Inner City and the ED of Drumcondra South B. The Drumcondra South B ED takes in the entire Holy Cross College Masterplan site (which dominates the ED area), plus the adjacent housing at Cian Park (to the north-west), along the north side of Clonliffe Road (to the south) and at Susanville Road, Distillery Road, Clonliffe Gardens, Tolka Road and Orchard Road (to the south-east). The immediately adjacent EDs are Ballybough B, Botanic C, Botanic B, Drumcondra South A, and Ballybough A. The population statistics for these areas in 2011 and 2016, as well as the percentage change in population over the intervening years, are presented in Table 7.1, below.

The data show that the average population change in the local area[10] during the period 2011 – 2016 was +9.8%, which is consistent with the wider North Inner City LEA (at +8.4%) and over double that of the DCC administrative area (at +4.8%).

Table 7.1: Population Change in the State, LEA and ED Level 2011 – 2016 (CSO 2011 and 2016 Census Data)

Area	Number of Persons		
	2011	2016	Change
Ireland – State	4,588,252	4,757,976	**+3.7%**
North Inner City (LEA)	67,309	72,982	**+8.4%**
Drumcondra South B (ED)	1,526	1,697	**+11.2%**
Ballybough B (ED)	3,349	3,698	**+10.4%**
Botanic C (ED)	1,967	2,222	**+13.0%**
Botanic B (ED)	3,264	3,481	**+6.6%**
Drumcondra South A (ED)	4,571	5,064	**+10.8%**
Ballybough A (ED)	3,482	3,718	**+6.8%**
ED Average[10]	-	-	**+9.8%**

7.3.2 Land Use and Settlement Patterns

The Site of the proposed Project is located at Holy Cross College, Clonliffe Road, Dublin 3 and Drumcondra Road Lower, Drumcondra, Dublin 9. It is a Site of approx. 8.9 ha, which features extensive undeveloped, open, greenfield areas and trees, and a number of buildings (including Protected Structures[11]) associated with the Roman Catholic Archdiocese of Dublin. Chapter 14 of this EIAR (Cultural Heritage – Architectural Heritage) includes detailed accounts of the historic development of the site as a Roman Catholic Seminary and administrative centre of the Archdiocese.

The Site is located on the north side of Dublin City, c. 1.7 km north of the City Centre, in the mature inner suburb of Drumcondra, which has a well-established residential community and supporting services. Also in close proximity is the residential and commercial hub of Phibsborough (c 1 km south-west). The Site is bound

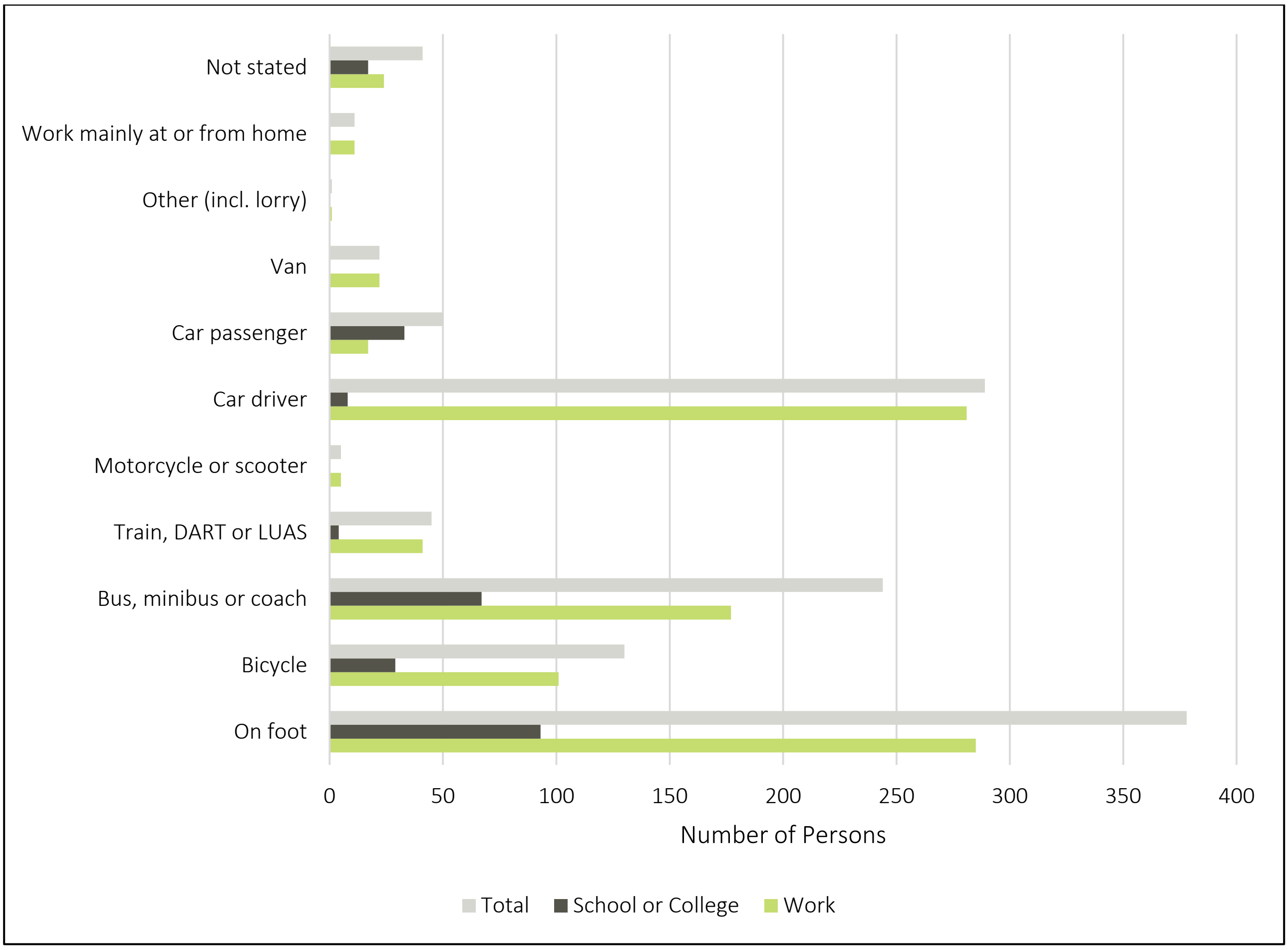
[10] Drumcondra South B, Ballybough B, Botanic C, Botanic B, Drumcondra South A and Ballybough A.
[11] Structures listed on the DCC Record of Protected Structures in the Dublin City Development Plan (2016 – 2022)

by Drumcondra Road Lower, Mater Dei College and the Archbishop's House (a Protected Structure) to the west; Clonliffe Road to the south; Cornmill Apartments and Belvedere College Rugby Grounds to the east; and the River Tolka to the north.

At present, the Holy Cross College lands and buildings are predominantly used for offices and activities of the Roman Catholic Archdiocese and charitable organisations, which occupy relatively little space in the large Site, and will be vacating in the future. The land and buildings on the Site are significantly underutilised at present.

The surrounding area features a mix of uses, predominantly residential (in all directions), but also including scattered commercial / retail enterprise, light industrial and warehousing to the north, and sports facilities to the south-east (Croke Park), north-east (Belvedere Rugby ground, Dublin Port Stadium Stella Maris Football Club) and north (Shelbourne Football Club). The dominant settlement pattern in the surrounding area is of low-rise (two-storey) and relatively low density housing estates / rows, with predominantly terraced and semi-detached houses with private gardens, of mixed age and tenure.

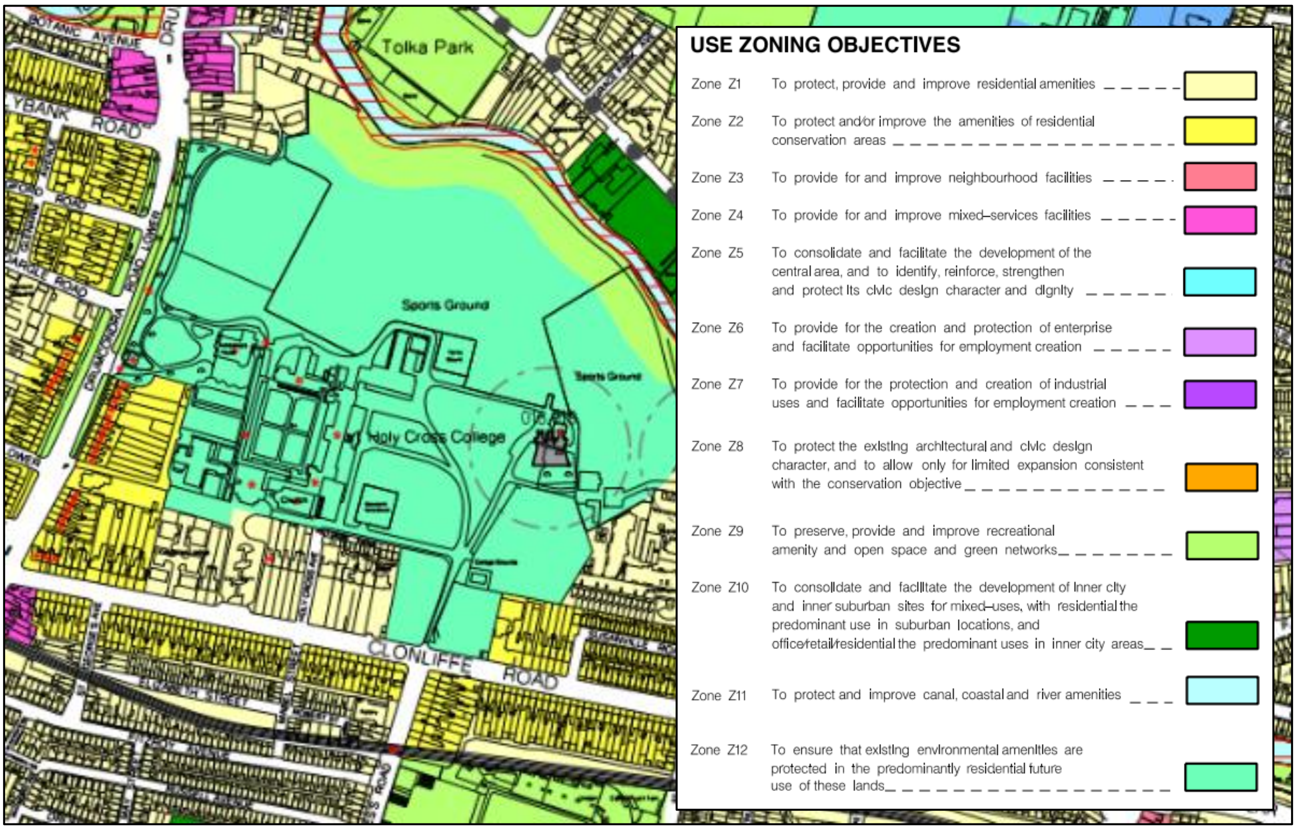
Figure 7.1: Means of Travel to Work, School or College – Drumcondra South B ED (2016 Census)



As detailed in Chapter 18 of this EIAR (Traffic & Transportation), the area is well served by transport infrastructure and public transport services. Drumcondra Road is a Quality Bus Corridor, with a number of regular public bus services providing access to destinations across the City and suburbs. Drumcondra Rail Station is a c. 5 minute walk from the Site and provides for services running between the City Centre and Maynooth, Celbridge, Longford, and Sligo. At peak times, there is typically no more than a 10 minute wait for a train to the City Centre. The Luas light rail Phibsborough stop is a c. 30 minute walk (or 10 minutes cycle) and operates between Broombridge and Bride's Glen, stopping in the City Centre and at Ranelagh, Dundrum and Sandyford, among others. Future planned / proposed public transport projects, including Metrolink and BusConnects, are expected to improve public transport service provision further in the area.

Figure 7.1, above, presents the principal means of travel to work, school or college among residents of the Drumcondra South B ED at the time of the 2016 Census. It indicates that residents in the immediate vicinity predominantly use a mix of walking, driving, bus and cycling for personal mobility. Walking is the most popular option, reflecting the close proximity of the neighbourhood to hubs of employment and educational facilities.

Figure 7.2: Land Use Zoning in the Vicinity of the Proposed Project (Dublin City Development Plan 2016 – 2022)



The Site is located within the administrative area of DCC and is therefore subject to the objectives and policies contained within the Dublin City Development Plan (2016 – 2022). Under the Development Plan, the Site is zoned as Z12, 'Institutional Land (Future Development Potential)', for which a *"predominantly residential future"* will be *"actively encouraged"* by the Council. The zoning in the immediate vicinity is a mixture of the following:

- Z1: To protect, provide and improve residential amenities;
- Z2: To protect and / or improve the amenities of residential conservation areas;
- Z4: To provide for and improve mixed-services facilities;
- Z9: To preserve, provide and improve recreational amenity and open space and green networks; and
- Z10: To consolidate and facilitate the development of inner city and inner suburban sites for mixed-uses, with residential the predominant use in suburban locations, and office / retail / residential the predominant uses in inner city areas.

7.3.3 Economic and Employment Activity

The CSO's Labour Force Survey (LFS) is the official source of labour market statistics for Ireland, including the official rates of employment and unemployment. The LFS data are based on the International Labour Organisation (ILO) concepts and definitions. Because the ILO approach does not fully capture the impact of the ongoing Covid-19 pandemic on the labour market, the most recent LFS data (for Q4 of 2020) provide Covid-19 adjusted estimates, which have accounted for the number of persons in receipt of the state Pandemic Unemployment Payment (PUP). The Covid-19 adjusted LFS data for Q4 of 2020 are presented in Table 7.2 below. Note that these are representative of the baseline scenario in Ireland plus the significant economic impacts of the ongoing Covid-19 pandemic and associated public health restrictions.

Table 7.2: Labour Force Survey Data for Ireland

Indicator	Status	
	Q4 2020 (Covid-19-adjusted)	Q4 2019
Employment rate among 15 – 64 year olds	57.5%	69.6%
Unemployment rate among 15 – 74 year olds	19.4%	4.7%

It is estimated that employment fell by 2.3% over 2020. This compares with an annual increase of 3.5% in 2019, reflecting the unprecedented impact of the pandemic on economy and employment in Ireland in spite of positive economic performance in the preceding months and years. Up until and including Q4 2019, unemployment rates had decreased for 30 successive quarters. Loss of employment as a result of the pandemic has not been spread evenly across all sectors: employment decreased in 7 of the 14 sectors assessed, with the 'Administrative and support service activities sector' worst affected; while employment increased in the remaining 7, with the 'Information and communication sector' seeing the greatest gains. Note that the Covid-19 adjusted LFS unemployment figures do not account for persons availing of the pandemic wage subsidy schemes.

As the rollout of the Covid-19 vaccine ensues and public health restrictions are eased, positive trends in economic activity and employment are forecast for the second half of 2021 (Ibec, 2021) (Table 7.3). The Economic & Social Research Institute (ESRI)'s Quarterly Economic Commentary for Spring 2021 forecasts that, assuming another Level 5 lockdown is not on the horizon, Irish GDP is expected to increase by 4.4% in 2021, with unemployment expected to peak at 25% in Q1 2021 before falling to just over 10% by the end of the year (McQuinn *et al*., 2021).

Table 7.3: Ibec Quarterly Economic Outlook – Q1 2021

Indicator	2020	2021 (Forecast)	2022 (Forecast)
Consumer spending	-9.0%	+9.0%	+5.5%
Annual Average Unemployment	16.7%	15.6%	9.3%

Figure 7.3, below, provides an indication of the employment status of the population in the local area, presenting the principal economic status of residents of the Drumcondra South B ED (i.e. in the immediate vicinity of the proposed Project Site). Note that these data are from the 2016 Census and, as such, are somewhat out of date and do not reflect the economic impacts of the ongoing Covid-19 pandemic. Figure 7.4, below, presents the occupational classes of residents in the ED at the time of the 2016 Census.

Figure 7.3: Principal Economic Status – Drumcondra South B (2016 Census)

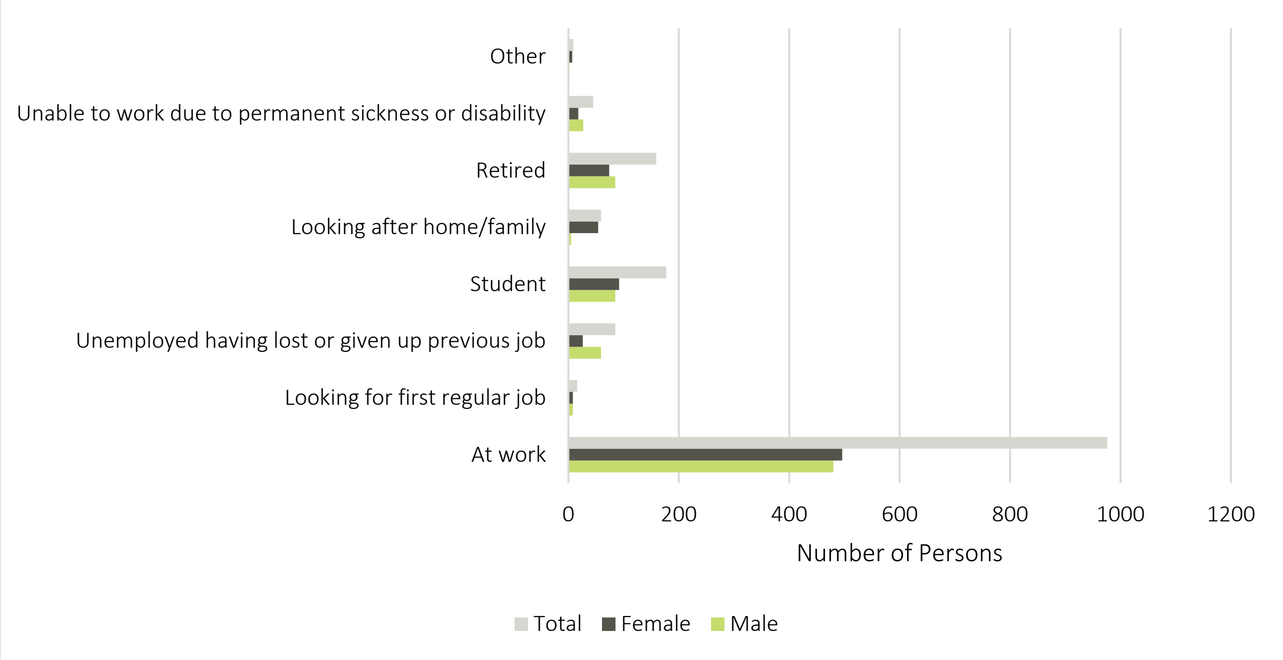
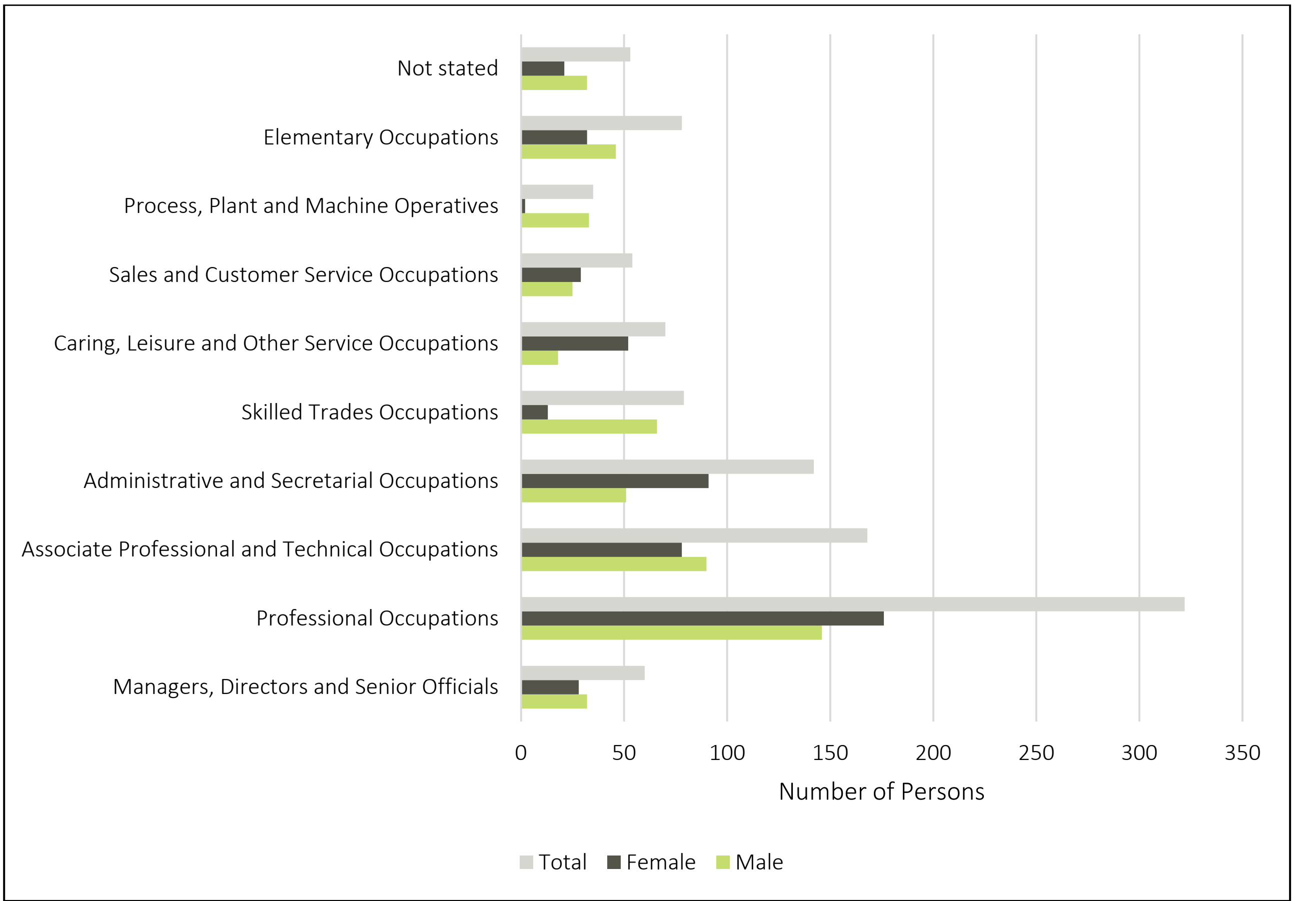


Figure 7.4: Occupation – Drumcondra South B (2016 Census)



7.3.4 Tourism and Amenity

Dublin's tourism industry relies largely on the City's built heritage, with its unique character and identity as a City of neighbouring but distinct quarters. Tourism, including business tourism and the attraction of international conferences and events, is one of the key economic pillars for the City.

Relative to other parts of the City, the Drumcondra area is not a major tourism destination. However, there are a number of attractions in the immediate environs of the Site; including Croke Park (c. 500 m south-east), which contains a conference centre, and Tolka Park / Shelbourne Football Club (c. 500 m north). In terms of tourism, the immediate vicinity of the Site is equally if not more likely to be used for accommodation and dining than as an attraction / destination in and of itself, and there are a number of hotel, B&B and self-catering options available in the area. As part of the Masterplan for the wider Holy Cross College lands, a hotel development off Clonliffe Road was granted planning permission on the 8th of March 2021 (ABP case reference PL29N.308193), and will no doubt attract additional tourists into the area.

Leisure and amenity resources / facilities in the immediate area include scattered restaurants, bars and cafés; grocery shops; sports facilities (including various gyms, Croke Park, Tolka Park / Shelbourne Football Club, the National Handball Centre, and Dublin Port Stadium / Stella Maris Football Club), Our Lady's Park, Griffith Park, the River Tolka and the Royal Canal. There are also a number of cultural and arts facilities within a 1.5 km radius of the proposed Project Site, including theatres, artists' studios, galleries and exhibition spaces.

Drumcondra has a strong network of community groups and clubs, many of which are voluntary groups. Those within 1.5 km of the proposed Project Site are listed in Table 7.4, below. Other facilities and services of benefit to the local community within a 1.5 km radius include several post offices (including an An Post delivery office), credit unions, a recycling facility, numerous retail / commercial facilities and hubs, Credit Unions, a fire station and two Garda stations. Healthcare facilities are discussed in the following section.

Table 7.4: Social and Community Amenities / Facilities in the Surrounding Area – 1.5 km Radius

Name	Address	Type
Ballybough Community Centre	49 Ballybough Rd, Ballybough, Dublin 3	Community Centre
Carleton Hall (Marino Community Centre)	Shelmartin Ave, Clontarf, Dublin D3	Community Centre
Clonliffe & Croke Park Community Hall	9A Richmond Industrial Estate, Distillery Road, Dublin 3	Community Centre
Hardwicke Street Community Centre	Nerney's Ct, Dublin 1	Community Centre
Pavee Point Travellers Centre	46 Charles Street Great, Dublin 1	Community Centre
St Francis Xavier Community Hall	Dorset Street Lower, Dublin 1	Community Centre
Charleville Mall Library	N Strand Rd, Dublin 1	Library
Phibsboro Library	Blacquiere Bridge, North Circular Road, Phibsboro, Dublin 7	Library
Marino Library	Marino Mart, Ballybough, Dublin 3	Library
Drumcondra Library	9 Millmount Ave, Drumcondra, Dublin 9	Library
CASPr - Community After School Programme	1, Portland Square, Campbells Row, D1	Community Resource
Inner City Organisations Network	22 Buckingham Street Lower, Dublin 1,	Community Resource
Ozanam House	53 Mountjoy Square W, Dublin 1	Community Resource
ChildVision – Education Centre for Blind Children	Gracepark Road, Drumcondra, Dublin 9.	Community Resource
HOPE	Unit 5, Killarney Court, Buckingham Street Upper, Dublin 1	Drug Rehabilitation

Name	Address	Type
HAY Centre	1 Baileys Court, Summerhill, Dublin 1, Co. Dublin, D01 FY50	Youth Diversion Project

7.3.5 Human Health

Health, as defined by the World Health Organization (WHO), is *"a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity"*. The Healthy Ireland Framework 2013 – 2025 defines health as *"everyone achieving his or her potential to enjoy complete physical, mental and social wellbeing"*.

The Department of Health's 2019 report, *Health in Ireland – Key Trends 2019*, provides summary statistics on health and health care in Ireland over the past ten years. The report highlights the following key trends:

- The numbers and proportion of the population in the older **age groups** continues to grow, with the number of people over the age of 65 continuing to increase by over 20,000 a year.
- **Life expectancy** continues to improve in Ireland, while the gap between the life expectancy of men and women also continues to narrow.
- **Mortality rates** have declined 10.5% since 2009. Age-standardised death rates for major causes of death such as cancers and circulatory system diseases have declined by 10% and 25%, respectively, over the past ten years.
- **Lifestyle factors** such as smoking, drinking, levels of physical activity and obesity continue to be issues which have the potential to jeopardise many of the health gains achieved in recent years.

At the national level, population health presents a picture of decreasing mortality rates and high self-perceived health over the past ten years. Ireland has the highest self-perceived health status in the EU, with 82.9% of people rating their health as either 'good' or 'very good'. The number of people reporting a chronic illness or health problem is also better than the EU average, at around 27.7% of the population. However, health status reflects income inequality, with fewer low income earners reporting good health both in Ireland and across the EU. Infant mortality, measured as deaths per 1,000 live births, has also decreased by 5.2% since 2009 and remains below the EU average.

Ireland is currently below the EU average for suicide rates for both men and women. After a rise in the male suicide rate from 2008 to 2012, the three-year moving average has decreased, and in 2015 the rate fell below the EU average for the first time since 2010. However, it should be noted that improvements in mortality rates and high levels of self-rated health can mask variations between regions, age groups and other population subgroups.

Rates of cigarette smoking have decreased since 2000, and alcohol consumption has also decreased over the same period, although not as dramatically.

Human health has the potential to be affected by exposure to toxic substances or pathogens in environmental media, such as air, water and soil. Human health impacts can also arise due to anthropogenic or naturally occurring accidents or disasters; such as landslides, flooding or structural failures. Nuisance and negative psychosocial impacts can also arise as a direct result of environmental factors; e.g. as a result of noise, dust, unsafe environments and / or crime; or indirectly, e.g. as a result of economic hardship. Occupational health and safety risks to construction site personnel are also inherent where demolition and construction works are proposed.

The baseline environments in terms of air, surface water and groundwater / soil are detailed in Chapter 11 (Air Quality & Climate), Chapter 10 (Hydrology) and Chapter 9 (Land, Soils, Geology & Hydrogeology), respectively.

The risks of accidents and disasters are addressed, where relevant, in the various specialist chapters herein. Flood risk, for instance, is addressed in Chapter 10 (Hydrology); while geohazards are addressed in Chapter 9 (Land, Soils, Geology & Hydrogeology). As discussed in Chapter 2, 'Major Accidents & Disasters' has been scoped out of this EIAR.

In relation to the potential human health risks associated with the proposed works, a Construction Management Plan (CMP) has been prepared by DCON Safety Consultants and submitted under separate cover as part of this application. It outlines how the proposed works will be delivered safely and in a manner which minimises risk to human health, including that of Site personnel.

Healthcare within the study area is provided by a range of different organisations including public, voluntary and private agencies. The Health Services Executive is the primary agency responsible for delivering health and personal social services in Ireland. In recent years, primary care has been identified as the most effective and cost-efficient way to treat patients. This offsets dependence on the hospital system allowing most patient care to take place at local, community locations which feature multi-disciplinary teams of healthcare professionals working together.

The proposed Project is located within the DCC administrative area which has access to national public hospitals, private hospitals, high-tech hospitals, accident and emergency services, psychiatric hospitals, rehabilitation centres, orthopaedic hospital and hospices.

There are a range of healthcare facilities in the study area within a 1.5 km distance of the proposed Project Site, as listed in Table 7.5, below.

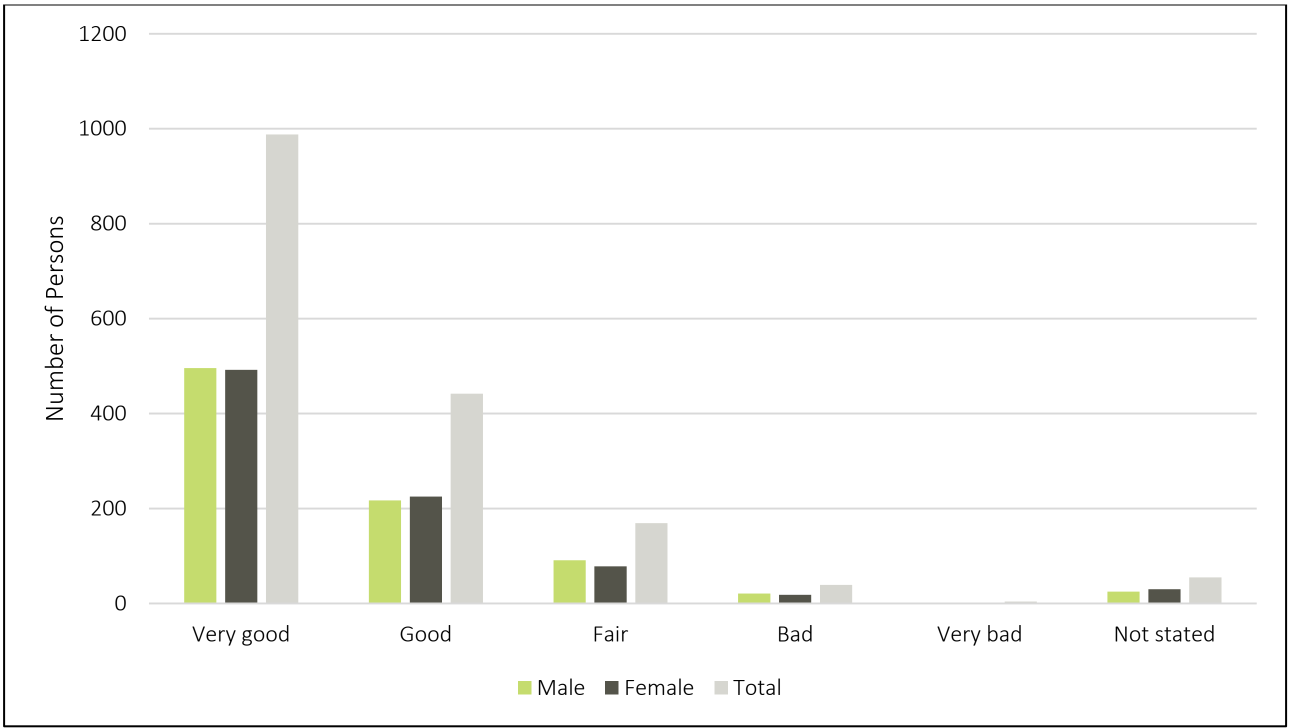
Table 7.5: Healthcare Facilities in the Surrounding Area – 1.5 km Radius

Type / Name	Address
Dentist	43-44 Dorset Street Lower, Street, Dublin 1
Dentist	7A Saint Peter's Square, Phibsborough road, Dublin 7
Dentist	14 Upper Drumcondra Rd Upper, Drumcondra Road, Drumcondra D9
Dentist	64 Drumcondra Rd Upper, Drumcondra, Dublin 9
Dentist	203 Philipsburgh Ave, Drumcondra, Dublin 3
Dentist	21 Fairview, Dublin 3
Dentist	18 Annesley Bridge Rd, Dublin 3
Dentist	116 Phibsborough Road, Cross Guns Bridge, Drumcondra 7
Dentist	St Mobhi Road, Glasnevin, Dublin 9
GP	40 Drumcondra Rd Upper, Dublin 9
GP	St Brigid's Rd Lower, Drumcondra, Dublin 9
GP	Harts Corner, 11 Finglas Rd, Glasnevin, Dublin 11
GP	109 Dorset Street Lower, Dublin 1
GP	2-3, Baker's Yard, Portland St N, Dublin 1
GP	4 Berkeley St, Dublin 7
GP	Summerhill, Dublin 1
GP	130 N Strand Rd Dublin 3
GP	110 N Strand Rd, North Strand, Dublin 3
Mater Private	Eccles St, Dublin 7

Type / Name	Address
Medical Centre	37 - 39 Fairview Strand, Dublin 3
Medical Centre	144 Philipsburgh Ave, Dublin 3
Medical Centre	10 Drumcondra Rd Upper, Dublin 9
Medical Centre	14 Drumcondra Rd Lower, Drumcondra, Dublin 9
Medical Centre	Health Centre, 16 N Strand Rd, North Strand, Dublin 1
Medical Centre	145 Church Rd, East Wall, Dublin 3
Medical Centre	9 Prospect Rd, Phibsborough, Drumcondra, Dublin 9
Medical Centre	44 N Great George's St, Dublin 1
Medical Centre	The Avenue Family Practice - Medical Centre
Pharmacy	149 N Strand Rd, Dublin
Pharmacy	350 N Circular Rd Phibsborough Dublin 7
Pharmacy	150 Church Rd, East Wall, Dublin 3
Pharmacy	10 Drumcondra Rd Upper, Drumcondra, Dublin 9
Pharmacy	Lower Drumcondra Road, Drumcondra Rd Lower, Dublin 9
Pharmacy	50 Dorset Street Lower, Dublin 1
Pharmacy	Portland St N, Dublin
Pharmacy	136 Parnell St, Dublin 1
Pharmacy	25 Marino Mart Dublin 3
Pharmacy	2-4 Fairview Strand, Dublin 3
Pharmacy	34 Fairview Strand, Dublin 3
Pharmacy	45A Home Farm Rd, Drumcondra, Dublin 9
Pharmacy	195 Philipsburgh Ave, Dublin 3
Pharmacy	40a Calderwood Rd, Drumcondra, Dublin 9
Primary Care Centre	Summerhill Street, Dublin 1
Primary Care Centre	51-53 Church Rd, East Wall, Dublin 3
St Vincent's Hospital St Joseph's Unit	Convent Ave, Fairview, Drumcondra, Dublin 3
Temple Street Children's Hospital	Temple St, Rotunda, Dublin
The Mater Misericordiae University Hospital	Eccles St, Northside, Dublin 7
The Rotunda	Parnell Square E Dublin 1

Figure 7.5, below, presents the self-reported health status of the population in the Drumcondra South B ED, as reported in the 2016 Census. While the data are self-reported and, therefore, do not provide an entirely accurate picture of the health profile of the area, they do indicate a relatively high level of individual wellbeing in the area. Furthermore, the high levels of walking as a principal means of personal mobility in the area (Figure 7.1, above) would indicate a relatively active lifestyle among a large proportion of residents.

Figure 7.5: Self-reported Health Status – Drumcondra South B (2016 Census)



7.4 Predicted Impacts of the Proposed Project

7.4.1 Do-Nothing Impact

As discussed in Chapter 4 (Consideration of Alternatives), the Do-Nothing scenario is most likely to entail:

a) A continuation of the existing status and use of the lands and buildings (i.e. very limited use by the Catholic Archdiocese and charitable organisations); or

b) Development (likely residential) under the scope of a separate application / proposal, at some point in the future.

In the context of the ongoing housing crisis in Dublin City, the former scenario (a) is considered to represent an inefficient, uneconomical and socially suboptimal use of the Holy Cross College lands. The opportunity cost, in this scenario, would include the 1,614 proposed residential units, which would otherwise provide rented accommodation for over 3,000 persons[12]. In this scenario, the long-term impacts associated with the operation of the proposed Project on population and human health (as assessed below) would not arise. The short-term construction phase impacts (as assessed below) would also be avoided.

The latter scenario (b) is considered somewhat more likely, considering the nature of the lands, their zoning status, and the ongoing trends and policies in relation to housing and residential development at the national and regional levels. It is not possible to assess the likely impacts of scenario (b), as the nature and scale of any potential future proposals for the Site (in the absence of the proposed Project) are not known.

[12] Based upon an average household occupancy of 1.9 for new development areas in Drumcondra.

7.4.2 Construction Phase

The duration of the construction phase is anticipated to be somewhere in the region of 36 months (or three years). As such, associated impacts are expected to be short-term in duration. During this time, there will be no severance of land, loss of rights of way or amenities as a result of the proposed Project.

In the absence of mitigation, potential impacts on population and human health as a result of the construction phase of the proposed Project may be summarised as follows:

- Nuisance due to dust generating activities;
- Nuisance and disturbance due to noisy activities and vibration;
- Negative impacts on journey characteristics, parking availability and noise due to construction traffic;
- Negative visual impacts due to presence of construction site;
- Positive direct and indirect economic impacts due to construction employment and increased demand for local businesses, suppliers and other supporting services; and
- Negative impacts on Site personnel and local community due to improper construction site waste management.

These are discussed and characterised, where relevant, in the following sections.

7.4.2.1 Dust

Dust-generating activities during the proposed works may create nuisance and human health impacts for local residents, workers and passers-by in the immediate vicinity of the proposed Project Site.

As stated in Chapter 11 (Air Quality & Climate), construction dust may be deposited within 350 m of a site, but the majority of deposition tends to occur within a 50 m radius. The extent of dust generation is dependent on the type of dust; the nature of construction activities; and meteorological factors, such as rainfall, wind speed and wind direction. As such, the degree and severity of dust generation is expected to fluctuate across the duration of the proposed works. However, dust generation of some degree may be anticipated throughout.

Chapter 11 has rated the overall sensitivity of the area to human health impacts due to dust as being ‘low’, since exposure in the area is expected to be transient, i.e. passing exposure on footpaths / roads. Major dust-generating activities have been classified as (i) demolition, (ii) earthworks, (iii) construction, and (iv) trackout (i.e. movement of heavy construction traffic). The risk of human health impacts associated with each of these classes of activities (in terms of dust) has been assessed as being ‘low’ in all cases.

Thus, the impact of construction phase dust-generation on population and human health is expected to be limited to minor nuisance, at worst. Significant health impacts are not likely to occur as a result of dust or any other emissions to air as a result of the proposed works. The impact of dust-generating works is expected to be ***negative, localised (within 50 m of Site), slight, short-term and reversible***.

7.4.2.2 Noise & Vibration

Noisy aspects of the proposed works have the potential to create nuisance and disturbance for local residents and workers in the vicinity of the proposed Project Site.

Chapter 12 (Noise & Vibration) has prepared indicative noise prediction calculations in relation to anticipated construction activities. Noisy activities will include demolition, site clearance, excavations / groundworks and construction works. There will be vehicular movements to and from the Site throughout and, at times, noisy plant and equipment in operation. As such, there is the potential for generation of high levels of noise during the proposed works.

Chapter 12 has identified the nearest noise sensitive receptors as residential buildings (houses) on Clonliffe Road, Distillery Road, Holycross Avenue and Cian Park. It has been determined that construction activities have the potential to exceed the recommended noise criterion of 65 dB L_{Aeq} when construction activity is 40 m or less from the noise-sensitive location. At a distance of 40 m or greater, the noise levels are within the adopted criterion of 65 dB L_{Aeq}. Refer to Table 12.11 in Chapter 12 for typical predicted noise levels associated with construction activities at 10 m and 40 m distances from the proposed Project Site.

Thus, in the absence of mitigation, the impact of construction phase noise on population and human health is expected to be ***negative, significant, short-term and reversible within 40 m of the proposed Project Site***; and ***negative, moderate, short-term and reversible at distances of greater than 40 m***. Note that predicted noise levels are typical of developments of this scale and will be limited to Site working hours (i.e. the day-time). The impacts will be limited to nuisance, irritation, minor disturbance while working, etc., and are highly subjective – lasting health impacts (e.g. hearing damage) are not expected to occur as a result of the proposed works.

The impact of construction traffic on the noise environment is discussed in the following section.

As stated in Chapter 12, the range of vibration levels predicted as a result of the proposed works are generally below a level which would result in disturbance at nearby sensitive receptors. If rock-breaking is required, there is the possibility of short periods of perceptible vibration within adjacent buildings, depending on the nature and scale of rock-breaking, if any. No structural damage to nearby buildings is anticipated as a result of vibration emanating from the proposed Project Site. Thus, at worst, the impact of construction phase vibration on population and human health is expected to be ***neutral to negative, localised, imperceptible to slight, short-term and reversible***.

7.4.2.3 Traffic

Additional traffic on the road network as a result of the proposed works has the potential to cause or exacerbate congestion, resulting in impacts on journey characteristics (i.e. amenity, duration and / or length) for local residents, workers and road users.

Chapter 18 (Traffic & Transportation) has estimated that the proposed works will require an average of 116 daily two-way trips over the entire phase, of which 66 will be heavy goods vehicles (HGVs) and 50 will be miscellaneous cars / vans. The peak construction traffic will occur during the excavation / earthworks and construction of podium structures, with maximum daily trips occurring on concrete pour days.

Chapter 18 has estimated that, on average, the absolute number of HGVs on Drumcondra Road will increase by 16%, although the percentage of HGVs as a proportion of total vehicles on the route will increase by less than 0.81%. The increase in overall traffic as a result of the additional construction HGVs will be less than 1%. Accordingly, the worst-case impacts of construction phase traffic on road users (in terms of journey characteristics) is expected to be ***negative, localised to haulage routes in the city, slight, short-term and reversible***.

The need for construction Site personnel to travel to and potentially park in the vicinity of the proposed Project Site could also result in negative impacts on the local community in terms of parking availability, in the absence of appropriate mitigation. The predicted impact on the local community is ***negative, localised, slight, short-term and reversible***.

Construction phase traffic also has the potential to increased background noise levels in the receiving environment, with the potential for associated negative impacts on population and human health. Chapter 12 has determined, based on the annual average daily trips figures for peak construction traffic, that the highest expected increases in traffic noise levels are of the order of +1.3 dB. Accordingly, the worst case impact of noise as a result of construction traffic is expected to be ***negative, localised to haulage routes in the city, slight, short-term and reversible***.

7.4.2.4 Landscape and Visual Amenity

The transformation of the existing Site into a substantial construction Site for the duration of the proposed works will result in ***negative, moderate to significant, short-term impacts*** in terms of townscape and visual amenity, which will be felt wherever the proposed works (including cranes) are visible, but worst on the Site and in the immediate vicinity. Site hoarding, machinery and plant (including cranes) and buildings at various stages of completion (i.e. standard features of urban construction Sites) will be visible in the vicinity of the Site.

7.4.2.5 Economic Impacts

The proposed works have the potential to affect local businesses and employment both positively and negatively.

It is estimated that a maximum of 650 – 800 will be employed on-Site during the proposed works. This job creation will result in a ***positive, local to regional, moderate, short-term*** socioeconomic impact.

The presence of these Site personnel in the area during the construction phase will create additional demand in the area for services, particularly for food from local shops, restaurants and cafés. There will also be economic benefits for providers of construction materials and other supporting services, e.g. quarries. This is predicted to result in a ***positive, local to regional, indirect, slight to significant, short-term*** socioeconomic impact.

Nuisance created by construction works (e.g. noise, dust, litter and other visual impacts) have the potential to negatively affect general amenity in an area, thereby diminishing the attractiveness of certain local businesses (hotels, cafés, restaurants, etc.), particularly where proper construction good practice and good housekeeping measures are not implemented. Access / egress issues associated with construction works can also negatively affect local businesses. In this case, however, significant negative impacts of this nature are not expected to arise, considering that:

- Access and egress will be maintained to all local businesses throughout the proposed works;
- Standard good construction practice and good housekeeping measures will be implemented throughout; and
- There are relatively few such businesses in the immediate vicinity of the Site which could be affected.

7.4.2.6 Waste

During the construction phase, improper storage and management of on-Site waste materials can result in negative impacts on Site personnel and neighbouring population, e.g. due to vermin, odour, litter and / or exposure to hazardous materials, such as asbestos. As stated in Chapter 18 (Material Assets – Waste), in the absence of appropriate mitigation and assuming a worst-case scenario, the predicted impact on population and human health is ***negative, localised, significant and short-term***.

7.4.2.7 Conclusion

In the absence of mitigation, predicted likely, significant, negative effects on population and human health as a result of the construction phase of the proposed Project are as follows:

- A ***negative, significant, short-term and reversible*** impact within 50 m of the Site due to noise-generating activities, affecting residential receptors within 40 m of the proposed Project Site. Note that predicted noise levels are typical of developments of this scale and will be limited to Site working hours (i.e. the day-time). The impacts will be limited to nuisance, irritation, minor disturbance while working, etc., and are highly subjective – lasting health impacts (e.g. hearing damage) are not expected to occur as a result of the proposed works.
- A ***negative, moderate to significant and short-term*** visual impact due to the presence of a substantial construction site.
- A ***negative, localised, significant, short-term impact*** due to the potential improper management of waste generated on the construction site.

7.4.3 Operational Phase

The duration of the operational phase of the proposed Project (as proposed) is assumed to be long-term in duration, as per the definitions in the EPA 2017 draft EIAR guidelines.

The proposed Project will comply with the statutory land use zoning policies and objectives of the Dublin City Development Plan (2016 – 2022) and the Government's National Planning Framework (NPF). Development of the Site will align with the NPF's high-level objective to achieve compact, sustainable growth and, in doing so, will realise the efficient use of currently underutilised former institutional lands with higher housing density. Refer to Chapter 3 (Planning & Development Context) for an in-depth discussion of the proposed Project's consistency with national and regional planning and development policy.

In the absence of mitigation, potential impacts on population and human health as a result of the operation of the proposed Project may be summarised as follows:

- Nuisance and disturbance of residents due to noisy building services plant and vehicular deliveries / collections within the Site;
- Negative impacts on journey characteristics due to additional operational phase traffic generated by the proposed Project;
- Positive impacts on pedestrians and cyclists due to enhanced permeability and provision of public realm which prioritises these users;
- Nuisance and disturbance due to increased traffic volumes arising from operation of proposed Project;
- Visual impacts due to completion of proposed Project, establishing significant new residential development;
- Direct and indirect positive socioeconomic impacts due to employment opportunities and increased demand for goods and services from local businesses;
- Positive impacts on existing and new residents due to provision of new community amenities and facilities;
- Positive socioeconomic impacts due to provision of significant additional housing; and
- Negative impacts on residents and local community due to improper waste management.

These are discussed and characterised, where relevant, in the following sections.

7.4.3.1 Noise

Noisy building services plant (e.g. heating and cooling plant, pumps and extraction units) and on-Site vehicular deliveries and collections have the potential to create nuisance and disturbance (potentially including sleep disturbance) among on-Site residents and neighbouring sensitive receptors during the operational phase. Considering the location, layout and nature of the Site, noise from the external environment / road network is not considered to be a potential source of significant negative noise impacts.

As stated in Chapter 12, the location / type of plant required has not yet been established; therefore, it is not possible to calculate noise levels in the surrounding environment. However, it is pointed out that plant items will be selected and located such that there are no significant negative impacts on on-Site or off-Site receptors. In order to ensure that this is the case, Chapter 12 states that building services plant will be designed or attenuated to meet the relevant BS 4142 noise criteria for day-time and night-time.

Principal noise sources during deliveries are expected to be the movement of vehicles, opening and closing of doors, and movement of goods on palettes / trolleys / in bins, etc. There are a number of areas designated for deliveries, as indicated in Chapter 12. According to Chapter 12, the day-time noise criterion of 50dB $L_{Aeq,1hr}$ will not be exceeded by delivery activities. In order to ensure that the night-time noise criterion of 45 dB $L_{Aeq,15mins}$ is not exceeded, deliveries will be limited to day-time periods only (i.e. 07:00 – 23:00 hrs).

Accordingly, the impact of operational phase noise on population and human health (due to building services plant and deliveries) is expected to be ***negative, localised, not significant and long-term***. Note that predicted noise is typical of residential developments of this nature. The impacts will be limited to nuisance, irritation, minor disturbance while working / sleeping, etc., and are highly subjective – lasting health impacts (e.g. hearing damage) are not expected to occur as a result of the proposed Project.

The impact of operational phase traffic on the noise environment is discussed in the following section.

7.4.3.2 Traffic

Additional traffic generated by a residential development has the potential to create or exacerbate congestion on the local road network, resulting in negative impacts on journey characteristics (i.e. amenity, duration and length) for other road users.

Chapter 18 has assessed the impact of the operational phase of the proposed Project on the local road network by modelling the projected traffic flows with and without the proposed Project in place in the envisaged opening year (2025) and in 2040, at peak traffic times. This modelling exercise has determined that the contribution of the proposed Project to overall traffic at peak times is low, with the highest contribution at 10.2% along Jones's Road, south of the proposed Project, in the evening peak. The contribution on most roads is less than 5% of total hourly traffic at peak times. Overall, the additional traffic volumes generated by the proposed Project during the operational phase are expected to have a ***negative, localised, not significant and long-term impact*** on road users (in terms of journey amenity, duration and length).

As detailed in Chapter 5 (Description of the Proposed Project), the proposal includes a network of internal roads and public realm areas that will promote and prioritise walking and cycling and will prohibit through-traffic for non-residents. This is expected to result in a ***positive, localised, slight, long-term impact*** on pedestrians and cyclists during the operational phase.

Increased volumes of traffic as a result of the operation of the proposed Project also have the potential to increase the background noise levels on the surrounding network, with the associated potential for negative impacts on population and human health. Chapter 12 has considered the potential for such impacts. It is pointed out that, in order to increase traffic noise levels by 1 dB, traffic volumes would need to increase by the order of approximately 25%. A review of the traffic flow data for the operational phase of the proposed Project indicated increases in the range of 1 – 6%. Chapter 12 has concluded, therefore, that the operational phase traffic will result in an increase in background noise levels of < 1 dB. The associated impact on population and human health is expected to be ***neutral, localised, imperceptible and long-term***.

7.4.3.3 Landscape and Visual Amenity

As stated in Chapter 13 (Landscape & Visual), the completed Project will give rise to impacts on townscape and visual amenity due to the establishment of a new residential development resulting in the following effects:

- Overall change in character from enclosed historic institutional parkland to a developed contemporary residential neighbourhood;
- Change in existing views from within Holy Cross lands and from surrounding areas – especially from the north, east and south of the Site – both during daytime and at night;
- Change in the setting of Red House and the Archbishop's House, being Protected Structures; and
- Change in character of the site as viewed from Clonliffe Road and from areas further south, east and north.

Considering the sensitive, high quality design of the proposed Project, which mitigates against the potential for negative visual impacts, the resultant impacts are assessed as follows:

- ***A moderate, neutral, long-term impact on townscape***; and
- ***An overall neutral to positive impacts on visual amenity in the long-term***.

Notwithstanding the fact that the overall, long-term operational phase visual impacts are predicted to be positive, it is stated in Chapter 13 that there may be *"an initial significant visual impact"* on viewpoints as a result of the dramatic change in the layout and presentation of the Holy Cross College lands, and before the landscaping and appearance of the overall Project become established in the wider surroundings. It is pointed out that the receiving environment can accommodate the proposed changes in appearance, because of the design of the proposed Project, the enclosed nature of the Site, and the context – in close proximity to the City Centre, at a point of transition between the inner-city and the northern suburbs.

7.4.3.4 Economic Impacts

While an estimate of on-Site staff numbers is not available at this early stage, there will be a number of workers employed on-Site (e.g. estate manager, residents manager, concierges, caretaker, crèche and retail premises employees), partly on-Site (e.g. contract cleaners, security and occasional maintenance staff), or as off-Site support staff (e.g. finance and administrative staff) during the operational phase. This job creation will result in a ***positive, moderate and long-term*** socioeconomic impact.

Additionally, the proposed Project is expected to increase the local population by the order > 3,000[13] persons, creating additional demand for goods and services in the local area, benefitting local businesses and resulting in a ***positive, moderate and long-term*** socioeconomic impact.

[13] Based upon an average household occupancy of 1.9 for new development areas in Drumcondra.

7.4.3.5 Community Amenities and Facilities

The operation of the proposed Project will result in an increase in the local population by the order of > 3,000[13] persons. In order to ensure that the needs of these new residents do not exceed the capacity of the existing and future planned / proposed community amenities and facilities, the following assessments have been carried out by BSM and are submitted under separate covers as part of this application:

- A Community and Social Infrastructure Audit; and
- A Childcare Facilities and Schools Demand Assessment.

These have concluded that the (i) existing and future planned / proposed community and social infrastructure and (ii) childcare and schools infrastructure are sufficient to meet the needs of the local community with the additional population resulting from the proposed Project, respectively. It follows that no significant negative impacts are expected to arise in this respect.

On the contrary, the operation of the proposed Project is expected to significantly enhance the community amenities and facilities offering in the area. The proposed Project will include a high-quality network of public realm areas, featuring outdoor exercise areas, a dog park and play areas, among other assets; as well as a café, shop and crèche; all of which will be accessible to on-Site residents and neighbouring residents and workers alike. The design of the proposed Project will also facilitate cycling as a healthy means of personal mobility and as an alternative to the private car, thereby promoting healthy and more environmentally sustainable lifestyles among its residents. Thus, the proposed Project is expected to create opportunities for recreation, socialisation and physical activity, as well as providing practical community amenities (i.e. shopping and childcare), resulting in a ***positive, moderate, long-term impact on the local population***.

7.4.3.6 Housing

The most significant positive impact of the proposed Project will be the provision of a large number (1,614) of high quality apartments with supporting amenities and facilities, providing a high standard of rented housing for a variety of household sizes. In the context of the ongoing housing crisis in Dublin City, the predicted impact is ***positive, moderate to significant and short-term (in that it the units are likely to be filled in the short-term) at the regional (Dublin City) level***.

7.4.3.7 Waste

During the operational phase, improperly managed on-Site residential facilities can lead to negative impacts on human health and residential amenity. Improper storage and disposal of solid waste, for instance, can result in issues with vermin, odour and litter. As stated in Chapter 18 (Material Assets – Waste), in the absence of appropriate mitigation and assuming a worst-case scenario, the predicted impact on population and human health during the operational phase is ***negative, localised, significant, long-term***.

7.4.3.8 Conclusion

Overall, the proposed Project is expected to result in a net positive impact on population and human health once operational, principally in that it will deliver a high volume of high-quality rented housing in the context of an ongoing housing crisis, in a manner that is consistent with national and regional-level policy[14].

[14] With the exception of the building height restrictions set out in the Dublin City Development Plan (2016 – 2022). Refer to Chapter 3 (Planning & Development Context) and the Material Contravention Statement submitted under separate cover as part of this application.

Notwithstanding the proposal's positive impacts, in the absence of mitigation, the following likely, significant, negative effects on population and human health have also been predicted to occur as a result of the operational phase of the proposed Project:

- A ***negative, localised, long-term and significant impact*** on on-Site residents due to potential improper storage, management and disposal of solid waste.

7.5 Mitigation Measures

7.5.1 Construction Phase

Mitigation measures have prescribed elsewhere in this EIAR in order to avoid / minimise the predicted impacts detailed above. In order to avoid, where possible, and in other cases minimise, negative impacts on population and human health, it is imperative that all of the mitigation measures set out in this EIAR are properly implemented in full. These mitigation measures (set out elsewhere in this EIAR) are summarised as follows, insofar as they relate to population and human health:

- A preliminary Construction Management Plan (CMP) has been prepared by O'Connor Sutton Cronin (OCSC) in respect of the proposed Project, and submitted under separate cover as part of this application. This CMP includes measures which seek to avoid / minimise negative impacts on the neighbouring population.

  For instance, the CMP includes measures in relation to good housekeeping, hoarding, site security, construction traffic management, pollution control, pest control, public safety and public relations, with a view to avoiding / minimising impacts on the community. It also includes measures to promote the safety and wellbeing of construction personnel. Perhaps most pertinent to this Chapter, the CMP mandates the preparation of a Community Liaison Plan and the designation of a Community Liaison Officer (CLO) on the part of the Contractor, in order to ensure that particular issues / complaints raised by local residents in relation to the proposed works may be quickly identified and responded to.

  It will be a requirement of the successful Contractor that they finalise the CMP and the Community Liaison Plan in advance of the commencement of any on-Site works, and implement both fully throughout the proposed works.

- Chapter 11 (Air Quality & Climate) includes a Dust Minimisation Plan (Appendix 11.2) which sets out comprehensive measures to minimise dust generation during the construction phase of the proposed Project. The mitigation measures set out in Chapter 11 and Appendix 11.2 shall be implemented in full.

- Chapter 12 (Noise & Vibration) includes a suite of mitigation measures to minimise noise and vibration and associated impacts during the construction phase of the proposed Project. Mitigation measures are included in relation to (i) selection of quiet plant, (ii) noise control at source, (iii) boundary and local screening, (iv) limitation of working hours and (v) community liaison. The mitigation measures set out in Chapter 12 shall be implemented in full.

- Chapter 13 (Landscape & Visual) includes a number mitigation measures to minimise the impacts of the proposed works on townscape and visual amenity. These shall be implemented in full.

- Chapter 18 (Traffic & Transportation) includes a suite of measures to be incorporated into the finalised CMP in order to avoid / minimise impacts on the community in relation to construction traffic. The mitigation measures set out in Chapter 18 shall be implemented in full.

- Chapter 19 (Material Assets – Waste) and Appendix 19.1 (Construction & Demolition Waste Management Plan) include a suite of mitigation measures to promote best practice construction waste management and avoid / minimise waste-related impacts. The mitigation measures set out in Chapter 19 and Appendix 19.1 shall be implemented in full.

7.5.2 Operational Phase

- Chapter 12 (Noise & Vibration) includes a suite of mitigation measures to minimise noise and vibration and associated impacts during the operational phase of the proposed Project. These include measures to ensure that building services plant do not exceed recommended noise limits, and limiting deliveries to daytime periods (i.e. 07:00 – 23:00 hrs) to avoid night-time disturbance of residents. The mitigation measures set out in Chapter 12 shall be implemented in full.

- Chapter 18 (Traffic & Transportation) mandates the preparation of a Mobility Management Plan (MMP) and the appointment of a Mobility Manager, in order to reduce the need for car travel among on-Site residents and workers during the operational phase. The mitigation measures set out in Chapter 18 shall be implemented in full.

- Chapter 19 (Material Assets – Waste) and Appendix 19.2 (Operational Waste Management Plan (OWMP)) include a suite of mitigation measures to promote best practice on-Site waste management and avoid / minimise waste-related impacts during the operational phase of the proposed Project. The OWMP details the waste storage and collection provisions that the building management company will need to put in place for the use of residents and commercial tenants. The mitigation measures set out in Chapter 19 and Appendix 19.2 shall be implemented in full.

7.6 Residual Impacts

7.6.1 Construction Phase

Assuming the proper and full implementation of the mitigation measures in this EIAR (summarised above in relation to population and human health), the following significant, negative, residual impacts on population and human health are predicted:

- The application of binding noise limits and hours of operation, along with implementation of appropriate noise and vibration control measures (as set out in Chapter 12), will ensure that noise and vibration impacts are minimised as far as practicable. However, given the nature of the proposed works and the proximity to residential receptors; the possibility remains for ***short-term, negative, slight to significant noise impacts*** to arise within a 40 m radius of the proposed Project Site. It should be noted that these impacts will entail nuisance and daytime disturbance only, and that the nature of noise levels generated will be typical of urban construction works of this nature. As such, it is considered that this potentially significant, negative, residual impact on the local population is commensurate with the proposed Project and acceptable considering the net merit of the proposal.
- ***Significant and unavoidable, negative residual visual impacts*** on surrounding areas as a result of the proposed works, as follows:

- The visual impact on the college lands, including Red House and the Archbishop's House would be very significant, negative and short-term.
- The visual impact from the construction phase on properties along the site boundary off Clonliffe Road, Susanville Road, and at Corn Mill and Distillery Apartment (i.e. to south and east) would be significant, negative and short-term.
- The visual impact from the construction phase on properties along the site boundary off Drumcondra Road Lower and Clonliffe Road west of the existing entrance (i.e. to south and west) would be significant, negative and short-term.

As stated in Chapter 19, the potential significant impact in relation to construction waste management identified in Section 7.4, above, will be mitigated by the measures set out in Chapter 19 and Appendix 19.1 such that the residual impact is predicted to be ***neutral, imperceptible and short-term***.

No other significant, negative residual impacts are predicted in relation to population and human health.

7.6.2 Operational Phase

Assuming the proper and full implementation of the mitigation measures in this EIAR (summarised above in relation to population and human health), ***no significant, negative, residual impacts are predicted to occur during the operational phase in the long-term.*** However, as discussed below, there is the potential for ***significant, negative, short-term visual impacts*** to occur.

As stated in Chapter 19, the potential significant impact in relation to operational waste management identified in Section 7.4, above, will be mitigated by the measures set out in Chapter 19 and Appendix 19.2 such that the residual impact is predicted to be ***neutral, imperceptible and long-term***.

As stated above, there is the potential for ***short-term significant, negative visual impacts*** to viewpoints in the surrounding area upon the completion of the proposed Project, but that these are expected to ameliorate to an ***overall neutral to positive visual impact in the long-term***, once the proposed Project has become established in its surroundings.

As stated above, the net operational phase impact on population and human health is predicted to be positive, principally because the proposed Project will deliver a high volume of high-quality rented housing in the context of an ongoing housing crisis, in a manner that is consistent with national and regional-level policy[14].

7.7 Monitoring

Monitoring and maintenance recommended in Chapters 11, 12 and 19 shall be implemented in full during the construction and / or operational phases of the proposed Project, as specified in those respective Chapters. Beyond that which has been recommended elsewhere in this EIAR, no additional monitoring is considered necessary in respect of population and human health.

7.8 Interactions

Population and human health is an EIA topic which tends to interact with numerous other environmental topics / media addressed elsewhere in the EIAR. Where the potential for impacts on population and human health has been identified as a result of such interactions, these have been addressed comprehensively in Section 7.4, above.

In respect of the proposed Project, the noteworthy interactions with population and human health and other topics / media are summarised below. All of these interactions have been addressed above and, where feasible, appropriate mitigation measures have been prescribed in the corresponding specialist Chapter.

Note that there is also an interaction between (i) Noise & Vibration and (ii) Traffic & Transportation, due to vehicular noise, which is of relevance to the assessment of impacts on population and human health.

Air Quality & Climate (Chapter 11)

- Potential for nuisance impacts due to dust-generating activities of proposed works.

Noise & Vibration (Chapter 12)

- Potential for nuisance and disturbance due to noisy elements of proposed works;
- Potential for nuisance and disturbance due to vibration emanating from construction site;
- Potential for nuisance and disturbance due to construction traffic noise;
- Potential for nuisance and disturbance due to noisy plant, services, deliveries, etc., during operational phase; and
- Potential for nuisance and disturbance due to additional traffic during operational phase.

Landscape & Visual (Chapter 13)

- Potential for negative impacts on townscape and visual amenity due to presence of construction site; and
- Impacts on visual amenity and townscape during the operational phase due to completion of proposed Project.

Traffic & Transportation (Chapter 18)

- Potential for negative impacts on journey characteristics due to additional (construction) traffic on road network during proposed works;
- Potential for reduced parking availability in surrounding area due to demand from construction personnel;
- Potential for nuisance and disturbance due to construction traffic noise;
- Potential for negative impacts on journey characteristics due to additional traffic on road network during the operational phase; and
- Potential for nuisance and disturbance due to operational traffic noise.

Material Assets – Waste (Chapter 19)

- Potential for negative impacts due to improper waste management during construction phase; and
- Potential for negative impacts due to improper on-Site waste management during operational phase.

7.9 Cumulative Impacts

The potential for cumulative impacts to arise as a result of the proposed Project in combination with other existing / proposed plans and projects, in respect of the EIA topics and environmental media of relevance to population and human health, has been discussed in the respective EIAR Chapters – refer to Chapters 11, 12, 13, 18 and 19.

It is considered that the potential impacts of the proposed Project on population and human health has been mitigated by the design of the proposed Project and the measures set out herein such that the occurrence of significant, negative, cumulative impacts on population and human health is not likely.

7.10 Conclusion

This Chapter has assessed the potential of the proposed Holy Cross College SHD Project to result in significant impacts on population and human health during the construction and operational phases. It has found that, while the net impact of the proposed Project is expected to be positive (in that its completion will create a high volume of high quality rented housing in the context of an ongoing housing crisis), it likely that negative impacts will also arise as a result of the proposal. These negative predicted impacts are commensurate with the nature and scale of the proposed Project and are predominantly short-term impacts associated with the proposed construction and demolition works (such as noise, dust, traffic and visual impacts). A suite of corresponding mitigation measures have been prescribed throughout the EIAR, which in most cases will ensure that significant negative impacts are avoided. The following potentially significant negative residual impacts cannot be avoided, however:

- Given the nature of the proposed works and the proximity to residential receptors; the possibility remains for ***short-term, negative, slight to significant noise impacts to arise within a 40 m radius***. These impacts will entail nuisance during daytime hours only, and the nature of noise levels generated will be typical of urban construction works of this nature.
- ***Significant and unavoidable, negative, short-term visual impacts*** on surrounding areas as a result of the proposed works.
- There is the potential for ***short-term significant, negative visual impacts*** to viewpoints in the surrounding area upon the completion of the proposed Project, but that these are expected to ameliorate to an overall neutral to positive visual impact in the long-term, once the proposed Project has become established in its surroundings.

7.11 References

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8 Biodiversity

8.1 Introduction

This Chapter of the EIAR comprises an assessment of the likely effects on Biodiversity (Flora & Fauna) of the proposed Holy Cross College SHD at Holy Cross College, Clonliffe Road, Dublin 3 and Drumcondra Road Lower, Drumcondra, Dublin 9. The Proposed Project is described in detail in Chapter 5 of this EIAR.

The potential for any impacts on sites designated as European (Natura 2000) sites, under the EU Habitats and Birds Directives was also appraised, and the results of that study are presented in a separate report (Information for Screening for Appropriate Assessment (AA)) that accompanies this application under separate cover.

8.2 Expertise and Qualifications

Brady Shipman Martin was commissioned to prepare this report on behalf of the Applicant. The work was carried out by Senior Ecologist Matthew Hague BSc MSc Adv. Dip. Plan. & Env. Law CEnv MCIEEM. Matthew is a highly experienced and qualified ecologist, with a master's degree in Ecosystem Conservation and Landscape Management. He has over 18 years of experience in ecological and environmental consultancy, across a wide range of sectors. He has prepared the biodiversity chapters/Ecological Impact Assessments and Appropriate Assessment reports for numerous strategic housing developments (SHD), including those at Bailey Gibson and Player Wills in Dublin 8, Castleforbes Business Park and East Road in Dublin 3, as well as Portmarnock, Glencairn, Clay Farm, Brennanstown and Woodbrook in the wider county, and several more throughout the country. Matthew is currently working on at least half a dozen additional SHD schemes in the greater Dublin area and also regularly acts as a peer reviewer, advising on and contributing to the biodiversity chapters of other EIARs for SHD projects.

Matthew is a Chartered Environmentalist (CEnv) and a full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM). He has also completed an Advanced Diploma in Planning and Environmental Law, at King's Inns.

8.3 Methodology

A comprehensive desk-based assessment has been undertaken, and numerous site visits have been carried out by the author and other specialist ecologists, between September 2019 and May 2021, as detailed in the following sections.

8.3.1 Desk Study

This Ecological Impact Assessment (EcIA) and EIAR chapter has been prepared in accordance with the following **publications**:

- *EPA Guidelines on the Information to be Contained in Environmental Impact Statements* (EPA, 2002) (and revised and draft guidelines 2017);
- *EPA Advice Notes of Current Practice (in the Preparation of Environmental Impact Statements)* (EPA, 2003) (and revised advice notes 2015);
- *Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment* (European Commission, 2013);

- *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment* (Department of Housing, Local Government and Heritage, 2018);
- *Guidelines for Assessment of Ecological Impacts of National Road Schemes* (Transport Infrastructure Ireland (formerly the National Roads Authority), 2009); and
- *Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland: Terrestrial, Freshwater, Coastal and Marine* ('the CIEEM Guidelines') published by the Chartered Institute of Ecology and Environmental Management (CIEEM), September 2018, updated in September 2019 (V1.1).

The report has regard to the following **legislative instruments**:

- The Planning and Development Act 2000 (as amended);
- The Wildlife Act 1976 and the Wildlife (Amendment) Act 2000;
- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (the "Habitats Directive");
- Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds ("Birds Directive");
- European Communities (Birds and Natural Habitats) Regulations 2011-2015;
- Flora (Protection) Order 2015;
- Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment;
- Directive 2014/52/EU of the European Parliament and of the Council of 16th April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment; and
- European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018).

The Report has regard to the following **Policies and Plans**:

- *National Biodiversity Action Plan 2017 – 2021* (Department of Culture, Heritage and the Gaeltacht, 2017);
- *Planning for Watercourses in the Urban Environment* (Inland Fisheries Ireland, 2020);
- *Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters* (Inland Fisheries Ireland, 2016);
- *All-Ireland Pollinator Plan 2021 – 2025* (National Biodiversity Data Centre, 2021); and
- *Dublin City Development Plan 2016 – 2022*, including the accompanying Appropriate Assessment documentation (Natura Impact Report) (Dublin City Council (DCC), 2016); and
- *Masterplan Development Document: Clonliffe Road, Drumcondra*[15] (Henry J Lyons (HJL), 2021).

Information was collated from the **sources** listed below:

- Data on rare and protected plant and animal species contained in the following databases:
  - The National Parks and Wildlife Service (NPWS) of the Department of Culture, Heritage and the Gaeltacht (npws.ie);
  - The National Biodiversity Data Centre (NBDC) (biodiversityireland.ie);
  - Birdwatch Ireland (birdwatchireland.ie); and
  - Bat Conservation Ireland (batconservationireland.org);
- Recent aerial photography and photographs taken at the Site;

[15] Required in accordance with the Z12 zoning of the lands in the Dublin City Development Plan (2016 – 2022) and submitted as part of this application under separate cover.

- Recent and historic ordnance survey (OSi) mapping (geohive.ie);
- Information on protected areas, as well as watercourses, catchments and water quality in the area available from the EPA (gis.epa.ie/EPAMaps/);
- Information on soils, geology and hydrogeology in the area available from the Geological Survey of Ireland (GSI) (gsi.ie);
- The NPWS Article 17 Reports:
  - The Status of EU Protected Habitats and Species in Ireland – Volume 1 (NPWS, 2019a);
  - The Status of EU Protected Habitats and Species in Ireland – Volume 2 (Habitat Assessments) (NPWS, 2019b);
  - The Status of EU Protected Habitats and Species in Ireland – Volume 3 (Species Assessments) (NPWS, 2019c); and
- Information on land-use zoning from the online mapping of the Department of the Environment, Community and Local Government (myplan.ie/en/index.html).

8.3.2 Field Surveys – Overview

A significant amount of research has been undertaken by the author and other qualified and experienced ecologists at the Site, since September 2019.

In order to provide a comprehensive baseline on the local ecological environment, ecological surveys were first undertaken at the Site, including habitat, invasive species, mammal and day-time bat surveys, by the author on 29 January 2020. These surveys were repeated on 24 March and 8 June 2020.

Bird surveys as well as dusk and dawn bat surveys were carried out at the site on 10 – 11 June 2020, 30 June – 1 July 2020 and on 20 – 21 April 2021 by specialist bat ecologist Mr Brian Keeley MCIEEM. Mr Keeley also carried out internal surveys of buildings at the site on 3 September 2020.

Two seasons of winter bird surveys were undertaken by Scott Cawley Ltd at the Site, for the purpose of informing this planning application. The first season of winter bird surveys covered the period September 2019 to March 2020, with four visits per month in September, October and November 2019, and January and February 2020. Three visits were undertaken in December 2019 and two visits were undertaken in March 2020. The second season of winter bird surveys covered the period October 2020 to March 2021, with four visits per month between October 2020 and February 2021, and five visits in March 2021.

A final Site walkover survey was undertaken by the author on 7 May 2021. The ecological surveys undertaken covered the entire Site, both within the red line boundary of the proposed Holy Cross College SHD and including the stretch of the River Tolka that flows along the northern boundary of the wider Masterplan lands.

Overall, the baseline surveys covered the following elements and, where relevant, the results are included in this document:

- Habitats;
- Invasive species;
- Rare and/or protected plants;
- Bat activity surveys and assessment of bat roosts;
- Large mammal surveys (badger, otter);
- Breeding bird surveys;
- Wintering bird surveys; and
- Amphibian and common lizard surveys.

8.3.2.1 Habitats and Flora

During the course of the Site visits, the habitats were identified, described and mapped. Habitats were surveyed using the *Best Practice Guidance for Habitat Survey and Mapping*[16] and were classified using *A Guide to Habitats in Ireland*[17] with due regard to the *Interpretation Manual of European Habitats*[18]. Vascular plant nomenclature follows that of the *New Flora of the British Isles 3rd Edition*[19].

8.3.2.2 Fauna (including Mammals and Birds)

On each visit, the Site was searched for evidence of large mammals, such as badger and otter, both within the Site itself and in the riparian corridor of the River Tolka on the northern boundary of the wider Masterplan lands. The proposed Project Site was also searched for evidence of breeding birds during each visit and, as discussed in Section 8.2.2, two seasons of overwintering bird surveys were undertaken. The Wintering Bird Survey reports are included in Appendix 8.1 of this EIAR. A comprehensive series of bird and bat surveys was also undertaken and the Bird and Bat Survey report is included in Appendix 8.2.

8.3.2.3 Watercourses

There are no watercourses or drainage ditches within the proposed Project Site itself; however, the River Tolka[20], a very significant habitat corridor within Dublin City, runs along the northern boundary of the wider Masterplan lands and two outfalls from the proposed Project will discharge into the river. It is the second biggest river in Dublin, after the Liffey, and is of note for its varied habitats and species. The Tolka flows into Dublin Bay at Fairview, approximately 1.5 km downstream of the Site. Among the policies and objectives of the Dublin City Development Plan (2016 – 2022) are several that seek to maximise the value of existing green infrastructure such as river corridors, including the Tolka.

The River Tolka, as noted in the DCC Biodiversity Action Plan (2015 – 2020)[21] is a highly significant regional salmonid catchment. The river was surveyed as part of the Dublin City Otter Survey (2019)[22] (itself an action of the DCC Biodiversity Action Plan (2015 – 2020)). The otter survey recorded significant otter activity all along the Tolka, including otter prints on the riverbank where it passes along the northern boundary of the Holy Cross College lands.

A review of the proposed site drainage and potential links to the Tolka (and other watercourses) was undertaken in conjunction with the project engineers[23].

8.3.3 Consultations

The proposed Project will require the construction of two new surface water outfalls to the River Tolka. As such, informal consultations were held (by telephone and email) with Inland Fisheries Ireland (IFI), who confirmed in an email dated 2 February 2021 that IFI have no objection to the surface water plans in principal.

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[16] Smith G. F., O'Donoghue P., O'Hora K. and Delaney E. (2010)
[17] Fossitt J. (2000)
[18] https://ec.europa.eu/environment/nature/legislation/habitatsdirective/docs/Int_Manual_EU28.pdf
[19] Stace, C. (2010)
[20] EPA Maps
[21] Dublin City Biodiversity Action Plan (2015 - 2020)
[22] Dublin City Otter Report (2019)
[23] Refer to the Infrastructure Planning Report prepared by BMCE (April 2021) and submitted as part of this application under separate cover.

Consultation meetings were held between the Design Team and DCC on approximately 16 occasions between February 2020 and March 2021 (refer to Chapter 6, Consultation). Biodiversity was not raised as a specific concern at any of these meetings, other than in the context of landscape, green roof and sustainable drainage systems (SuDS) design requirements. In its submission to An Bord Pleanála dated 10 December 2020, DCC noted that the Council's Parks, Biodiversity & Landscape Services Department have no objections to the application subject to the submission of suitably detailed landscape and open space proposals.

8.3.4 Evaluation of Ecological Features

The methodologies used to determine the value of ecological resources, to characterise impacts of the proposed Project, and to assess the significance of impacts and any residual effects are consistent with the Draft EPA EIAR Guidelines (2017) and are in accordance with the *NRA Guidelines for Assessment of Ecological Impacts of National Road Schemes*[24] (the 'NRA Guidelines' hereafter). This methodology is in turn consistent with the *Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland – Terrestrial, Freshwater, Coastal and Marine*[25] (the 'CIEEM Guidelines' hereafter). The methodology allows the baseline to be comprehensively evaluated. This then makes it possible to assess the potential impacts (including cumulative impacts) of the Proposed Project, to set out appropriate mitigation measures and to assess the residual impacts of the Proposed Project.

In accordance with the NRA Guidelines[26], impact assessment is undertaken of sensitive ecological receptors ('Key Ecological Receptors') within the Zone of Influence of a proposed Project. According to the NRA Guidelines, the Zone of Influence is the 'effect area' over which change resulting from the proposed Project is likely to occur, and the Key Ecological Receptors are defined as features of sufficient value as to be material in the decision-making process for which potential impacts are likely. In the context of the proposed Project, a Key Ecological Receptor is defined as any feature valued as follows:

- International Importance;
- National Importance;
- County Importance; and
- Local Importance (Higher Value).

Features of local importance (Lower Value) and features of no ecological value are not considered to be Key Ecological Receptors, in accordance with the NRA Guidelines.

8.4 Baseline Environment

8.4.1 General Description

The proposed Project Site (refer to Figure 5.2 in Chapter 5, above) is located within the wider Holy Cross College Masterplan lands, bounded by Drumcondra Road to the west, Clonliffe Road to the south and the River Tolka to the north, with mixed residential and office development to the immediate east.

[24] NRA (2009)
[25] CIEEM (2018, as updated in 2019 (V1.1))
[26] The NRA Guidelines, while originally developed for roads projects, provide clear, comprehensive and logical methods for evaluating the potential impacts of significant projects of all kinds in Ireland. The methodologies presented in the Guidelines are reproducible and reliable and are thus appropriate to the Proposed Project.

The Masterplan lands encompass a Site of 14.5 ha (of which 12 ha is proposed to be developed under the scope of the Masterplan). The proposed Project Site has a total area of c. 8.9 ha, of which c. 8 ha is development area. The remainder of the Masterplan development area (which is outside the scope of this application) is for development as GAA sports facilities, as well as a new hotel (recently granted planning permission by An Bord Pleanála).

The overall Masterplan lands are comprised of a complex of habitats, including planted woodland (primarily along the western boundary) as well as open fields subject to limited management (and substantially outside the proposed Project Site itself). Other habitats include parkland and individual trees as well as large buildings, areas of hardstanding and flower beds and borders. Some parts of the site contain small pockets of unmanaged scrub.

The habitats present along the River Tolka corridor comprise a mix of scrub and woodland habitats. These are of high ecological value and, of equal importance, serve as part of a continuous habitat corridor along the River Tolka, one of the key ecological features within the city. Immediately upstream of the open section of the river, the bank comprises a vertical concrete wall. Immediately downstream, the southern bank is similarly constrained.

8.4.2 Designated Conservation Areas

This assessment uses a source-pathway-receptor model to assess environmental risk. For the risk of an adverse effect to occur there must be a 'source', such as a construction site; a 'receptor', such as a site designated for nature conservation; and a 'pathway' between the source and the receptor, such as a watercourse that links the construction site to the proposed Project Site. Although there may be a risk of an impact, it may not necessarily occur, and if it does occur, it may not be significant.

The potential for any impacts on European sites from the proposed Project Site was considered. Full details of that study are presented in a separate report (Appropriate Assessment (AA) Screening Report) submitted as part of this application under separate cover.

No designated conservation areas occur within or in the immediate vicinity of the area of the proposed Project. There are a number of designated sites within the Zone of Influence of the proposed Project; however, the AA Screening report concludes that, on the basis of objective information, it can be excluded that the construction and operational phases of the proposed Project, individually or in-combination with other plans or projects, will have significant effects on any European site.

8.4.2.1 Relevant European Sites

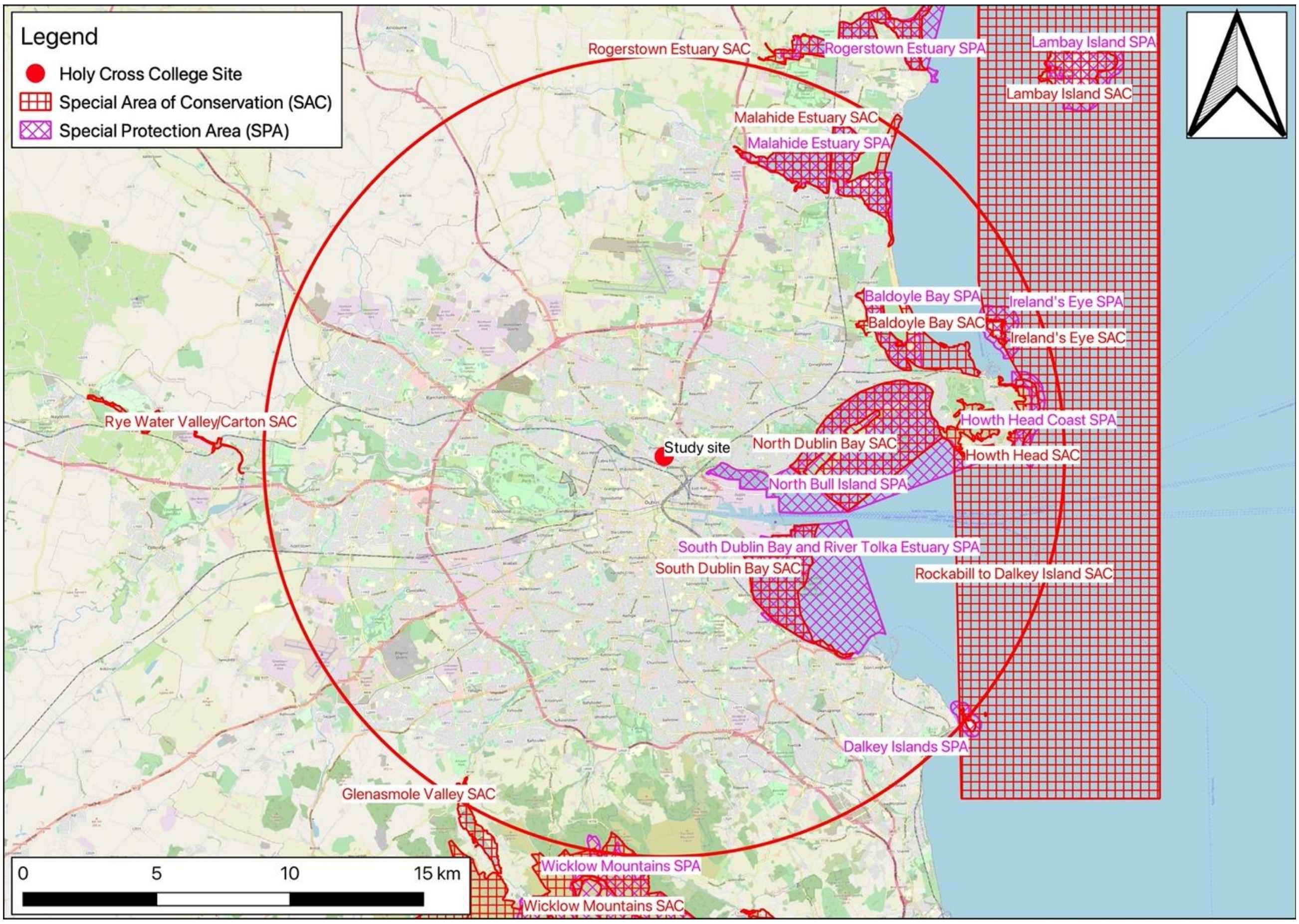
The nearest European sites are the Special Areas of Conservation (SAC) and Special Protection Areas (SPA) associated with Dublin Bay:

- South Dublin Bay SAC (site code 000210), c.4.2 km to the south east;
- North Dublin Bay SAC (site code 000206), c.4.7 km to the east;
- South Dublin Bay and River Tolka Estuary SPA (site code 004024), c.1.7 km to the east; and
- North Bull Island SPA (site code 004006), c.4.7 km to the east.

Full details of these and all other European sites with potential links to the proposed Project site are contained in the AA Screening Report, submitted as part of this application under separate cover.

The European sites are shown in Figure 8.1, below.

Figure 8.1: Relevant European Sites (circle denotes 15 km radius from centre of Site) (© *OpenStreetMap,* 2021)

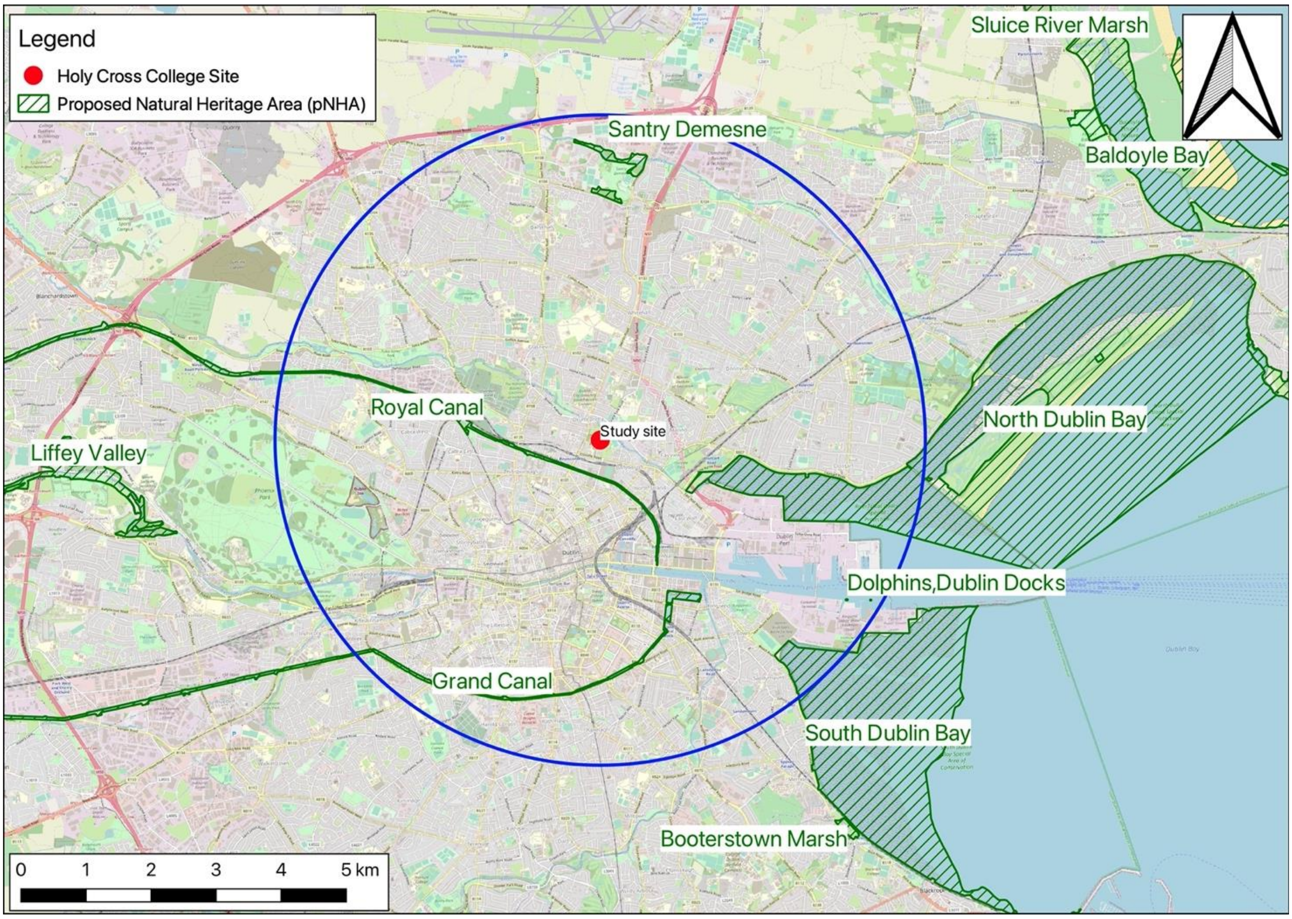


8.4.2.2 Other Designated Conservation Areas

The nearest site designated for nature conservation, not otherwise designated as a European site, is the Royal Canal proposed Natural Heritage Area (pNHA) (site code 002103). At its closest point, the pNHA is c. 300 m from the proposed Project Site, to the south. There is no surface water pathway between the proposed Project Site and the Royal Canal and as noted in the HHQRA the canal is fully lined and as such there is no potential for hydrogeological connectivity. There are, similarly, no pathways between the Proposed Project Site and any other pNHA, such as The Grand Canal pNHA (site code 002104), located c .2.5km to the south (and south of the River Liffey) and Santry Demesne pNHA (site code 000178), c.3. 5km to the north.

The proximate pNHAs are shown in Figure 8.2, below.

Figure 8.2: pNHAs in the Vicinity (circle denotes 5 km radius from centre of Site) (© *OpenStreetMap*, 2021)



8.4.3 Rare and Protected Plant Species

The NPWS and NBDC databases were consulted with regard to rare species[27] and species protected under the *Flora Protection Order* (2015). According to the NBDC database, there are no known records of rare or protected plant species within the proposed Project Site or within the 2 km grid square (O13T) that covers the Site, and none were recorded during any of the Site visits undertaken. One plant of note, purple toothwort (*Lathraea clandestina*), was recorded along the Tolka riverbank during the surveys undertaken in 2020 and 2021. This plant is not native to Ireland and is likely to be a garden escape.

8.4.4 Invasive Alien Plant Species

A total of four species listed on the Third Schedule of the *Birds and Habitats Regulations 2011 – 2015*, Japanese knotweed (*Fallopia japonica*), giant hogweed (*Heracleum mantegazzianum*), Himalayan balsam (*Impatiens glandulifera*) and three-cornered leek (*Allium triquetrum*) have been recorded at various points within the Holy Cross College lands (i.e. the wider Masterplan lands and not strictly the proposed Project Site). There are two main stands of Japanese knotweed, most of which, with the exception of a small area near the Archbishop's House, is outside the proposed Project Site. A small number of Himalayan balsam and giant hogweed plants were recorded by the author along the banks of the Tolka (outside the proposed Project site). Some evidence of three-cornered leek was also recorded along the woodland in the western part of the proposed Project Site as well as along the riverbank.

[27] Curtis & McGough (1988)

A management plan to eradicate all these species is currently being implemented at the Holy Cross College Lands. This will continue until all these invasive species are entirely eradicated from the site.

8.4.5 Habitats

The habitats present on the proposed Project Site are shown in Figure 8.3, below.

With the exception of two proposed surface water outfalls, the River Tolka (Fossitt habitat code **FW2**) is outside the proposed Project Site. However the river corridor is a key ecological feature in this area. The River Tolka is relatively shallow at this location, with a mixed substrate, with large rocks/boulders and gravel beds present (Figure 8.3). There are a mix of shallow pools and faster flowing riffles also present. There is limited in-stream vegetation; however, the riverbanks, although subject to significant human intervention over the centuries, are relatively natural in condition (certainly compared to parts of the river both up- and down-stream of the Site). The southern river bank, abutting the Holy Cross College Masterplan lands, is sloped down to the water's edge and is varied both in structure and vegetated profile (Figure 8.4). The river is approximately 2-3 m below the level of the top of the bank at this location. Species present along the riverbank, including where the two surface water outfalls are proposed, are dominated by scrub (**WS1**), both native and non-native, including buddleia (*Buddleja davidii*), elder (*Sambucus nigra*), willow (*Salix fragilis*) and bramble (*Rubus fruticosus* agg.), with occasional shrubs and young trees. More open parts of the riverbank are dominated by Alexanders (*Smyrnium olusatrum*), with sedges and grasses occasionally present. As noted in Section 8.3.4, there are small patches of Himalayan balsam, three-cornered leek and giant hogweed here also. There are some drier, shaded areas, which have a woodland-like flora where the ground is not bare – mainly covered in ivy (*Hedera helix*), but with patches of primrose (*Primula vulgaris*), petty spurge (*Euphorbia peplus*), lords and ladies (*Arum maculatum*), field mustard (*Brassica rapa*) and cuckoo flower (*Cardamine pratensis*) present also. A small patch of purple toothwort (see Section 8.4.3) was also recorded on the riverbank.

- The River Tolka, including the riparian corridor, is of County Importance.

The Project Site comprises a range of habitats typical of a city centre parkland setting. The southern half of the Site (Figures 8.4 and 8.5) is dominated by species-poor amenity grassland (**GA2**) and scattered trees and parkland (**WD5**), with occasional flower beds and borders (**BC4**) and patches of ornamental and non-native shrubs (**WS3**), mainly buddleia. Grassland species present are relatively few, mainly perennial rye-grass (*Lolium perenne*) and common bent grass (*Agrostis capillaris*), with occasional daisy (*Bellis perennis*), white clover, creeping buttercup (*Ranunculus repens*) and ribwort plantain (*Plantago lanceolata*). The parkland trees and the tree lines (**WL2**) throughout the Site (Figure 8.6) mainly comprise mature lime (*Tilia europaea*), horse chestnut (*Aesculus hippocastanum*), sycamore (*Acer pseudplatanus*), with ash (*Fraxinus excelsior*), elder, Lombardy poplar (*Polulus nigra "Italica"*), Lawson cypress (*Chamaecyparis lasoniasa*), cordyline (New Zealand cabbage – *Cordyline australis*), beech (*Fagus sylvatica*), Blue Atlas cedar (*Cedrus atlantica*, holm oak (*Quercus ilex*), silver birch (*Betula pendula*), Norway maple (*Acer platanoide*), field maple (*Acer campestre*), false acacia (*Robinia pseudoacacia*), ornamental cherry (*Prunus* spp.) and others all present throughout the Masterplan site at the Holy Cross College lands.

- These habitats are of Local Importance (Lower Value).

Figure 8.3: River Tolka at Holy Cross College, looking upstream (May 2021)

Figure 8.4: River Tolka – southern riverbank (May 2021)

Figure 8.5: Parkland habitats at the site (May 2021)

Figure 8.6: Parkland habitats at the site (May 2021)

Figure 8.7: Parkland trees and tree lines at the site (May 2021)

The western part of the Site, near Drumcondra Road Lower, comprises a band of mature mixed woodland (**WD1**). This is effectively made up of a line of mature lime trees on the inside, with a mixed line of yew (*Taxus baccata*), turkey oak (*Quercus cerris*), Norway maple, lime, holly (*Ilex aquifolium*), and Austrian pine (*Pinus nigra*) on the inside (Figure 8.8). This woodland is relatively open and although much of the understorey is scrubby or covered in ivy, there is a varied ground flora including lesser celandine (*Ficaria verna*), herb-Robert (*Geranium robertianum*), red campion (*Silene dioica*), wood avens (*Geum urbanum*), nettle (*Urtica dioica*), common hogweed (*Heracleum sphondylium*) and occasional ferns. Non-native plants include frequent patches of three-cornered leek and Japanese laurel (*Aucuba japonica*).

- This habitat is of Local Importance (Higher Value).

A small block of mixed broadleaved woodland (**WD1**) is located in the eastern corner of the Site (Figure 8.9). This area comprises mainly mature sycamore with occasional lime. The understorey in this area is quite disturbed and is dominated by bare ground and nettle patches, but with cow parsley (*Anthriscus sylvestris*) and lesser celandine (*Ficaria verna*) frequent in more open parts, as well as elder (*Sambucus nigra*) seedlings.

- This habitat is of Local Importance (Lower Value).

An area of disturbed ground, now recolonising with scrub species (**WS1/ED3**), mainly bramble (and Japanese knotweed, as discussed in Section 8.3.4) is located in the north western corner of the Site (Figure 8.10). Other species in this area include patches of forget-me-not (*Myosotis arvensis*), round-leaved cranesbill (*Geranium rotundifolium*), daisy (*Bellis perennis*), cleavers (*Galium aparine*) and common fumitory (*Fumaria muralis*).

- This habitat is of Local Importance (Lower Value).

Figure 8.8: Woodland habitat at the site (January 2020)

Figure 8.9: Extensive cow parsley in a clearing on the eastern part of the site (May 2021)

Figure 8.10: Disturbed ground in the north east corner of the site (May 2021)

Figure 8.11: Grassland in the northern part of the Holy Cross College lands (May 2021)

Much of the northern part of the wider site (the majority of which is outside the proposed Project Site) is dominated by former amenity grassland which is largely unmanaged and has begun to develop into species-poor rough grassland (**GS2/GA1**) dominated by grasses including meadowgrass (*Poa annua*), perennial ryegrass, creeping bent (*Agrostis stolonifera*), crested dogstail (*Cynosurus cristatus*), Yorkshire fog (*Holcus lanatus*) and Timothy (*Phleum pratense*). In many places, particularly nearer to the river, the grasses have been overtaken by other species, dominated in parts by creeping buttercup (*Ranunculus repens*), with white dead nettle (*Lamium album*), common vetch (*Vicia sativa*) and frequent ribwort plantain (*Plantago lanceolata*), yarrow (*Achillea millefolium*), docks (*Rumex* spp.) and dandelion (*Taraxacum officinalis*) (Figures 8.11 and 8.12).

- This habitat is of Local Importance (Lower Value).

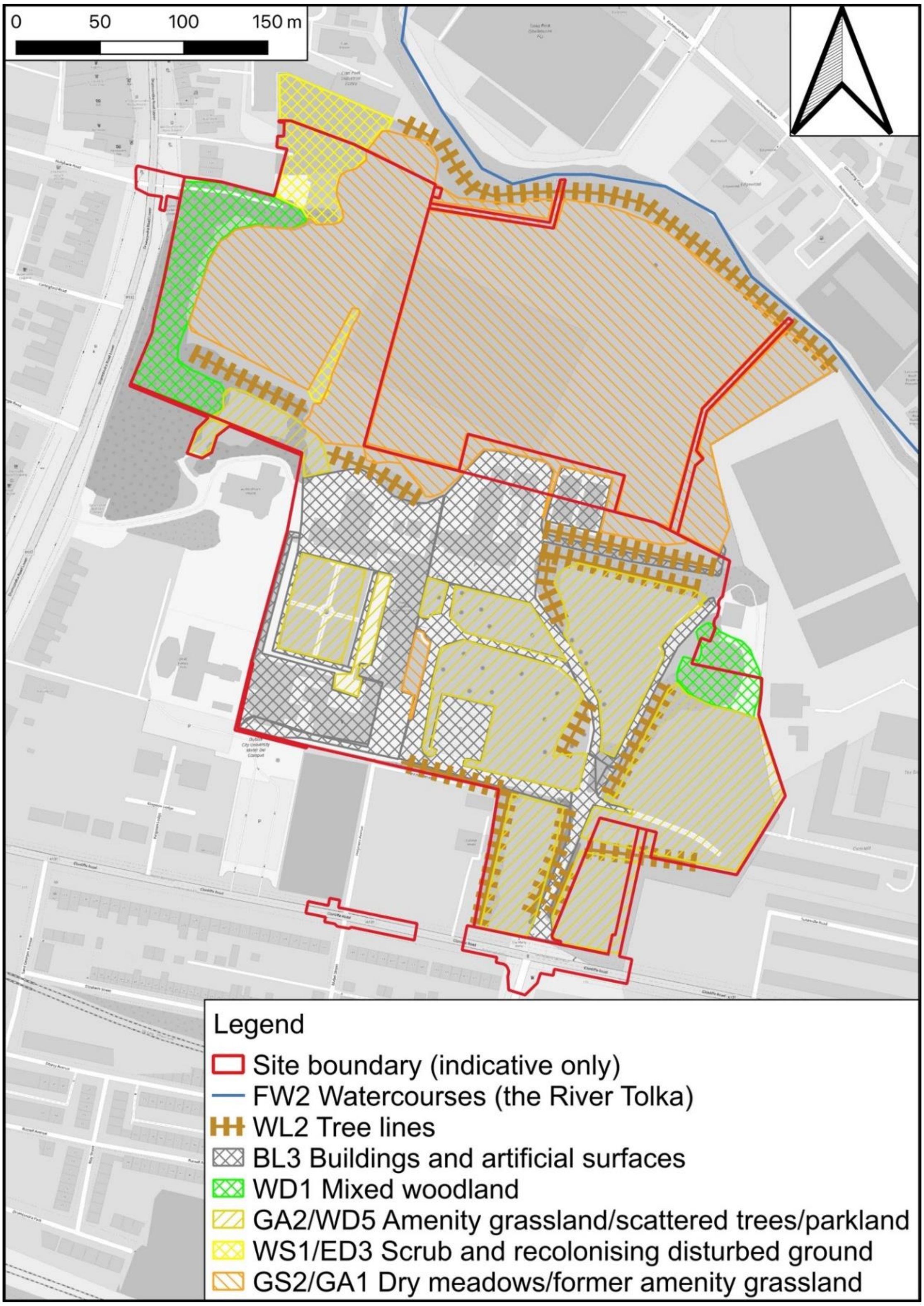
The remainder of the site – mainly the southern part – is covered in buildings and artificial surfaces (**BL3** – roads, paths and car parking), with planted areas/flower beds and borders (**BC4**) (Figure 8.13).

- This habitat is of Local Importance (Lower Value).

Figure 8.12: Grassland in the northern part of the Holy Cross College lands (May 2021)

Figure 8.13: Buildings and artificial surfaces (May 2021)

Figure 8.14: Habitat Map[28,29] (© *OpenStreetMap*, 2021)



[28] Site boundary red line is indicative only, for full details refer to the accompanying documentation.

[29] Small patches of habitats of negligible ecological value, such as flower beds and borders as well as ornamental and non-native shrubs are omitted from the habitat map. Patches of invasive weeds such as Japanese knotweed, mainly outside the Proposed Project boundary, are also not shown. Although outside the Proposed Project area, the grassland habitats that dominate the northern parts of the Holy Cross College site are also shown, for clarity.

8.4.6 Fauna

8.4.6.1 Wintering Birds

Several European sites in the wider Dublin area, including the South Dublin Bay and River Tolka Estuary SPA and the North Bull Island SPA support a range of wintering bird species. Coastal habitats, such as the sandflats, mudflats and saltmarshes of Dublin Bay are of primary importance to these species; however, many of the birds also feed on parks and playing fields throughout Dublin City. Light-bellied Brent goose, for example, a species for which Dublin Bay is a critical part of its range, frequently feeds on managed grass at numerous locations in the city.

The Masterplan lands at Holy Cross College have the apparent potential to be suitable for use by wintering birds such as Brent geese. However, the southern part of the site, despite the availability of amenity grassland, is in fact of low suitability for Brent geese. This is because the species requires fairly large, open areas of grassland, and the areas of amenity grassland in this part of the site are broken up by the trees and shrubs. The northern half of the Masterplan lands (which is outside the proposed Project Site) is more open, but is similarly of low suitability for this species, as it is not regularly mown.

Despite the low apparent likelihood of the overall Holy Cross College lands being utilised by overwintering birds, two separate seasons of overwintering bird surveys were commissioned in order to inform this ecological impact assessment. As stated in Section 8.2.2, the surveys were conducted by Scott Cawley on behalf of the Applicant. The surveys involved a very high level of survey effort and detailed survey reports are included at Appendix 8.1.

The results of the 2019/2020 surveys recorded seven Special Conservation Interest (SCI) species of European sites either flying over or foraging in the Holy Cross College lands (black-headed gull, herring gull, light-bellied Brent goose, cormorant, curlew, grey heron and kingfisher). According to the survey report:

> *"Herring Gull were the most frequent visitors to the proposed development site, with observations of the species on all 25 survey dates. Black-headed Gull were observed foraging in the lands on 13 of the 25 survey dates, and flying over the site on 10 of the survey dates. Light-bellied Brent Geese (hereafter referred to as Brent Geese) did not land to forage within the proposed development site on any date over the survey period, but were observed flying over the site on 11 dates between December 2019 and March 2020. Like Brent Geese, Curlew were not observed landing or foraging within the proposed development site on any occasion, but were observed flying over the site on 10 dates between October 2019 and March 2020. Cormorant were observed foraging in the River Tolka on five dates between September and December 2019, and were observed flying over or within the proposed development site on 16 dates. Kingfisher were observed foraging in and along the River Tolka on the northern boundary of the site on 18 of the 25 survey dates. Grey Heron were observed flying over the site on nine dates."*

The results of the 2020/2021 surveys recorded six SCI species of European sites either flying over or foraging in the Holy Cross College site (herring gull, light-bellied Brent goose, cormorant, curlew, grey heron and kingfisher). According to the survey report:

> *"Herring Gull were the most frequent visitors to the proposed development site, with observations of the species on all 25 survey dates. Light-bellied Brent Geese (hereafter referred to as Brent Geese) did not land to forage within the proposed development site on any date over the survey period, and were observed flying over the site on 16 dates between November 2020 and March 2021. Curlew were*

> *recorded foraging and flying over the proposed development site on four dates between October and December 2020. Cormorant were observed foraging in the River Tolka, flying over or within the proposed development site on 17 dates between October 2020 and March 2021. Kingfisher were observed foraging in and along the River Tolka on the northern boundary of the site on four of the 25 survey dates between October 2020 and March 2021. Grey Heron were observed foraging along the river Tolka or flying over or adjacent to the proposed development site 17 of the 25 survey dates."*

Brent geese were not observed foraging within the lands on any survey dates and no evidence of usage by the species was collected during any survey transects in the proposed Project Site. As noted in the survey reports, the results of the two seasons of wintering bird counts can be contextualised against the populations of these species in nearby European sites. In the case of Black-headed Gull, Herring Gull, Brent Geese, Curlew, Cormorant, Grey Heron and Kingfisher, it has been demonstrated that the peak count of birds in the survey area in 2019/20 and 2020/21 are less than 1% of the international population of these species. The 1% criterion is applied to identify sites of international importance for birds (i.e. if a site regularly supports 1% or more of the international population, then it would be considered of international importance). These results demonstrate that the proposed Project site is of not of significant value for any SCI species.

For example as clearly set out in the overwintering bird surveys (see Appendix 8.1), in the case of Herring gull, the peak count of 144 birds observed in the survey area (on 6 December 2019 and 21 December 2020) equates to only 1.4% of the 1% international population of the species (10,200 birds).

In the case of Cormorant, the peak count of one bird observed in 2019/20 and 2020/21 represents 0.16% of the 1% international population of the species (1,200 birds).

In the case of Curlew, the peak count of one bird observed in 2020/21 represents 0.02% of the 1% international population of the species (4,800 birds).

In the case of Black-headed gull, the peak count of 16 birds observed in 2019/20 represents 0.0008% of the 1% international population of the species (20,000 birds).

Brent Geese were not observed foraging within the lands on any survey dates across two winter survey periods and no evidence of usage by Brent Geese was collected from completion of survey transects in the proposed Project site.

These results clearly demonstrate that the Proposed Project site is of no significant value for any SCI species.

This is due to the low suitability of the habitats on the Clonliffe College lands and the availability of extensive areas of suitable habitat in the wider Dublin area.

This is due to the low suitability of the habitats on the Holy Cross College lands and the availability of extensive areas of suitable habitat in the wider Dublin area.

As noted in the 2019/20 survey report prepared by Scott Cawley, *"the proposed development site was heavily utilised by dog walkers over the 2019-2020 season, with dogs generally observed off-lead. This may have discouraged birds such as Brent geese and Curlew from landing in the site."* However, the proposed Project Site has been closed off to the public since March 2020, with restricted access to essential staff and visitors only. No dog walkers were permitted onto the Site during this period, which included the entire 2020/21 winter bird survey season. This change to the accessibility of the site has not resulted in any significant changes to the use of the Site by any bird species listed as SCI species in any European site.

8.4.6.2 Breeding Birds and Other Birds

All of the bird species recorded within the proposed Project Site are very common in Ireland. Species recorded during the course of the surveys undertaken in 2020 and 2021 included blackbird, blackcap, blue tit, buzzard, chaffinch, dunnock, goldfinch, great tit, robin, song thrush, blackbird, wood pigeon, wren, jackdaw and magpie. All of these species are on the green list of Birds of Conservation Concern in Ireland (BoCCI) (2020 – 2026)[30], indicating that they not currently species of conservation concern. Goldcrest, an amber-listed species (of medium conservation concern) was recorded on the Site, as was a single red-listed species, of significant conservation concern (swift), recorded flying over the Site during the summer of 2020. Outside the Site, along the river corridor, Kingfisher (amber-listed), grey heron (green-listed) and grey wagtail (red-listed) were regularly seen in 2020.

Although kingfisher was recorded on the river, no evidence of nesting holes or of suitable nesting habitat was found, either within the river corridor adjacent to the Holy Cross College lands or, more specifically, at or in the vicinity of the proposed surface water outfall locations.

Birds, as well as their nests and eggs, are fully protected under the Wildlife Act (1976) and subsequent amendments.

8.4.6.3 Bats

The bat surveys undertaken to inform this report concluded that there are no bat roosts within the proposed Project Site. However, this does not rule out the occasional use of features such as mature trees or buildings on the Site by roosting bats (refer to Appendix 8.2).

Three species of bat – common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*) and Leisler's bat (*Nyctalus leisleri*) – were recorded feeding within the Site during the surveys undertaken. As noted in the bat survey report:

> *"… bat activity increased within the site over time within the night, and the data suggest that bats are arriving on site from roosts external to the site. Bat activity dropped significantly approaching sunrise and while there was clearly evidence that two species were roosting in close proximity to the buildings, no bat was seen to enter prior to sunrise. Common pipistrelle activity was noted late into the morning on 11th June 2020 and this would indicate that bats were not commuting long distances to return to the roost. Leisler's bat activity was present at the cloister approaching sunrise on 1st July 2020 and it is probable that this species is roosting in close proximity to the site and potentially in buildings neighbouring the College.*
>
> *A common pipistrelle was noted at the cloister early on the night of 30th June 2020. This bat fed around the College eaves and displayed a very thorough awareness of the building in its flight paths and proximity to the building. This suggests that there may be occasional usage of the buildings by individual bats. There was no evidence of maternity roosts or large numbers of bats anywhere in the buildings based on the bat activity survey in June and the examination of the buildings in September. Individual bats may roost under slates etc. without any obvious signs of bat presence and their presence at other times (outside of the survey dates) could not be ruled out.*
>
> *In April 2021, a common pipistrelle was present close to the eastern house relatively early in the night but no bat was seen to emerge from the building. Bat activity around the College was low early in the*

[30] Gilbert *et al*. (2021)

> *observations and there were no bats seen to emerge from any building. Leisler's bat activity was extremely low on the night of survey with one monitor noting two periods of bat activity that lasted less than one minute at 20.53 hours.*
>
> *Bats have not been encountered by the maintenance staff of the College and there is no evidence from all available information of bat occupancy. Given the number of buildings and the volume of roof available to bats, it is very possible that individual bats avail of the buildings. However, no bat was noted to emerge or enter any building. No bat droppings or staining was in evidence and no staff member had encountered bats.*
>
> *The period of highest bat activity within the site was after sunset on 20th April 2021. At this time, there was high levels of pipistrelle activity locally including the trees around the eastern house, the trees running from here to the avenue into the site from Clonliffe Road and the major horse chestnut trees adjoining this avenue and along the River Tolka to the north of the site. There were some areas close to the College such as a flat-roofed extension where bat activity was noted, the rear of the College at the northwestern area of the cloisters but overall activity around the College was much lower than around the mature trees and along the river. Activity was highest in the unlit areas rather than the brightly lit areas."*

All Irish bat species are fully protected under the Wildlife Act (1976) and subsequent amendments, and under the *EU Habitats Directive*, via the *European Communities (Birds and Natural Habitats) Regulations, 2011-2015*.

8.4.6.4 Large Mammals

No evidence of badgers was recorded on the proposed Project Site. The Dublin City Otter Survey (2019) recorded significant otter activity all along the Tolka, including otter prints on the riverbank within the Holy Cross College lands. Otter spraint (droppings used as a territory marker) was found on a large rock on the riverbank by the author on two occasions in 2020, confirming the regular presence of the species in this area. However, despite an extensive search, no evidence of a breeding place (holt) or resting place (couch) for otters was recorded on the Tolka at Holy Cross College, including in the vicinity of the proposed surface water outfall locations.

Badgers are fully protected under the Wildlife Act (1976) and subsequent amendments. Otters are fully protected under the Wildlife Act (1976) and subsequent amendments, and in the European Communities (Birds and Natural Habitats) Regulations, 2011-2015.

Foxes and grey squirrel, which are not protected under wildlife legislation, were seen at the site by the author on several occasions.

8.4.6.5 Other Species

Overall, the Holy Cross College lands are dry, with very few areas suitable for use by breeding amphibians (newts and frogs). No amphibians have been observed during the surveys undertaken to date at the Site. Nevertheless, even minor wet areas and temporary ponds may be of value for amphibians, in particular during the spring breeding season.

Similarly, no evidence of common lizard has been recorded. However, it is possible that lizards may occur within the Site, although the area of suitable habitat (such as exposed rock) is negligible.

Amphibians and reptiles are fully protected under the Wildlife Act (1976) and subsequent amendments.

The site was assessed for the presence of butterflies and for the suitability of the habitats for butterfly abundance and diversity. A number of species of butterfly (red admiral, peacock, painted lady, ringlet and meadow brown, were all recorded on the site in 2020. No evidence of Ireland's only protected insect, the marsh fritillary butterfly, or its food plant (devil's bit scabious (*Succisa pratensis*)) was recorded on the Site.

8.4.7 Overall Evaluation of the Proposed Project Site

The lands at Holy Cross College are typical of such an urban parkland site, and overall, with the exception of the River Tolka corridor (outside the proposed Project Site but connected by proximity and by the proposed surface water outfalls), which is of County Importance (at a minimum), and the woodland on the western Site boundary, which is of Local Importance (Higher Value), the site is of Local Importance (Lower Value) in accordance with the ecological resource valuations presented in the NRA Guidelines.

The Site has some value for commuting and foraging bats, and for breeding birds. However it is not utilised by any wintering bird species, including those species listed as SCI species in any European sites. No evidence of badgers was found on the Site. The River Tolka, as previously noted, is of very high ecological value, for its habitats, for its importance as a habitat corridor and for its bird, mammal and fish species (including, for example, kingfisher, otter and Atlantic salmon).

8.5 Predicted Impacts of the Proposed Project

8.5.1 Construction Phase

8.5.1.1 Designated Conservation Areas

The potential for any impacts on European designated sites (sites designated for nature conservation under the EU Habitats and Birds Directives) has been assessed separately, and a stand-alone report (Information for Screening for Appropriate Assessment), compiled in consultation with the wider design team including the project engineers, has been prepared for submission as part of the overall planning application and is submitted under separate cover.

Based on the studies undertaken and the features of the proposed Project, the AA Screening process concluded that none of the habitats and species listed as qualifying interests or special conservation interests in any European site designation will be affected by the proposed Project and full AA, including the preparation of a Natura Impact Statement (NIS), is not required. The following paragraphs are extracted from the AA Screening report conclusions:

> *"On the basis of objective information it can be excluded that the construction and operational phases of the Proposed Project, individually or in-combination with other plans or projects, will have significant effects on any European site.*
>
> *As such no mitigation measures are required for the protection of these European sites.*
>
> *It is considered that this report provides sufficient relevant information to allow the Competent Authority (An Bord Pleanála) to carry out an AA Screening, and assist it with reaching a conclusion that it is not necessary to proceed to stage 2 and carry out an appropriate assessment."*

Similarly, there is no direct or indirect pathway between the proposed Project site and any pNHA not already designated as a European site, and therefore no impacts on any pNHA will occur. Specifically, there is no possibility of any impacts on the Royal Canal pNHA.

8.5.1.2 Habitat Loss and Disturbance

The proposed Project will result in the removal of some existing habitats of Local Importance (Lower Value) as well as alterations to parts of the Site that are of Local Importance (Higher Value).

In the absence of mitigation, the loss of trees, scrub and associated habitats would be considered to be a ***permanent, moderate negative impact at a local level***. However, appropriate landscape planting, including the planting of semi-mature trees, as well as long-term biodiversity-focused landscape management will be undertaken within the development.

Two new surface water connections will be made from the proposed Project to the River Tolka. This will require the creation of two new outfall channels. The locations of the outfalls have been selected by the design team (including the engineer, ecologist and landscape architect, with inputs from IFI) in order to minimise any potential for impacts on the River Tolka. The outfalls will be constructed in consultation and agreement with IFI, and set back from the riverbank. The vast majority of works will be on the bankside, right up and including the headwall detail, which is set c. 5 m back from the bank edge. All of the outfall works will be constructed in advance (with the riverbank unaffected), with the last piece of work to be done to 'break through' the river bank for the last few metres to open new channels to the river itself. On completion of the works, the newly created outfall areas will be landscaped and planted to match the existing riverbanks.

In the absence of mitigation, the temporary disturbance to bankside vegetation would be considered to be a ***temporary, moderate negative impact at a local level***. However the construction methodology and habitat reinstatement will mean that no permanent significant impacts arising from the installation of the surface water outfall and headwall connection.

The woodland strip along the western Site boundary has a reasonably diverse structure and ground flora. Nonetheless, some management is proposed in order to increase the biodiversity of this area and to make it suitable for use as an amenity feature for the proposed Project. This will involve the removal of some vegetation and the introduction of new woodland planting suited to the Site, as well as the creation of new low-impact paths and associated features (refer to the Landscape Design Statement, prepared by NMP Landscape Architecture and submitted as part of this application under separate cover, for full details). These features are sensitively designed and exploit existing features present in the woodland area.

The proposed woodland management will ultimately result in a ***moderate, positive impact at the local level***.

8.5.1.3 Disturbance to or Loss of Habitat for Fauna

The felling of mature trees and alterations to existing buildings creates a risk of roost loss. While no bat roosts have been recorded on the proposed Project Site, there are several trees with roost potential and the felling of trees creates a risk of roost loss. Reduced vegetation will also lead to reduced insect abundance.

In the absence of mitigation, this will be a ***permanent, slight negative impact***.

There will be a reduction in the vegetation cover and removal of the scrub and some of the mature trees that offer nest sites for the bird species noted within the Site. Trees that are retained will be subject to considerable pressure from disturbance for the duration of construction and from human presence during the operational phase. This will arise from the level of noise and lighting associated with construction and following this from lighting associated with residents.

In the absence of mitigation (including the lighting design, the comprehensive landscape planting and the long-term habitat management proposed), this would be a ***long-term, moderate negative impact*** on biodiversity.

However, the landscaping proposed (refer to the Landscape Design Statement, prepared by NMP Landscape Architecture and submitted as part of this application under separate cover) will ultimately lead to an increase in habitat (feeding and nesting) for birds.

No significant impacts on otters, badgers or any other large mammals within the Site are expected as a result of the proposed Project, both within the Site and along the River Tolka corridor. Further, there will be no impacts on amphibians, reptiles, lepidoptera or any other species groups as a result of the proposed Project, as none were recorded on the Site and there is no suitable habitat.

The implementation of biosecurity measures will ensure that no invasive alien plant species will be introduced, either deliberately or inadvertently, to the Site. A long-term plan for the eradication of all such species on the Holy Cross College lands is already being implemented.

No significant impacts on wintering birds are expected as a result of the proposed Project. As confirmed in Section 8.3.6.1 and in Appendix 8.1, no Brent geese utilise the Site and other SCI species use the site only on an occasional basis. Similarly, there will be no impacts on bird species along the River Tolka corridor, such as kingfisher, grey wagtail, cormorant and heron.

8.5.1.4 Discharges to Surface and/or Groundwater

The construction phase of the proposed Project could potentially have short term impacts on water quality in the River Tolka, via contaminated run-off and sedimentation, in the absence of mitigation. However, all construction works will proceed in line with the recommendations and guidance provided in the Outline Construction Surface Water Management Plan (prepared by BMCE and submitted under separate cover as part of this application, to be finalised by Contractor prior to commencement of works) and the Construction Management Plan (prepared by DCON Safety Consultants and submitted under separate cover as part of this application, also to be finalised by Contractor prior to commencement of works) for the proposed Project. See also Chapter 10 (Hydrology) and the Hydrological and Hydrogeological Qualitative Risk Assessment (HHQRA), prepared by AWN Consulting and submitted under separate cover as part of this application for further information.

Provided that Site facilities are correctly designed and proper working procedures are strictly adhered to, no impacts on existing watercourses are expected, either during the construction or operation of the proposed Project.

8.5.2 Operational Phase

According to the winter bird surveys contained in Appendix 8.1, the numbers of over wintering birds using the Holy Cross College lands is negligible. The Proposed Project will include the construction of new buildings, including one 18-storey block. However, the Proposed Project site is some 1.8km from the nearest SPA and the risk of collision is imperceptible. Birds tend to fly higher than the tallest obstruction in their flightpath and also to fly at a greater height between foraging sites. No Brent geese were observed anywhere on the site during two years of comprehensive bird survey and the Project Site is not an important site for this or any other overwintering species.

Having regard to Specific Planning Policy Requirement SPPR3 of the Urban Development and Building Height Guidelines for Planning Authorities (December 2018), which notes that specific assessments may be required and these may include relevant environmental assessments to be undertaken, no issues arise in relation to any ecological receptors, for example via the disruption of flight lines for birds, or disruption to commuting or foraging bats.

8.5.2.1 Impacts of Lighting from the Proposed Project

Increased lighting and increased human activity has the potential to impact on bat feeding and commuting behaviour. The proposed lighting for the Project has been designed with regard to the following guidelines:

- *Bats and Lighting – Guidance Notes for Planners, Engineers, Architects and Developers* (Bat Conservation Ireland, 2010);
- *Guidance Notes for the Reduction of Obtrusive Light GN01* (Institute of Lighting Professionals, 2011); and
- *Bats and Lighting in the UK – Bats and the Built Environment Series* (Bat Conservation Trust UK, 2018).

There are no roosts known within the Site and it is therefore expected that illumination would only affect commuting and feeding rather than roosting. At worst, lighting associated with the proposed Project would result in a ***permanent, slight negative impact*** on bats.

8.5.2.2 Discharges to Surface Water from the Proposed Project

As per the project Infrastructure Planning Report, prepared by Barrett Mahony Consulting Engineers (BMCE) and submitted under separate cover as part of this application, surface water run-off from the proposed Project Site will drain by gravity and will be attenuated prior to discharge into the River Tolka, with the exception of Building C2 adjacent to Clonliffe Road, which will discharge at a restricted attenuated flow into the Irish Water combined sewer on Clonliffe Road. SuDS will be incorporated into the proposed Project and will include green roofs, permeable paving, filter drains, rain garden and shallow infiltration systems. Surface water run-off will go through a minimum of two-stage treatment prior to discharge by gravity into the receiving systems.

Peak run-off discharge from the proposed Project will be restricted to a peak rate of 15.5 L/s into the River Tolka, in line with Greater Dublin Strategic Drainage Strategy (GDSDS) requirement of 2.0 L/s/ha. Attenuation facilities will be provided throughout the Site for storm events up to and including the 1 in 100 year event, plus 20% for climate change.

Operational impacts related to surface water (or ground water) management, in the context of biodiversity, as a result of the proposed Project, will not be significant. In particular, there will be no long-term impacts arising as a result of the operation of the new surface water outfalls to the River Tolka.

A Masterplan Area Flood Risk Assessment and a Site-Specific Flood Risk Assessment (SSFRA) have been prepared by BMCE and submitted under separate cover as part of this application, in accordance with the OPW publication *The Planning System and Flood Risk Assessment Guidelines for Planning Authorities*. The SSFRA confirmed that the residential site is within Flood Zone C and, as such, there is negligible flood risk associated with the proposed Project, and negligible flood risk to surrounding areas arising from the proposed Project.

Operational impacts related to flooding, in the context of biodiversity, as a result of the proposed Project, will not be significant.

8.5.2.3 Discharges to Foul Sewer from the Proposed Project

The proposed foul drainage system will connect to the Irish Water network at three locations, including two connection points into the existing 675 mm combined sewer below the future proposed GAA pitches within the wider Masterplan lands, and a third connection on Clonliffe Road.

It is calculated that, during the operational phase, the proposed Project will have a total hydraulic loading of 719 m^3 per day of foul effluent. This equates to an average flow of 8.32 L/s (over a 24-hour period) and a peak flow of 24.96 L/s.

A Pre-connection Enquiry application was submitted to Irish Water to confirm capacity in the receiving network and a confirmation of feasibility was obtained. See Appendix 6 of the BMCE Infrastructure Planning Report, submitted under separate cover as part of this application, for a copy of the Irish Water Confirmation of Feasibility letter.

Foul wastewater discharge from the Proposed Project will be treated at the Irish Water Wastewater Treatment Plant (WwTP) at Ringsend prior to discharge to Dublin Bay. The Ringsend WwTP operates under licence from the EPA (Licence no. D0034-01) and received planning permission (ABP Reg. Ref.: 301798) in 2019 for upgrade works, which are expected to be completed within five years. This will increase the plant capacity from 1.65m PE (population equivalent) to 2.4m PE. Regardless of the status of the WwTP upgrade works, the peak discharge from the Proposed Project, equivalent to 0.22% of the licensed discharge at Ringsend WwTP (peak hydraulic capacity) according to the AWN HHQRA, is not significant in the context of the existing capacity available at Ringsend. Though the WwTP is currently over capacity (the plant is currently accommodating 1.9m PE), recent water quality assessment undertaken in Dublin Bay (published by the EPA and available on the EPA online mapping database[31] confirms that Dublin Bay is classified as "*unpolluted*" and there is no evidence that the over-capacity issues at Ringsend are affecting the conservation objectives of the European sites in Dublin Bay.

Operational impacts related to foul water management, in the context of biodiversity, as a result of the proposed Project, ***will not be significant***.

8.6 Mitigation Measures

8.6.1 Construction Phase

8.6.1.1 Incorporated Design Mitigation

The proposed Project incorporates a comprehensive landscape design, with biodiversity-focussed planting (refer to Chapter 13 (Landscape & Visual) and the Landscape Design Statement, prepared by NMP Landscape Architecture and submitted as part of this application under separate cover). The planting and long-term management proposed in the Landscape Design Statement will enhance the biodiversity resource on the proposed Project Site by creating new, pollinator-friendly habitats.

8.6.1.2 Designated Conservation Areas

No designated conservation areas will be impacted in any way by the proposed Project and no mitigation measures are required in this regard. Refer to the AA Screening Report that accompanies the planning application for full details in relation to European designated sites.

8.6.1.3 Habitats

There will be no significant habitat loss as a result of the proposed Project. There will be no significant impacts on Key Ecological Receptors, including the River Tolka or the retained woodland on the western Site boundary which will be enhanced as part of the Proposed Project. Regardless, as set out in the Landscape Design

[31] EPA Maps

Statement, prepared by NMP Landscape Architecture and submitted as part of this application under separate cover, a significant amount of new planting has been incorporated into the landscape design, and the planting has been designed with a view to maximising the new biodiversity resource at the proposed Project Site. The proposed planting/landscaping strategy includes a mix of appropriate species, incorporating species that will attract feeding invertebrates, including moths, butterflies and bees. It takes account of the All-Ireland Pollinator Plan (2020 - 2025)[32].

The proposed planting schedule as set out in the Landscape Design Statement contains no invasive species and none will be introduced, either deliberately or inadvertently, to the proposed Project Site. The Invasive Species Management Plan (see Section 8.3.4) currently being implemented at the Holy Cross College Lands will continue until all these invasive species are entirely eradicated from the site. Biosecurity measures will be included in the final CMP by the appointed contractor.

8.6.1.4 Fauna

Where feasible and practicable, the clearance of scrub and other vegetation that may be suitable for use by nesting birds will be undertaken outside the bird nesting season (avoiding the period 1 March to 31 August). Should the construction programme require vegetation clearance between March and August, bird nesting surveys will be undertaken by suitably qualified ecologists. If no active nests are recorded, vegetation clearance will take place within 24 hours. In the event that active nests are observed, an appropriately sized buffer zone (up to 5 m radius around the nest) will be maintained around the nest until such time as all the eggs have hatched and the birds have fledged – a period that may be three weeks from the date of the survey. Once it is confirmed that the birds have fledged and no further nests have been built or occupied, vegetation clearance may take place immediately.

There will be no impacts on otters or other large mammals. Regardless, a pre-construction check for otters will be undertaken prior to the installation of the two surface water outfalls to the River Tolka, to ensure this remains the case.

No bat roosts have been recorded at the proposed Project Site and it will not be necessary to apply for a derogation licence under Regulation 54 or 55 of the *European Communities (Birds and Natural Habitats) Regulations 2011-2015*.

Nevertheless, as bats are highly mobile creatures, all mature trees shall be checked for bats by a bat specialist to identify trees with the highest potential prior to felling or major surgery. From this, trees with the highest roost potential as determined by the bat specialist shall be subjected to a higher level of examination that shall include thorough checking of all suitable crevices, cavities, ivy cover or loose bark. This will require access via a hoist to reach all suitable cavities and crevices. Should bats be noted during this evaluation, a derogation shall be required from NPWS.

Where there is a need to undertake building work at roof level for the buildings within the Site (the College or house to the east), buildings shall be examined for the presence of bats prior to commencement.

Notwithstanding the limited roosting potential of the Site, it is proposed to install a significant number of bat and bird boxes both within the proposed Project itself and within the retained woodland blocks. The reason for the installation of additional bat boxes is not to provide replacement roosts; rather, it is to augment the

[32] NBDC (2021)

overall ecological value of the Site. This will contribute to maximising the ecological value of the proposed Project.

To that end a number of bat and bird boxes will be erected, with advice from the Project Ecologist, in appropriate areas. The boxes proposed are as follows (this list is subject to revision based on the availability of suitable boxes in the future):

- 4 no. Schwegler 1MF combined bat and swift boxes or similar (to be located within the buildings themselves);
- 6 no. Schwegler 2F with double front panel or similar;
- 2 no. Eco bat boxes (wooden); and
- 6 no. assorted wooden or woodcrete bird boxes, suitable for use by robins, blue tits and tree creepers.

The installation of boxes that can accommodate swifts will increase the available nesting potential of the proposed Project Site for this species, which has undergone significant declines in recent years[33], and has now been placed on the red list of BoCCI[34].

Bats are sensitive to light at night, and the lighting design ensures that the proposed Project will not result in impacts on bats that do commute/forage in or near the proposed Project Site.

The lighting design for the proposed Project (see Section 8.5.2.1), designed by O'Connor Sutton Cronin Consulting Engineers, takes account of biodiversity requirements and includes the following measures:

- All luminaires shall lack UV elements when manufactured and shall be LED;
- A warm white spectrum (maximum 4000 kelvin) shall be adopted to reduce blue light component; and
- Luminaires shall feature peak wavelengths higher than 550 nm.

8.6.1.5 Surface Water

There will be no surface water related impacts on biodiversity as a result of the proposed Project. The installation of two surface water outfalls has the potential to result in localised (in the vicinity of the outfall), short-term (only the duration of the outfall construction period) impacts on surface water quality in the River Tolka.

The surface water mitigation measures proposed in Chapter 10 (Hydrology) and in the Outline Construction Surface Water Management Plan (CSWMP), prepared by BMCE, and Construction Management Plan (CMP), prepared by DCON Safety Consultants (both submitted as part of this application under separate cover), will ensure that no sediment contamination, contaminated run-off or untreated wastewater will enter any on-Site surface water drains and, in particular, the River Tolka as a result of the construction of the proposed Project.

8.6.2 Operational Phase

8.6.2.1 Foul Water

As noted in Section 8.4.2, there will be no impacts on foul water treatment capacity at the Ringsend WwTP as a result of the proposed Project. No mitigation measures are required.

[33] Swift Conservation Ireland
[34] Gilbert *et al*. (2021)

8.6.2.2 Surface Water

As noted in Section 8.4.2.2, there will be no impacts related to surface water, including the River Tolka, as a result of the Proposed Project. The development is designed in accordance with the principles of SuDS as embodied in the recommendations of the GDSDS, which addresses the issue of sustainability by requiring designs to comply with a set of drainage criteria which aim to minimize the impact of urbanization, by replicating the run-off characteristics of the greenfield site. The criteria provide a consistent approach to addressing the increase in both rate and volume of run-off, as well as ensuring the environment is protected from any pollution from roads and buildings. No corresponding mitigation measures are required.

8.7 Residual Impacts

Overall, although the proposed Project may have temporary negative impacts on biodiversity at the Site level, these impacts will be fully mitigated over time to be rendered negligible.

There will be a loss of feeding habitat within the Site for bats and birds and a loss of nesting habitat for birds as a result of the proposed works. However, the very comprehensive landscape design proposed will ensure that vegetation will establish over time and these losses will be reduced considerably. There will be very limited ***(slight, negative, long-term)*** impact upon bats within the Site, given the relatively low level of bat activity noted. There will be limited or no loss of roost potential as the Site develops and with the provision of bat boxes.

There will be no long-term impact on the River Tolka and its associated habitats, either as a result of the proposed Project itself or the installation of two new surface water outfalls to the watercourse.

8.8 Monitoring

A suitably experienced Project Ecologist will be appointed for the duration of the construction phase and regular monitoring of all related works will take place to ensure the correct and full implementation of all mitigation measures. The Project Ecologist will ensure that all construction works take place in accordance with the project Construction Management Plan, the Construction Surface Water Management Plan and the mitigation measures set out in this EIAR.

As noted in Section 8.5.1, should vegetation clearance be required during the bird nesting season, this work will take place only after the Project Ecologist has undertaken a survey to ensure that no active bird nests or recently fledged birds are present. Similarly, no evidence of roosting bats was recorded on the Site during any of the comprehensive bat surveys undertaken. Regardless, a pre-construction survey will be required to ensure that any necessary tree felling or works to buildings continues to have no impact on roosting bats.

No long-term ecological monitoring is required, other than post-construction monitoring of the bat and bird boxes installed. The bat and bird boxes installed on the Site will be checked annually for a period of five years post-completion of the works, to ensure that they continue to be accessible to these species.

On completion of construction, the lighting installed will be reviewed by the Project Ecologist and a bat specialist, to ensure that it is operating according to the approved specifications.

8.9 Reinstatement

The majority of the Site to be removed and replaced with the various elements of the proposed Project is of no more than Local Importance (Local Value). The most significant part of the site, the mature woodland along the western boundary, is to be retained and enhanced as part of the proposed Project. As set out in the

Landscape Design Statement, prepared by NMP Landscape Architecture and submitted under separate cover, it is anticipated that there will be a net gain in biodiversity once the proposed Project is completed, through the creation of additional habitats, with the provision of significant amounts of new tree, shrub and formal planting, as well as biodiversity-focused SuDS measures and wildflower meadows.

The long-term management of the Site will incorporate best practice measures to maintain the high level of biodiversity at the site.

On completion of the works the newly created surface water outfall areas will be landscaped and planted to match the existing riverbanks.

Given the comprehensive mitigation and landscape design proposed, no other ecological reinstatement is required.

8.10 Interactions

At the proposed Project Site, the main interactions of importance to biodiversity relate to Landscape & Visual (Chapter 13), Hydrology (Chapter 10) and Land, Soils, Geology & Hydrogeology (Chapter 9). The mitigation measures for the proposed Project have been designed to minimise the potential impact that the construction, demolition and operational phases may have on the receiving environment, including, in particular, the River Tolka.

The landscape design for the proposed Project takes into account the requirements to maximise the benefits to biodiversity, both locally and within the wider landscape. The landscape scheme (refer to Chapter 13 and the Landscape Design Statement, prepared by NMP Landscape Architecture and submitted as part of this application under separate cover) proposes significant ecologically sensitive planting to provide for potentially diverse habitats.

As noted in Chapter 21 (Interactions) the potential significant impacts of biodiversity have been considered within the relevant discipline, and mitigation measures outlined, where required. With mitigation measures in place, no significant residual negative impacts are predicted.

8.11 Cumulative Impacts

A number of developments have been granted planning permission in the local area, by Dublin City Council or by An Bord Pleanála (refer to Chapter 22 – Cumulative Impacts). Developments with the potential for significant effects on biodiversity within the Zone of Influence of the proposed Project include a proposal to develop a 7-storey Hotel development together with the existing boundary wall, repositioning of gate piers and the widening of the entrance on Clonliffe Road together with all ancillary works (DCC Reg Ref.:2 935/20 (ABP 308193-20)).

Neither this nor any other developments will give rise to any significant impacts on biodiversity and there are no predicted cumulative impacts in relation to biodiversity, for example in terms of habitat loss or disturbance to protected species, as a result of the Proposed Project in combination with existing / proposed plans or projects.

8.12 'Do-Nothing' Impact

As noted in Section 8.3.7, the proposed Project Site is of local ecological importance, comprising as it does a mix of urban parkland habitats in close proximity to the River Tolka. Should the Site remain undeveloped and the current uses continue, no significant changes to the biodiversity value of the Site can be expected.

A management plan to eradicate the invasive alien plant species is currently being implemented at the Holy Cross College Lands. Whether or not the site is developed this will continue until all these invasive species are entirely eradicated from the site.

The site is zoned Z12 under the Dublin City Development Plan (2016 – 2022) (with the objective "*To ensure existing environmental amenities are protected in the predominantly residential future use of these lands*") and it is likely that in the absence of this subject proposal, a development of a similar nature would be progressed on the Site that accords with national policy for appropriate development on such a site. Should the site be re-developed at a later stage, it is reasonable to expect that any potential impacts would be similar to those predicted to arise as a result of the proposed Project.

8.13 Difficulties Encountered in Compiling the Chapter

No difficulties were encountered in compiling the Biodiversity Chapter of this EIAR. All surveys were undertaken to an appropriate level, given the nature of the Site and the proposed Project.

8.14 Conclusion

There will be no long-term residual impact on ecological receptors, either within or in the vicinity of the proposed Project Site, or associated with any site designated for nature conservation as a result of the Proposed Project.

8.15 References

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- Council Directive 2000/60/EC of the European Parliament and of the Council establishing a Framework for the Community Action in the Field of Water Policy (The Water Framework Directive)
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9 Land, Soils, Geology & Hydrogeology

9.1 Introduction

This chapter of the EIAR has been prepared by AWN Consulting Ltd. and presents an assessment of the existing environment (baseline) and the likely impacts on land, soil, geological and hydrogeological aspects, associated with the proposed Holy Cross College SHD ('proposed Project' hereafter) at Holy Cross College, Clonliffe Road, Dublin 3 and Drumcondra Road Lower, Drumcondra, Dublin 9.

In assessing likely potential and predicted impacts, account is taken of both the importance of the attributes and the predicted scale and duration of the likely impacts. Where an impact is identified, planned mitigation measures are identified and assessed.

This chapter was prepared by Paul Conaghan BCc MSc, an Environmental Consultant with AWN Consulting Ltd. Paul has over 9 years' experience in environmental consulting and engineering. He is a specialist in geo-environmental, hydrogeological assessment and contaminated land investigation. Paul is a member of the International Association of Hydrogeologists (Irish Chapter).

A full description of the proposed Project can be found in Chapter 5 (Description of the Proposed Project). The characteristics of the proposed Project that are relevant in terms of land, soils, geology and hydrogeology are summarised below.

9.2 Methodology

The assessment has been carried out generally in accordance with the following guidelines:

- Construction Industry Research and Information Association (CIRIA) *Control of Water Pollution from Construction Sites* (2001);
- *CIRIA Environmental Handbook for Building and Civil Engineering Projects* (2000);
- EPA (2017). *Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports;*
- EPA (2015). *Draft Advice Notes on Current Practice in the Preparation of Environmental Impact Statements;*
- Institute of Geologists of Ireland (IGI) (2013). *Guidelines for the preparation of Soils Geology and Hydrogeology Chapters of Environmental Impact Statements;* and
- National Roads Authority (NRA) (2009). *Guidelines on Procedures for the Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes.*

In the EIA assessment, consideration is given to both the importance of an attribute and the magnitude of the potential environmental impacts of the proposed activities on that attribute. Appendix 9.1 in Volume 3 presents the impact assessment criteria provided in the Institute of Geologists of Ireland (IGI) publication.

The principal attributes (and impacts) to be assessed include the following:

- Geological heritage sites in the vicinity of the perimeter of the Site of the proposed Project;
- Landfills, industrial sites in the vicinity of the Site and the potential risk of encountering contaminated ground;
- The quality, drainage characteristics and range of agricultural uses of soil around the site;
- Quarries or mines in the vicinity, the potential implications (if any) for existing activities and extractable reserves;

- The extent of topsoil and subsoil cover and the potential use of this material on-Site, or requirement to remove it off-site as waste for disposal or recovery;
- High-yielding water supply springs / wells in the vicinity of the Site to within a 2 km radius and the potential for increased risk presented by the proposed Project;
- Classification (regionally important, locally important, etc.) and extent of aquifers underlying the Site perimeter area and increased risks presented to them by the proposed Project e.g., removal of subsoil cover, removal of aquifer (in whole or part), drawdown in water levels, alteration in established flow regimes, change in groundwater quality;
- Natural hydrogeological / karst features in the area and potential for increased risk presented by the activities at the Site; and
- Groundwater-fed ecosystems and the increased risk presented by operations both spatially and temporarily.

9.2.1 Sources of Information

Desk-based geological information on the substrata (both quaternary deposits and bedrock geology) underlying the extent of the Site was obtained through accessing national databases and site archives. The collection of baseline regional data was undertaken by reviewing the following sources:

- Geological Survey of Ireland (GSI) - on-line mapping, Geo-hazard Database, Geological Heritage Sites & Sites of Special Scientific Interest, Bedrock Memoirs and 1:100,000 mapping;
- Teagasc soil and subsoil database;
- Ordnance Survey Ireland - aerial photographs and historical mapping;
- Environmental Protection Agency (EPA) – website mapping and database information;
- National Parks and Wildlife Services (NPWS) – Protected Site Register; and
- Ground Investigations Ireland (GII) (2020). *Project Calvary Ground Investigation Report* (July 2020).

9.3 Baseline Environment

9.3.1 Site Description

The site of the proposed Project is located at Holy Cross College, Clonliffe Road, Dublin 3, and Drumcondra Road Lower, Drumcondra, Dublin 9 (the 'Site' hereinafter). The Site is bounded to the west by the Drumcondra Road Lower, the south by the Clonliffe Road, to the east by residential buildings, and the north by the Tolka River. The proposed Project sits as part of a wider site Masterplan for the entire Holy Cross College lands which includes a permitted hotel development (ABP Reg. Ref.: PL29N.308193) and future proposed GAA pitches and clubhouse.

The Site contains a number of Protected Structures, including the Seminary Building, Holy Cross Chapel, South Link Building, Assembly Hall and Ambulatory; while the wider Holy Cross College lands also includes the Red House and the Archbishop's House (also Protected Structures). The application proposes the renovation and extension of the Seminary Building and South Link Building to accommodate residential units, and the renovation of the existing Holy Cross Chapel and Assembly Hall buildings for use as residential tenant amenity use.

The residential buildings are arranged around a number of proposed public open spaces and routes throughout the Site, with extensive landscaping and tree planting proposed. Communal amenity spaces will be located adjacent to residential buildings and at roof level throughout the scheme. See Chapter 5 (Description of the Proposed Project) for a full description of the proposed Project.

Figure 9.1: Site Location

9.3.2 Topography & Setting

The Site has an undulating topography, based on Ground Investigations Ireland Ltd.'s 2020 site investigation report, with ground levels of 6.62 metres above ordnance datum (mAOD) recorded at BH17 to the north-west of the site, 12.46 mAOD to the south-west of the site (around the currently located buildings), and 7.74 mAOD at the south-east of the Site. Natural topography would be presumed to be south to north towards the Tolka River. The setting is largely suburban, with residential buildings primarily surrounding the Site, and some commercial / light industrial buildings located to the north-east.

9.3.3 Areas of Geological Interest & Historical Land Use

The GSI (2021) online mapping was reviewed to identify sites of geological heritage interest for the Site and surrounding area. There are no recorded sites on / at the Site of the proposed Project, or which could be suitable for protection under this programme, or recorded in the Dublin City Development Plan (2016 – 2022).

The nearest recorded Geological Heritage Site is Glasnevin Cemetery (Site DC004), which is located c. 1.4 km to the west of the Site. Due to the distance and its regional up-gradient location from the proposed Project, there is a negligible risk to this heritage site.

Details of the Site history and previous land use are included in Chapters 14 (Cultural Heritage – Architectural Heritage) and Chapter 15 (Cultural Heritage – Archaeology). The assessment of Site history[35] confirms that there have been buildings located to the south of the Site associated with the Roman Catholic Archdiocese of

[35] OSI (2021).

Dublin. Historical maps do not show any evidence of any industrial or related activity on the Site that would result in soil or groundwater contamination.

According to the EPA (2021), there are no licensed Integrated Pollution Prevention and Control (IPPC) or Industrial Emissions Directive (IED) facilities in the vicinity of the Site. The closest is Everlac Paints Ltd (Licence No. P0220-01), which is 1 km east (down-gradient) of the proposed Project Site. There are no records of any landfills or licenced waste facilities in the vicinity of the Site.

9.3.4 Soils

The Teagasc soil mapping indicates that the soils are comprised primarily of Made Ground/ not original fill material (signifying its suburban location) with deep, well drained mineral soil derived from limestones (BminDW) to the north of the Site. Alluvium (AlluvMIN) is also recorded to the north, which corresponds to the location of the River Tolka. The EPA have categorised this area of Dublin City in its CORINE landcover data series as Artificial Ground - Artificial non-agricultural vegetated areas (Green urban areas). The soil mapping for the Site is presented below in Figure 9.2.

Figure 9.2: Regional Teagasc Soils Map[36]

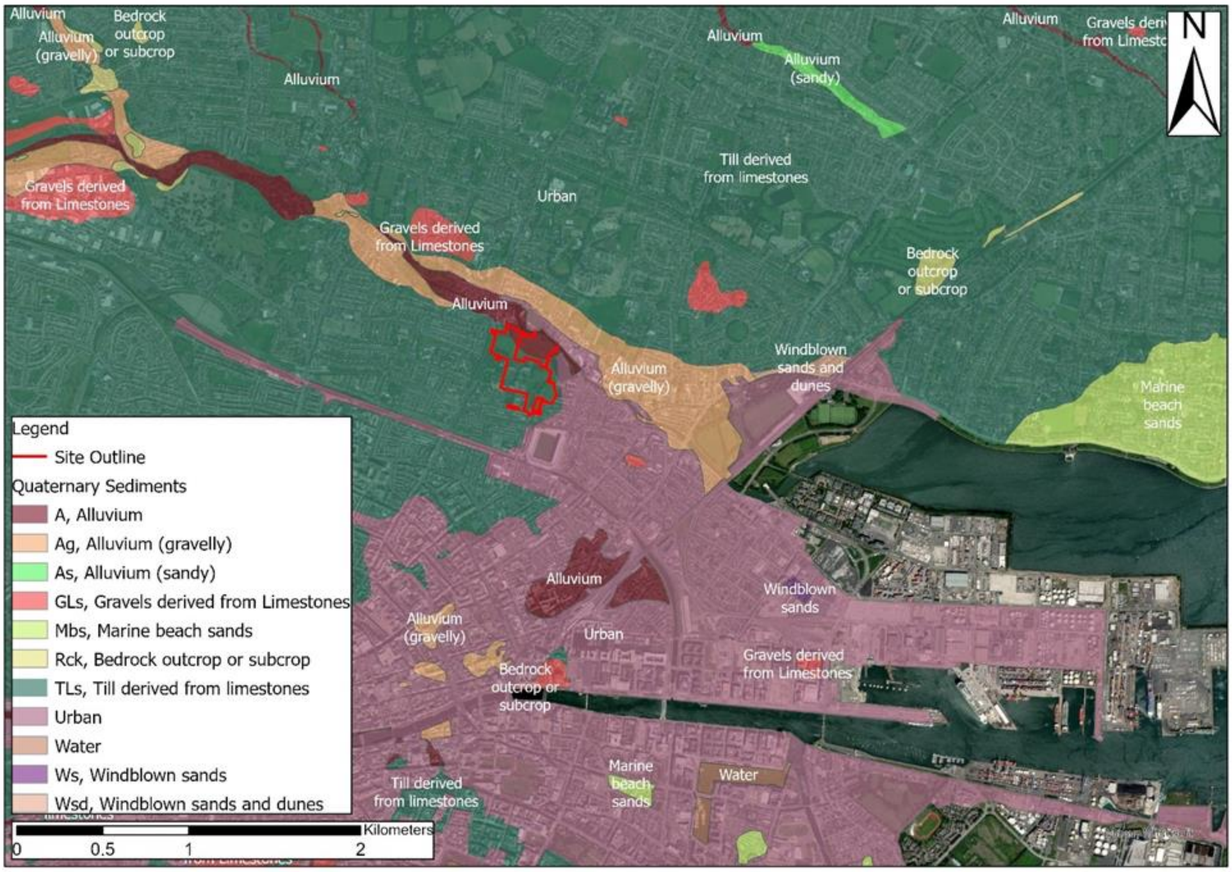
9.3.5 Subsoils (Quaternary)

The Quaternary geological period extends from about 1.5 million years ago to the present day and can be sub-divided into the Pleistocene Epoch, which covers the Ice Age period, and which extended up to 10,000 years ago; and the Holocene Epoch, which extends from that time to the present day.

[36] Teagasc / GSI (2021).

The GSI / Teagasc mapping database of the subsoils in the area of the Site indicates one principal soil type, as shown in Figure 9.3 below. The subsoil type present across the Site is Limestone till Carboniferous (TLs). The Site is composed of limestone till. This till is made up of glacial clays which are less permeable than alluvium subsoils.

Figure 9.3: Regional Subsoil (Quaternary) Map[37]



Ground Investigations Ireland (GII) carried out an environmental site investigation at the Site of the proposed Project in February, March and June 2020. The scope of works included trial pitting, borehole drilling, subsoil sampling, interpretation of chemical data and reporting.

The sequence of subsoils deposits recorded during the site investigations are shown in Table 9.1. Site investigation locations are shown in Figure 9.4, with trial pit and borehole logs for these locations included in Appendix 9.2 in Volume 3. Bedrock depth from on-Site investigation confirms the GSI vulnerability categorisation as ‘Low’ (refer to Section 9.3.7).

[37] GSI (2021).

Table 9.1: Strata Noted From On-site Investigation

Name	Depths / Notes
Topsoil	Topsoil was encountered in the majority of the exploratory holes and was present to a maximum depth of 0.90 m BGL. Tarmacadam or Concrete surfacing was present typically to a depth of 0.20 m BGL in all the foundation pits and at the location of BH07 and BH14.
Made Ground	Made Ground deposits were encountered from ground level or beneath the Topsoil/Surfacing and were present to a variable depth of between 0.15 m and 2.00 metres below ground level (mbgl). These deposits were described generally as brown slightly sandy slightly gravelly CLAY with some cobbles and boulders and contained occasional fragments of concrete, brick, glass, ceramic, timber, animal bone and plastic. Made ground was encountered throughout the site.
Cohesive Deposits	Cohesive deposits were encountered beneath the Made Ground and were described typically as brown slightly sandy gravelly CLAY with occasional cobbles and boulders overlying a stiff dark grey slightly sandy gravelly CLAY with occasional cobbles and boulders. The secondary sand and gravel constituents varied across the site and with depth, with granular lenses occasionally present in the glacial till matrix. The strength of the cohesive deposits typically increased with depth and was firm to stiff or stiff below 2.00 mbgl in the majority of the exploratory holes. These deposits had some, occasional cobbles and boulder content and noted on the exploratory hole logs.
Granular Deposits	The granular deposits were encountered beneath the cohesive deposits at TR1 & TR2. These deposits were typically described as Brown/grey clayey sandy subangular to subrounded fine to coarse GRAVEL with some subangular to subrounded cobbles and occasional boulders. At the location of BH05 and BH06, the drillers described SAND and GRAVEL deposits within and below the cohesive deposits at a depth of circa 7.0 mbgl. The secondary sand/gravel and silt/clay constituents varied across the site and with depth while occasional cobbles and boulder content were also present and noted on the exploratory hole logs.
Bedrock	The rotary core boreholes recovered interbedded weak to medium strong MUDSTONE interbedded with LIMESTONE in the rotary core boreholes. This is typical of the Lucan Formation, which is noted on the geological mapping of the proposed site. The depth to rock varies from 12.60 mbgl in BH17, to a maximum of 19.60 mbgl in BH05. No rock was found to a depth of 15 mbgl in BH06 and BH14.

9.3.5.1 Soil Quality

During the 2020 Site investigations by GII, samples were recovered from the on-site trial pit and borehole locations and sent for analysis. A selection of samples collected were analysed for a suite of parameters (the 'RILTA suite') that allow for the assessment of the soils in terms of total pollutant content, for classification of materials as hazardous or non-hazardous.

The parameter list for the RILTA suite includes analysis of the solid samples for arsenic, barium, cadmium, chromium, copper, cyanide, lead, nickel, mercury, zinc, speciated aliphatic and aromatic petroleum hydrocarbons, pH, sulphate, sulphide, moisture content, soil organic matter and asbestos. The total pollutant content analysis also provides analytical data which can be used to assess the quality of the subsoils underlying the Site and allow an assessment of their suitability for a range of proposed uses against generic assessment criteria.

The RILTA suite also includes those parameters specified in the EU Council Decision Establishing Criteria for the Acceptance of Waste at Landfills (Council Decision 2003/33/EC), referred to as 'Waste Acceptance Criteria' (WAC), which for the solid samples are pH; total organic carbon (TOC); speciated aliphatic and aromatic petroleum hydrocarbons; benzene, toluene, ethylbenzene and xylene (BTEX); phenol; polychlorinated biphenyls (PCB) and polycyclic aromatic hydrocarbons (PAH).

In line with the requirement of Council Decision 2003/33/EC, leachate was generated from the solid samples, which was in turn were analysed for antimony, arsenic, barium, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, zinc, chloride, fluoride, soluble sulphate, sulphide, phenols, dissolved organic carbon (DOC) and total dissolved solids (TDS). The suite was selected due to the unknown origin of the material underlying the Site and no evidence of specific contaminants of concern highlighted in the Site history. The laboratory testing was completed by Element Materials Technology (EMT) in the UK, a UKAS accredited laboratory. The full laboratory reports are included in Appendix 9.3 in Volume 3. The Site investigation locations are shown in Figure 9.4.

The laboratory analysis did not identify any asbestos containing materials (ACMs) in all but one (1) location. SL3 (foundation pit) recoded ACMs at a depth of 0.07 - 0.3 metres below ground level (mbgl). Due to this being a foundation pit, the source of the asbestos is possibly the building material and not indicative of the made ground found throughout the Site. See Chapter 19 (Material Assets – Waste) for more information on asbestos management.

The majority of the samples collected at the Site (area outlined in red in Figure 9.4) can be categorised as inert (as per Council Decision annex 2003/33/EC). Several of the leachate samples (TR6: 0 - 1.1 mbgl; TR8: 0 – 07 mbgl; TR9: 0 - 0.5 mbgl; TR10: 0 - 0.6 mbgl; SL8: 0.15 - 1.6 mbgl; TR12: 0 - 0.6 mbgl; TR13: 0 - 0.5 mbgl; TR14: 0 - 0.6 mbgl) exceeded the inert criteria limits for TOC with three samples (TR9, TR12 and TR14) exceeding the hazardous threshold. However, these elevated levels will not be indicative of contamination of the subsoils, as the majority of all the other parameters tested were below the WAC criteria, and all the sample listed are relatively shallow. The likely explanation is that the sample contained components of topsoil and vegetation, which resulted in the elevated levels of TOC.

It is recommended that before removal of any soil from the Site, classification of the samples is carried out using an EPA approved proprietary web-based software waste classification tool called HazWasteOnline™. The software follows the latest Environment Agency (UK) guidance and EU Regulations and is approved by the Irish Environmental Protection Agency (EPA). HazWasteOnline™ allows users to code and classify waste as defined in the European List of Waste, based on EC Regulation 1272/2008 on the Classification, labelling and packaging of substances and mixtures (CLP) and latest Environment Agency (UK) guidance (WM3 v.1.1). It should be noted that the HazWasteOnline™ tool only gives a categorisation of material as Hazardous or Non-Hazardous. This will most likely be requested from any licenced facility receiving the excavated material (see Chapter 19 – Material Assets – Waste) for more information)

The only two samples exceeding the inert WAC criteria that were not TOC-related were antimony in sample IF2 0 - 1.5 mbgl (0.06 mg/kg with a threshold of 0.05 mg/kg) and selenium 1.60 - 2.10 mbgl (0.15 mg/kg with a threshold of 0.1 mg/kg). These slightly elevated levels will not be indicative of contamination of the subsoils, as antimony and selenium are natural earth metals. The Soil Geochemical Atlas of Ireland (Teagasc, 2007) shows that the mean background concentration of antimony for soils in the area surrounding the proposed Project Site is > 1.1 mg/kg, while selenium is 0.751 - 1.00 mg/kg. Soil comparison WAC category tables can be viewed in Appendix 9.3.

A small indoor Substation (No 425 S200) named Clonliffe College owned and operated by the ESB is currently located to the north of the college buildings (see Figure 9.4 below). Analysis of soil samples taken from locations SL2 (0.15-1.4) mbgl and SL3 (0.07-0.3 mbgl) indicated levels of hydrocarbons above their relevant levels of detection. Both locations are located beside the substation building (see Figure 9.4).

There are no legislated threshold values for soils in Ireland. As such, the soil quality data was from locations SL2 & SL3 was compared to a generic assessment criteria (GAC) derived to be protective of human health and also ecology for a residential and commercial/industrial end use.

Generic Assessment Criteria in the UK has been derived using the Contaminated Land Exposure Assessment (CLEA) model to be protective of human health for a number of different land uses. LQM (Land Quality Management) and the CIEH (Chartered Institute of Environmental Health) developed a document in July 2009 detailing their own research and derivation of their own 'LQM GACs'. A total of 82 substances including many organic substances had LQM GACs derived, for the standard land uses of residential, commercial/industrial and allotments. This was updated in 2015 following further research and the derived results are now called LQM/CIEH Suitable 4 Use Level (S4UL). The LQM/CIEH S4ULs are intended for use in assessing the potential risks posed to human health by contaminants in soil and as transparently derived and cautious "trigger values" above which further assessment of the risks or remedial action may be needed. For each contaminant S4ULs have been derived for six land use scenarios based on assessing exposure pathways in each planning scenario. In this instance the most conservative residential (with home grown products) scenario has been considered. Soil type and soil organic matter (SOM) has an influence on the behaviour of contaminants. S4ULs have been derived for three SOM contents (1%, 2.5% and 6%) to cover the likely range in soils. A prudent approach has been taken by considering the lower 1% SOM content where applicable, metals criteria are by default listed by the LQM/CIEH as derived with 6% SOM.

The UK values do not have any legal standing within the Republic of Ireland and no statutory guidance for assessing the significance of soil contamination currently exists. However, the values do provide a means of placing the data within context when considering magnitude of risk and have been used in that capacity for this assessment. The main basis of the assessment remains the conceptual site model and consideration of the pollutant linkages: Source - Pathway – Receptor.

When compared against the LQM/CIEH S4UL's the samples from SL2 & SL3 (and samples from surrounding locations) were below all available threshold levels for hydrocarbons including Polycyclic Aromatic Hydrocarbons (PAHs), Benzene, Toluene, Ethylbenzene and Xylenes (BTEX compounds) and aromatic and aliphatic hydrocarbon ranges. All levels are below the WAC (Council Decision 2003/33/EC) inert criteria levels. As owners of the substation, the decommissioning and removal are to be undertaken by the ESB. It is advised to remove the concrete slab material (which the sub is resting on) and the soil beneath the footprint of the station to a depth of 2 metres and disposed of at an appropriately licenced facility.

There was no evidence of waste deposited on-Site during site investigation works. Please see Chapter 19 (Material Assets – Waste) for further discussion of waste categorisation and removal.

Figure 9.4: Site Investigation Map -- Redline is Site investigation boundary and not Project boundary[38]

Figure 9.5: Regional Bedrock Geology Map[39]

[38] GII (2020).
[39] GSI (2021).

9.3.6 Geology

Reference to the GSI Bedrock Geology Map indicates that the Site is underlain by Carboniferous (Late Chadian to Asbian) dark limestones and shale ('calp') which is referred to as Lucan Formation (Rock Unit code: LU). This geological formation comprises dark grey to black, fine-grained, occasionally cherty, micritic limestones that weather paler, usually to pale grey. It is also characterised by its compact nature and discreet fracturing. The Bedrock Geology Map is shown in Figure 9.5, above.

9.3.7 Hydrogeology

The GSI classifies the principal aquifer types as:

Bedrock Aquifer

- Lk: Locally important aquifer – karstified;
- Ll: Locally important aquifer – bedrock which is moderately productive only in local zones;
- Lm: Locally important aquifer – bedrock which is generally moderately productive;
- Pl: Poor aquifer – bedrock which is generally unproductive except for local zones;
- Pu: Poor aquifer – bedrock which is generally unproductive; and
- Rkd: Regionally important aquifer (karstified diffuse).

Gravel Aquifer

- Lg: Locally important aquifer – sand and gravel; and
- Rg: Regionally important aquifer – sand and gravel.

Reference to the GSI National Draft Bedrock Aquifer Map for the Site (Figure 9.6, below) indicates that the Site is underlain by a Locally Important Bedrock Aquifer (Ll), *"moderately productive only in local zones".*

9.3.7.1 Aquifer Vulnerability

'Aquifer vulnerability' is a term used to represent the intrinsic geological and hydrogeological characteristics that determine the ease with which groundwater can be contaminated generally by human activities. Due to the nature of the flow of groundwater through bedrock in Ireland, which is almost completely through fissures / fractures, the main feature that protects groundwater from contamination and, therefore, the most important feature in the protection of groundwater, is the subsoil (which can consist solely of or of mixtures of peat, sand, gravel, glacial till, clays or silts).

The GSI[40] presently classifies the aquifer vulnerability in the region of the Site as 'Low (L)', which indicates that an overburden depth of c. 12 m of low permeability soil is present. This was confirmed in the 2020 Site investigations undertaken by GII.

[40] GSI (2021).

Figure 9.6: Regional Aquifer Map[41]

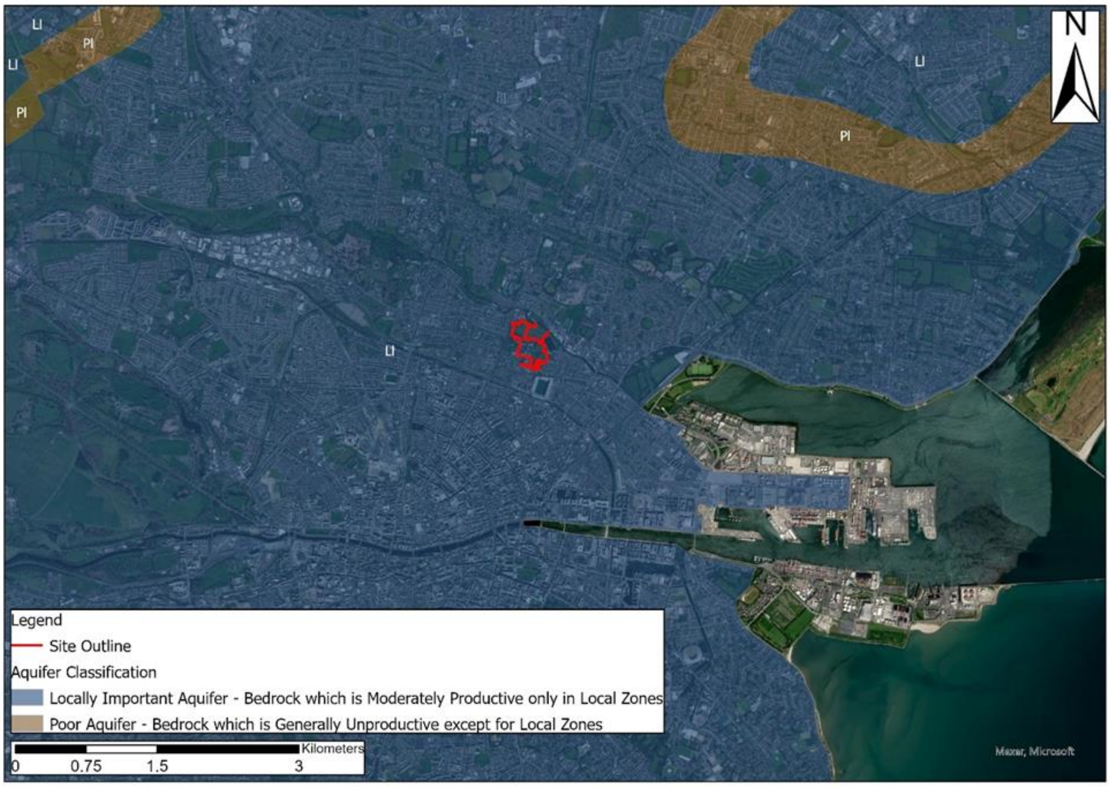


Figure 9.7: Aquifer Vulnerability Map[42]

[41] GSI (2021).
[42] GSI (2021).

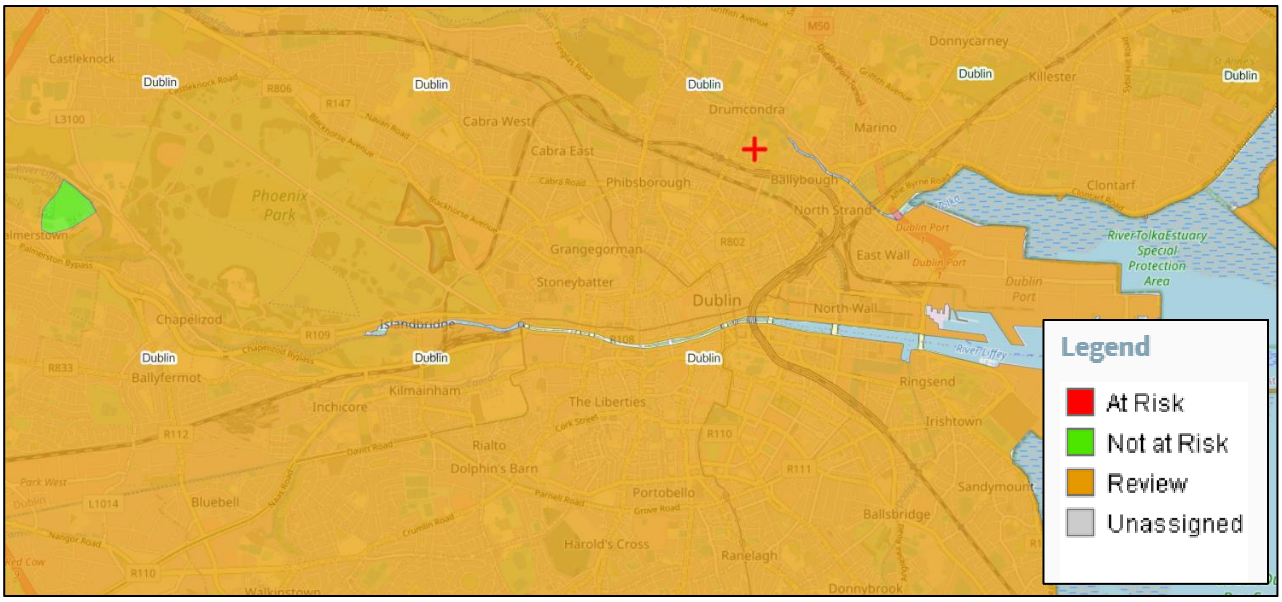
9.3.7.2 Description of the Groundwater Body

The Water Framework Directive (WFD) 2000/60/EC was adopted in 2000 as a single piece of legislation covering rivers, lakes, groundwater and transitional (estuarine) and coastal waters. In addition to protecting said waters, its objectives include the attainment of 'Good Status' in waterbodies that are of lesser status at present, and retaining Good Status or better where such status exists at present. Good Status was to be achieved in all waters by 2015, as well as maintaining 'high status' where the status already exists.

The EPA coordinates the activities of the Eastern River Basin Districts (ERBDs), Local Authorities and State agencies in implementing the WFD, and operates a groundwater quality monitoring programme undertaking surveys and studies across the Republic of Ireland (ROI).

Presently, the groundwater body in the region of the site (Dublin GWB) is classified 'under review' as per the WFD Risk Score system[43]. The Dublin GWB achieved Good Status in the period 2013 – 2018.

Figure 9.8: Groundwater Body Map[44]



9.3.7.3 Groundwater Quality

During the 2020 on-Site investigations, limited groundwater sampling was undertaken by GII. Two parameters were tested: pH and sulphate. Sample were recovered from BH01 (bedrock well), BH05 (Bedrock well), BH06 (overburden well), BH14 (overburden well) and BH17 (bedrock well). All results were below their relevant thresholds for groundwater quality, namely Groundwater Regulations S.I. No. 9 of 2010, SI No. 366 of 2016 and EPA Interim Guideline Values (IGVs) (2003).

9.3.7.4 Groundwater Wells and Flow Direction

There is no licencing system for wells in Ireland at present and, as such, no complete dataset. The GSI[45] Well Card Index is a record of wells drilled in Ireland. It is noted that this record is not comprehensive, as licensing of wells is not currently a requirement in ROI. This current index, however, indicates there are no groundwater wells, boreholes or dug wells within the Site boundary.

[43] EPA (2021).
[44] EPA (2021).
[45] Geological Survey of Ireland

The flow direction in the overburden generally follows no fixed pattern or trend. Flows of this nature are typical of low permeability clay strata with discontinuous gravel lenses, where often the water level measures represent pore water seepages into the overburden monitoring well (opposed to bedrock wells) or perched groundwater conditions (not bedrock aquifer water). The depth to rock varies from 12.60 mbgl in BH06 to a maximum of 19.60 mbgl in BH05. Bedrock monitoring wells were installed at location BH01 and BH17. Overburden borehole monitoring wells (not screened in the bedrock) were installed in BH14 and BH6. Standing water level measurements were taken from these locations following their installation and are presented in Table 9.2

Table 9.2: Standard Water Levels - 18th May 2020

Borehole	Groundwater Level (mbgl)
BH01	1.38
BH06	4.02
BH14	1.58
BH17	4.44

The results from Table 9.2 appear to show the bedrock groundwater gradient as south-southwest to north-northeast towards the River Tolka. Perched (overburden) groundwater was noted in some but not all of the trial pit and borehole locations, showing the perched groundwater table is discontinuous. The nearest drinking water protection area is located 16 km west of the Site in Co. Meath at the Dunboyne public water supply.

Figure 9.9: Regional Groundwater Wells[46]

[46] GSI (2021).

9.3.7.5 Hydrogeological Features

There is no evidence of karstification at the vicinity of the Site according to the GSI Karst and well database.

9.3.7.6 Areas of Conservation

The closest Natura 2000 Site is North Dublin Bay Special Area of Conservation (SAC), which is 5 km east of the proposed Project Site. The nearest Special Protection Area (SPA), the South Dublin Bay and River Tolka Estuary SPA, is located 1.8 km east from the Site. There are no designated Natural Heritage Areas (NHA) within a 15 km radius. However, the nearest proposed NHA (Royal Canal) is 420 m to the south the Site. The canal is fully lined and, as such, there is no potential for hydrogeological connectivity. Refer to Chapter 8 (Biodiversity) for more information on Natura 2000 Sites in the vicinity.

9.3.7.7 Conceptual Site Model

Local cross-sections for the Site are presented below as Figure 9.10 (A-A: south-west to north-east). This cross-section and the description below present the Conceptual Site Model (CSM), which was developed in order to identify any likely source-pathway-receptor linkages relating to the proposed Project Site.

The Site has an undulating topography ranging from c. 6.5 mAOD to c 12.4 mAOD. The highest point at the Site appears to be around the existing Holy Cross College buildings. The regional gradient falls from west to east towards the coast.

From on-Site investigations undertaken in 2020, the depth to rock varies from 12.60 mbgl in BH01 to a maximum of 19.60 mbgl in BH05. The bedrock consists of dark limestones and shale ('calp') which is referred to as Lucan Formation (Rock Unit code: LU) as per GSI mapping. The limestone is classified by the GSI as a Locally Important Bedrock Aquifer (LI), *"moderately productive only in local zones"*.

The bedrock aquifer is well protected by low permeability clay and characterised by the GSI as a low vulnerability area. Groundwater flow within the bedrock unit is north-eastward towards the River Tolka. There is no continuous perched groundwater table on-Site. The groundwater body in the region of the site (Dublin GWB) is classified under the WFD Risk Score system[47] as currently 'Under Review'. Previously (2013 – 2018) the Dublin GWB was given 'Good Status'.

The Site drainage comprises a mixture of man-made stormwater drainage to the south of the Site, internal drainage ditches, and overland drainage which discharge to the Tolka River, located north of the Site. This in turn discharges into the South Dublin Bay and River Tolka Estuary SPA, c. 1.8 km from the Site. The proposed Project is outside of any delineated drinking water protection areas.

Site soil analysis that the soil underlying the site is of relatively good quality. Elevated TOC levels recorded in a select number of trial pit locations during the 2020 site investigations appear to be associated with the shallow depths they were recovered from and will need to be reassessed prior to removal from Site to a licenced waste facility. A small substation is located onsite (to the north of the college buildings). Soil sampling from the area surrounding the substation show none of the samples exceed generic assessment criteria (GAC) Suitable for Use Levels (S4ULs) for residential land use with homegrown produce, the most conservative of these types of levels available (CIEH, 2015). It is proposed that when the substation is to be decommissioned the concrete slab beneath the sub and soil to 2 mbgl is to be excavated by a qualified contractor and removed to a licenced waste facility.

[47] EPA (2021).

There are no groundwater-dependent terrestrial ecosystems which have the potential to be impacted by the proposed Project. The limestone aquifer is characterised by discontinuous fracturing and, as such, there is no groundwater source-pathway linkage to the North Dublin Bay SAC or South Dublin Bay and River Tolka Estuary SPA. There is a hydraulic connection to both Designated Sites via stormwater drainage to the River Tolka. These are examined further in Chapter 10 (Hydrology) and Chapter 8 (Biodiversity).

9.3.7.8 Rating of Site Importance of the Geological and Hydrogeological Features

Based on the NRA methodology[48] (refer to Appendix 9.1 in Volume 3) criteria for rating site importance of geological features, the importance of the bedrock and soil features at this Site is rated as 'Medium' importance with medium significance or value on a local scale, due to the presence of moderately drained and or / moderate fertility soils.

Based on the NRA / IGI criteria for rating the importance of hydrogeological features (refer to Appendix 9.1) the importance of the hydrogeological features at this Site is rated as 'Medium'. This is based on the assessment that the low vulnerability aquifer beneath the Site is a Locally Important (Ll) bedrock aquifer that is moderately productive.

9.3.8 Economic Geology

The EPA Extractive Industry Register and the GSI mineral database were consulted to determine whether there were / are any mineral sites close to the Site. The Huntstown Quarry is 6.2 km to the north-west of the Site of the proposed Project.

9.3.9 Radon

According to the EPA (now incorporating the Radiological Protection Institute of Ireland), the Site location is an area where between 1 - 5% of the homes in the corresponding 10 km grid are estimated to be above reference level. This is relatively low, as grid squares in which the predicted percentage of homes is 10 % or greater are regarded as 'High Radon Areas'

9.3.10 Geohazards

Much of the Earth's surface is covered by unconsolidated sediments which can be especially prone to instability and mass wasting. Water often plays a key role in lubricating slope failures. Instability is often significantly increased by human activities in building houses, roads, drainage, etc., and agricultural changes. Landslides, mud flows, bog bursts (in Ireland) and debris flows are a result.

In general, Ireland suffers few landslides. Landslides are more common in unconsolidated material than in bedrock, and where the sea constantly erodes the material at the base of a cliff, landslides and falls lead to recession of the cliffs. Landslides have also occurred in Ireland in recent years in upland peat areas due to disturbance of peat associated with construction activities.

The GSI landslide database was consulted and there are no recorded landslides in the vicinity of the proposed Project. Due to the local topography and the underlying strata, there is a negligible risk of a landslide event occurring at the Site.

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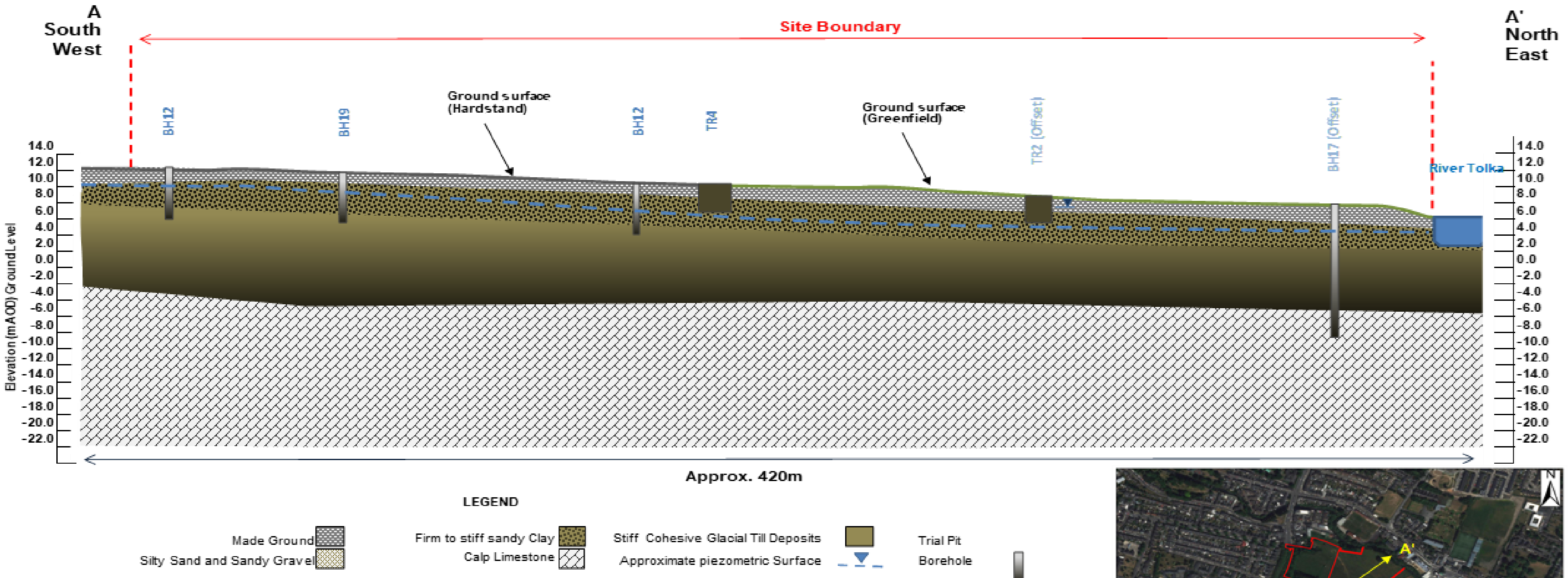
[48] NRA (2009).

Figure 9.10: Local Cross Section A-A



Note: Drawing is for illustrative purposes only; Do not scale

Note: For the purpose of the regional section, elevation has been taken from Ordnance Survey 1:50,000 Discovery.
Superficial deposits are generalised for presentation - bedrock inferred from Geological Survey of Ireland Vulnerability Mapping, and is indicative only.

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Drawing:
Geological Cross Sections - Local

Reference:
PC/ 20_11566

In Ireland, seismic activity is recorded by the Irish National Seismic Network. The Geophysics Section of the School of Cosmic Physics at the Dublin Institute for Advanced Studies (DIAS) has been recording seismic events in Ireland since 1978. Records since 1980 show that the nearest seismic activity to the Site of the proposed Project was in the Irish Sea (1.0 - 2.0 Ml magnitude) and c. 20 km to the south in the Wicklow Mountains. There is a very low risk of seismic activity at the Site.

There are no active volcanoes in Ireland and, as such, there is no risk from volcanic activity.

9.3.11 Summary & Type of Geological / Hydrological Environment

Based on the regional and site-specific information available the type of Geological / Hydrogeological Environment as per the IGI Guidelines is:

Type A – Passive Geological / Hydrogeological Environment

- Historically the Site of the proposed Project was mostly greenfield. There is no evidence of any historical waste disposal or source of contamination.
- The Site is underlain by a locally Important aquifer.
- The Site is underlain by the Lucan Formation (calp limestone and shales).

9.4 Predicted Impacts of the Proposed Project

The activities associated with the proposed Project which are relevant to the land, soils, geology and hydrogeological environment are detailed in Table 9.3.

Table 9.3: Relevant Aspects of the Proposed Project

Phase	Activity	Description
Construction	Earthworks: excavation of superficial deposits	Cut and fill will be required to facilitate construction of the proposed Project and associated ancillary services. The maximum depth of excavation required to facilitate installation of basement, services and foundations, as specified by Project Quantity Surveyors (Linesight) is c. 9 m to 10 m below ground level. There will be no excavation of bedrock required; therefore, no dewatering of the underlying aquifer is required. Subsoil excavation and localised stockpiling of soil will be required during construction. It is estimated that approximately 100,000 m^3 of soils will be excavated to facilitate construction of the proposed Project. It is anticipated that 30,000 m^3 of this will be reused on-Site, while the remainder will be removed off-Site. Correct classification and segregation of the excavated material is required to ensure that any potentially contaminated materials are identified and handled in a way that will not impact negatively on workers or on water / soil, both on and off-Site.
	Storage of hazardous material	Bunded fuel storage and wet concrete will be present on-Site during the construction phase. Good housekeeping and proper handling, storage and disposal of any potentially polluting substances will prevent soil or water contamination. Designated and bunded storage areas will be maintained.
	Import / export of materials	Suitable excavated material will be re-used for Site levelling, roads, car parking areas, berms and other landscaping purposes. Material removed from Site may be re-used on other sites with appropriate planning / waste permissions / derogations (e.g. in accordance with Article 27 of the European Communities (Waste Directive) Regulations

Phase	Activity	Description
		2011, as amended) or will be re-used, recovered and / or disposed off-Site at appropriately authorised waste facilities. The removal of waste from the Site will be carried out in accordance with Waste Regulations, Regional Waste Plan (Eastern Midland Region) and Waste Hierarchy/Circular Economy Principals. Refer to Chapter 19 (Material Assets – Waste) for further detail. It is estimated that 20,000 m^3 of clean engineered fill material will be required to facilitate construction, subject to detailed design.
Operation	Increase in hard standing area	There will be some alteration of local recharge (percolation to ground) due to increase in hard standing area of c. 3 ha.
	Storage of hazardous material	There will be the potential for oil and fuel leaks from parked cars, service vehicles, heavy goods vehicles (HGVs) and delivery vehicles, etc.

9.4.1 Do-Nothing Impact

The Do-Nothing scenario refers to the environment as it would be in the future should the proposed Project not be carried out. Should the Proposed Project not proceed, there would be no impacts in relation to land, soils, geology and hydrogeology.

9.4.2 Construction Phase

As outlined in Table 9.3, the activities required for the construction phase of the proposed Project represents the greatest risk of potential impacts on the geological environment. These activities primarily pertain to the site preparation, excavation, levelling and infilling activities required to facilitate construction of the proposed Project and ancillary services. The presence of low permeability material minimises the potential for any likely impact to the underlying aquifer.

The potential geological and hydrogeological impacts during the construction and operational phases are presented below. Mitigation measures to address these potential impacts are presented in Section 9.5.1.

The following potential effects to land, soil and groundwater (hydrogeology) have been considered:

- Excavated and stripped soil can be disturbed and eroded by Site vehicles during the construction phase. Rainfall and wind can also impact on non-vegetated / uncovered areas within the excavation areas or where soil is stockpiled. This can lead to run-off with high suspended solid content which can impact on waterbodies. The potential risk from this indirect impact to waterbodies and / or habitats from contaminated water would depend on the magnitude and duration of any water quality impact.
- Following the findings of the on-Site investigations, the risk of a large amount of contaminated soils being present on-site is low. The substation, its concrete slab and underlying overburden to a depth of 2 mbgl is to be decommissioned and removed by the ESB. Material which is exported from the Site, if not correctly managed or handled, could impact negatively on human beings (on-Site and off-site) as well as water and soil environments.
- As with all construction projects, there is potential for water (rainfall and / or groundwater) to become contaminated with pollutants associated with construction activity. Contaminated water which arises from construction sites can pose a significant short-term risk to groundwater quality for the duration of the

construction if contaminated water is allowed percolate to the aquifer. The potential main contaminants include:

- Suspended solids (muddy water with increased turbidity) arising from excavation and ground disturbance;
- Cement / concrete (which increases turbidity and pH) arising from construction materials;
- Hydrocarbons (which are ecotoxic) arising from accidental spillages from construction plant or on-Site storage;and
- Wastewater (nutrient and microbe-rich) arising from poor on-Site toilets and washrooms.

There will be no emissions to the ground as part of the proposed Project. Excavations will be required for the installation of a basement level for some of the proposed blocks. Site investigations have shown up to c. 14 m of low permeability tills underlying the Site. Due to this natural protection, there will be ***no likely impact*** to the underlying low vulnerability, locally important aquifer during the construction phase of the proposed Project.

There will be no local loss of agricultural soil. There are no indications that the site has been used for agricultural purposes recently.

It is anticipated that approximately 20,000 m^3 engineered fill will be required to facilitate construction. There will be ***no likely impact*** to mineral resources in the area as a result of the Proposed Project.

The above-listed potential impacts are not anticipated to occur following the implementation of mitigation measures outlined in Section 9.5.1.

Based on the points stated above, the predicted impact from the construction phase on Land, Soils, Geology and Hydrogeology as per the EPA 2017 Draft Guidelines prior to mitigation is ***short term-slight****, with a* ***neutral*** effect on quality.

9.4.3 Operational Phase

The following risks have been considered in relation to the operational phase of the proposed Project:

- There is a potential for leaks and spillages from vehicles along roads and in parking areas. Any accidental emissions of oil, petrol or diesel could cause soil / groundwater contamination if the emissions are unmitigated.
- A proportion of the Site will be covered in new hardstanding (c. 3 ha). This will provides protection to the underlying aquifer but also reduce local recharge in this area of the aquifer. As the area of the aquifer is large, this reduction in local recharge will ***not result in a significant change*** in the natural hydrogeological regime.

Groundwater abstraction does not form part of the proposed Project. There will be ***no impact*** on local or regional groundwater resources (abstraction) as a result of the proposed Project.

These potential impacts are not anticipated to occur following the implementation of mitigation measures outlined in Section 9.5.2.

Based on the points stated above, the predicted impact from the operational phase on Land, Soils, Geology and Hydrogeology as per the EPA 2017 Draft Guidelines prior to mitigation is ***short term-not significant****, with a* ***neutral*** effect on quality.

9.5 Mitigation Measures

This section describes a range of mitigation measures designed to avoid or reduce any potential adverse geological and hydrogeological impacts identified.

9.5.1 Construction Phase

In order to mitigate impacts on the soils and geological environment, a number of mitigation measures will be adopted as part of the construction works on-Site. The measures will address the main activities of potential impact which include:

- Control of soil excavation and export from site;
- Sources of fill and aggregates for the proposed Project;
- Fuel and chemical handling, transport and storage; and
- Control of water during the construction phase.

9.5.1.1 Construction Management Plan (CMP)

A preliminary Construction Management Plan (CMP) has been prepared for the proposed Project be O'Connor Sutton Cronin (OCSC) and is included with this planning application under separate cover. It is proposed that the CMP will be finalised and maintained by the appointed Contractors prior to the commencement of the construction phase of the proposed Project, to minimise the impact of all aspects of the construction works on the local environment. The final CMP will include emergency response procedures in the event of a spill, leak, fire or other environmental incident related to construction.

9.5.1.2 Control of Soil Excavation

Subsoil will be excavated to facilitate the construction of basement, foundations, access roads, car parking areas, expansion of drainage connections and other ancillary works. The proposed Project will incorporate the 'reduce, reuse and recycle' / waste hierarchy approach in terms of soil excavations on-Site. The construction will be carefully planned to ensure only material required to be excavated will be, with as much material left in situ as possible. Excavation arisings will be reused on-Site where possible.

It is unlikely any contaminated material will be encountered during the construction phase of the proposed Project (see Section 9.3.5.1). The ESB substation and its underlying overburden it to be decommissioned and removed by the ESB. Nonetheless, any excavation works will be carefully monitored by a suitably qualified person to ensure any potentially contaminated soil is identified and segregated from clean / inert soil. In the unlikely event that any potentially contaminated soils are encountered, they shall be tested and classified as hazardous or non-hazardous in accordance with the EPA Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous publication, HazWasteOnline tool, or similar approved method. The material will then need to be classified as inert, non-hazardous, stable non-reactive hazardous or hazardous in accordance with EC Decision 2003/33/EC. It will then be removed from Site by a suitably permitted waste contractor to an authorised waste facility.

Stockpiles have the potential to cause negative impacts on air and water quality. The effects of soil stripping and stockpiling will be mitigated against through the implementation of an appropriate earthworks handling protocol during the construction phase. It is anticipated that any stockpiles will be formed within the boundary of the Site and will be kept at least 10 m away from any open watercourses, and there will be no direct link or pathway from this area to any surface waterbody (i.e. River Tolka).

Inland Fisheries Ireland documents, including but not limited to *Guidelines on Protection of Fisheries During Construction Woks and Adjacent to Waters* (IFI, 2016), will be consulted and incorporated to the CMP prior to works and implemented in full.

Dust suppression measures (e.g. damping down during dry periods), vehicle wheel washes, road sweeping, and general housekeeping will ensure that the surrounding environment are free of nuisance dust and dirt on roads. Refer to the Dust Management Plan in Appendix 11.2 of Volume 3.

9.5.1.3 Export of Material from Site

It is envisioned that 30,000 m^3 of excavated soil / stones arising on the Site will be re-used. It is anticipated that 70,000 m^3 of material will be removed off-Site, and will be sent for recovery or disposal at an appropriately authorised facility. Refer to Chapter 19 (Material Assets – Waste) for further detail.

Soil to be removed from the Site will be classified by an experienced and qualified environmental professional to ensure that the waste soil is correctly classed for transportation and recovery / disposal off-Site. All of the mitigation measures set out in Chapter 19 (Material Assets – Waste) and its appendices will be fully implemented.

9.5.1.4 Sources of Fill and Aggregates

All fill and aggregate for the proposed Project will be sourced from reputable suppliers. All suppliers will be vetted for:

- Aggregate compliance certificates / declarations of conformity for the classes of material specified for the Proposed Project;
- Environmental management status / accreditation; and
- Regulatory and legal compliance status.

9.5.1.5 Fuel and Chemical Handling

The following mitigation measures will take place during the construction phase in order to prevent any spillages to ground of fuels and prevent any resulting soil and / or groundwater quality impacts:

- Designation of a bunded refuelling areas on the site;
- Provision of spill kit facilities across the site; and
- Where mobile fuel bowsers are used the following measures will be taken:
  - Any flexible pipe, tap or valve will be fitted with a lock and will be secured when not in use;
  - The pump or valve will be fitted with a lock and will be secured when not in use;
  - All bowsers will carry a spill kit;
  - Operatives must have spill response training; and
  - Drip trays will be used on any required mobile fuel units.

In the case of drummed fuel or other potentially polluting substances which can be used during the construction phase, the following measures will be adopted:

- Secure storage of all containers that contain potential polluting substances in a dedicated internally bunded chemical storage cabinet unit or inside a concrete bunded area;
- Clear labelling of containers so that appropriate remedial measures can be taken in the event of a spillage;
- All drums to be quality approved and manufactured to a recognised standard;
- If drums are to be moved around the Site, they will be secured and on spill pallets; and

- Drums to be loaded and unloaded by competent and trained personnel using appropriate equipment.

The above-listed measures are non-exhaustive and will be included in the final CMP.

9.5.1.6 Control of Water During Construction

Run-off from excavations / earthworks cannot be prevented entirely and are largely a function of prevailing weather conditions. Earthwork operations will be carried out such that surfaces, as they are being raised, shall be designed with adequate drainage, falls and profile to control run-off and prevent ponding and flowing. Correct management will ensure that there will be minimal inflow of shallow / perched groundwater into any excavation. Due to the thickness and low permeability of the overburden and the relative shallow nature for basement and foundation excavations, impact to the underlying aquifer is not anticipated.

Care will be taken to ensure that exposed soil surfaces are stable to minimise erosion. All exposed soil surfaces will be within the main excavation Site, which will limit the potential for any off-Site impacts. All run-off will be prevented from directly entering into any watercourses / drainage ditches.

Should any discharge of construction water be required during the construction phase, discharge will be to foul sewer. Pre-treatment and silt reduction measures on-Site will include a combination of silt fencing, settlement measures (silt traps, silt sacks and settlement tanks / ponds) and hydrocarbon interceptors. Active treatment systems such as siltbusters or similar will be required, depending on turbidity levels and discharge limits.

All mitigation measures set out in Chapter 10 (Hydrology) and its appendices will be implemented in full.

9.5.2 Operational Phase

During the operational phase of the proposed Project, there is limited potential for Site activities to impact on the geological and hydrogeological environment of the area. There will be no impact on local or regional groundwater resources (abstraction) as a result of the proposed Project. As no likely significant impacts are predicted, no operational phase mitigation measures are required.

9.6 Residual Impacts

This section describes the predicted residual impacts of the proposed Project following the implementation of the above-stated mitigation measures.

9.6.1 Construction Phase

The implementation of mitigation measures outlined in Section 9.5.1 will ensure that the potential impacts on the geological and hydrogeological environment stated in Section 9.4.2 do not occur during the construction phase and that the residual impact will be ***short-term, imperceptible and neutral*** as per the EPA 2017 Draft Guidelines. Following the NRA criteria for rating the magnitude and significance of impacts on the geological and hydrogeological related attributes, the magnitude of the residual impact of the construction phase is ***negligible***.

9.6.2 Operational Phase

During the operational phase of the proposed Project there is limited potential for site activities to impact on the geological and hydrogeological environment of the area. There will be ***no likely impact*** on local or regional groundwater resources (abstraction) as a result of the proposed Project. The predicted residual impact is ***long-term, imperceptible and neutral*** as per the EPA 2017 Draft Guidelines. Following the NRA criteria for rating the magnitude and significance of impacts on the geological and hydrogeological related attributes, the magnitude of the residual impact of the operational phase is ***negligible***.

9.6.3 Conclusion

Assuming the full and proper implementation of the mitigation measures set out herein and in the Construction Management Plan (CMP), ***no likely significant negative effects*** are predicted to occur as a result of the construction or operation of the proposed Project.

9.7 Monitoring

Regular inspection of surface water run-off and any sediment control measures (e.g. silt traps) will be carried out during the construction phase. Regular auditing of construction / mitigation measures will be undertaken (e.g. concrete pouring, refuelling in designated areas, etc.). Details of construction monitoring will be covered in the CMP.

No soil or groundwater monitoring is proposed for the operational phase of the proposed Project. Petrol interceptor(s) will be maintained and cleaned out in accordance with the manufacturer's instructions. Maintenance of the surface water drainage system and foul sewers as per normal urban developments is recommended to minimise any accidental discharges to ground.

9.8 Interactions

9.8.1 Hydrology

As previously stated, there is an inter-relationship between hydrology (addressed in Chapter 10 - Hydrology) and soils, geology and hydrogeology. The underlying aquifer is a locally important source in the surrounding catchment areas. There will be no potential cumulative impacts on the bedrock as the aquifer vulnerability is 'Low' and the aquifer is locally important with little importance regionally.

Surface water run-off will have the limited potential to enter soil and groundwater. Implementation of appropriate mitigation measures as outlined in Chapter 10 (Hydrology) will eliminate the potential for the influx of surface contaminants into the underlying geology and hydrogeology.

9.8.2 Material Assets – Waste Management

It has been identified in the GII Site Investigation report that 70,000 m^3 of material will be removed during Site preparation. All other material excavated as part of the proposed Project works will be re-used on-site. Implementation of the mitigation measures set out in Section 9.5.1.3, above, as well as those in Chapter 19 (Material Assets – Waste) and its appendices will ensure that no associated significant impacts arise.

9.9 Cumulative Impacts

The anticipated cumulative effects of the proposed Project and other known developments are addressed below. In relation to the potential cumulative impact on the geological or hydrogeological environment during the construction phases, those key engineering works which have the potential to combine with similar impacts arising from other plans / projects are as follows:

- Run-off containing large amounts of silt could have the limited potential to enter soil and groundwater in the absence of appropriate mitigation. Mitigation is set out in Chapter 10 (Hydrology) such that cumulative impacts of this nature are not likely to arise as a result of the proposed Project in combination with other existing / proposed plans / projects.

- Contamination of soils and groundwater underlying the Site from accidental spillage and leakage from construction traffic and construction materials will occur in the absence of appropriate mitigation. Mitigation is set out in Section 9.5.1, above, and in Chapter 10 (Hydrology) such that cumulative impacts of this nature are not likely to arise as a result of the proposed Project in combination with other existing / proposed plans / projects.

In relation to the potential cumulative impacts from the operational phase, the following potential impacts are of relevance:

- Overall increase in hardstanding: Cumulatively this development and others in the area (see Chapter 22 – Cumulative Impacts) will result in localised reduced recharge to ground and increase in surface run-off. The aquifer underlying the Site is a locally important aquifer (Li). Based on site-specific and regional geological investigations, there is > 10 m of overburden overlying the bedrock aquifer, classifying it as 'Low' vulnerability (GSI classification). As such, the cumulative impact is **imperceptible**. The reduction in recharge rate to ground will be mitigated somewhat by the release of water (following treatment) from the SUDs. No significant cumulative impacts are predicted in this respect.
- Accidental releases from fuel storage / unloading could contaminate groundwater or soil environments unless mitigated adequately, i.e. bunded tanks and delivery areas. Localised accidental discharge of hydrocarbons could occur in car parking areas and along roads unless diverted to a surface water drainage system with petrol interceptors. However, all developments are required to ensure they do not have an impact on the receiving water environment in accordance with the relevant legislation (primarily the Water Framework Directive 2000/60/EC) such that they would be required to manage run-off and fuel leakages. No significant cumulative impacts are predicted in this respect.
- There will be a small loss of greenfield area locally as part of the proposed Project. The proposed Project is within a highly urbansied area and no significant cumulative impacts are predicted in this respect. It is proposed to include a number of amenity spaces as part of the proposed Project.

The residual cumulative effect on land, soils, geology and hydrogeology for the construction and operational phases, in combination with existing / proposed plans / projects, are anticipated to be **long-term, imperceptible and neutral,** once the appropriate mitigation measures are put in place for each development and assuming implementation of the mitigation meausres set out in this EIAR.

9.10 References

- Construction Industry Research and Information Association (CIRIA) (2011). *Environmental Good Practice on site; Construction Industry Research and Information Association Publication C692 (3rd Edition)* (I. Audus, P. Charles and S. Evans).
- Construction Industry Research and Information Association (CIRIA) (2012). *Environmental Good Practice on site – pocketbook; Construction Industry Research and Information Association publication* C715 (P. Charles, and G. Wadams).
- Chartered Institute of Environmental Health (CIEH) (2015). *The LQM/CIEH S4Uls for Human Health Risk Assessment.*
- Council Decision of 19 December 2002 establishing criterial and procedures for the acceptance of waste at landfills pursuant to Articl 16 of and Annex II to Directive 199/31/EC

- Environmental Protection Agency (EPA) (2003). *EPA Advice Notes on Current Practice in the Preparation of Environmental Impact Statements.*
- Environmental Protection Agency (EPA) (2017). *Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports.*
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- Environmental Protection Agency (EPA) (2021). *EPA Online Mapping tool* Available on-line at: https://gis.epa.ie/EPAMaps/ [accessed on 16 March 2021].
- Ground Investigations Ireland (GII) (2020). *Project Calvary Ground Investigations Report.* July 2020
- Geological Survey of Ireland (GSI) (2021). Online shapefile content, Available on-line at: https://data.gov.ie/organization/geological-survey-of-ireland [accessed 16 March 2021].
- Inland Fisheries Ireland (IFI) (2016) *Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters.*
- Institute of Geologists of Ireland (IGI) (2002). *Geology in Environmental Impact Statements, a Guide.*
- Institute of Geologists of Ireland (IGI) (2013). *Guidelines for the preparation of Soils Geology and Hydrogeology Chapters of Environmental Impact Statements.*
- National Roads Authority (NRA) (2009). *Guidelines on Procedures for the Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes.*

10 Hydrology

10.1 Introduction

This Chapter of the EIAR has been prepared by AWN Consulting Ltd. and presents an assessment of the existing environment (baseline) and the likely impacts on the hydrological aspects, associated with the proposed Holy Cross College SHD ('proposed Project' hereafter) at Holy Cross College, Clonliffe Road, Dublin 3 and Drumcondra Road Lower, Drumcondra, Dublin 9 (the 'Site' hereafter).

In assessing likely potential and predicted impacts of the hydrological impacts, account is taken of both the importance of the attributes and the predicted scale and duration of the likely impacts. Where an impact is identified, planned mitigation measures are identified and assessed.

10.2 Expertise and Qualifications

This Chapter was prepared by Paul Conaghan, an Environmental Consultant with AWN Consulting Ltd. Paul has over 9 years' experience in environmental consulting and engineering. He is a specialist in geo-environmental, hydrogeological assessment and contaminated land investigation. Paul is a member of the International Association of Hydrogeologists (Irish Chapter).

A full description of the proposed Project can be found in Chapter 5 (Description of the Proposed Project). The characteristics of the proposed Project that are relevant in terms of hydrology are summarised below.

10.3 Methodology

The methodology used in this assessment follows current European and Irish guidance as outlined in:

- EPA (2017). *Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports;*
- EPA (2015). *Draft Advice Notes on Current Practice in the Preparation of Environmental Impact Statements;* and
- National Roads Authority (NRA) (2009). *Guidelines on Procedures for the Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes*.

The rating of potential environmental impacts on the hydrological environment is based on the quality, significance, duration and type of impact characteristic identified. Consideration is given to both the importance of an attribute and the magnitude of the potential environmental impacts of the proposed activities on that cited attribute. The EPA's 2017 Draft EIAR Guidelines tables are presented in Appendix 10.1. The NRA criteria for rating the magnitude and significance of impacts at EIA stage on the geological related attributes are also relevant in determining impact assessment and are presented in Appendix 10.1.

10.3.1 Sources of Information

This assessment was considered in the context of the available baseline information, potential impacts, consultations with statutory bodies and other parties, and other available relevant information. In collating this information, the following sources of information and references were consulted:

- Latest EPA Maps & Envision water quality monitoring data for watercourses in the area (these data can be accessed at https://gis.epa.ie/EPAMaps/ and www.catchments.ie;
- Department of Housing, Local Government and Heritage (2018). *National River Basin Management Plan (2018 – 2021)*;

- Department of the Environment, Heritage and Local Government (DEHLG) and the Office of Public Works (OPW) (2009). *The Planning System and Flood Risk Management, Guidelines for Planning Authorities*;
- OPW. *Flood mapping data*, accessed at www.floodmaps.ie;
- Relevant Eastern Catchment Flood Risk Assessment and Management (CFRAM) Flood Reports;
- Eastern Regional Fisheries Board. *Requirements for the Protection of Fisheries Habitat During Construction and Development Works at River Sites*;
- Dublin City Council (2005). *Greater Dublin Strategic Drainage Study (GDSDS): Technical Documents of Regional Drainage Policies*;
- Wicklow County Council, South Dublin County Council, Meath County Council, Kildare County Council, Fingal County Council, Dún Laoghaire- Rathdown County Council & Dublin City Council (2005). *Greater Dublin Regional Code of Practice for Drainage Works: Version Draft 6.0;* and
- Construction Industry Research and Information Association (CIRIA) (2001). *Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors, (C532)*.

Other relevant documentation consulted as part of this assessment included the following:

- Barrett Mahony Consulting Engineers (2021a). *Site Specific Flood Risk Assessment: Lands at Holycross College, ClonlIff Road, Dublin 3 & Drumcondra Road Lower, Drumcondra, Dublin 9.*
- Barrett Mahony Consulting Engineers (2021b). *Masterplan Area Flood Risk Report: Lands at Holycross College, ClonlIff Road, Dublin 3 & Drumcondra Road Lower, Drumcondra, Dublin 9.*
- Barrett Mahony Consulting Engineers (2021c). *Infrastructure Planning Report: Lands at Holycross College, ClonlIff Road, Dublin 3 & Drumcondra Road Lower, Drumcondra, Dublin 9.*
- Barrett Mahoney Consulting Engineers (2021d). *Outline Construction Surface Water Management Plan: Lands at Holycross College, ClonlIff Road, Dublin 3 & Drumcondra Road Lower, Drumcondra, Dublin 9.*

10.4 Baseline Environment

The proposed Project is located within the previously defined Eastern River Basin District (ERBD), now the Ireland River Basin District, in Hydrometric Area No. 09 of the Irish River Network. It is within the River Liffey and Dublin Bay catchment (Catchment ID 09) and Tolka Sub-catchment (Tolka_SC_020).

The River Liffey catchment encompasses an area of approximately 1,369 km^2. The River Liffey extends from the mountains of Kippure and Tonduff in County Wicklow to the sea at Dublin Bay. The main channel covers a distance of c. 120 km west to east.

The River Tolka ('Tolka' hereafter) rises east of Dunshaughlin, County Meath, and bypasses Dunboyne, from where it receives the Castle Stream tributary. From Clonee, where it is joined by the Clonee Stream at the eastern end of the village, it flows into County Dublin. The Tolka continues through Damastown and Mulhuddart, Blanchardstown, and Ashtown (southwest of Finglas), and the southern edges of Finglas itself, and then the north Dublin suburban districts of Glasnevin and Drumcondra, where it comes closest to the Royal Canal near Binn's Bridge. At the southern side of Tolka Park, the Tolka forms the border between Ballybough and Fairview, before entering Dublin Bay between East Wall and Clontarf (See at figure 10.1).

Figure 10.1: Regional Hydrological Environment

10.4.1 Surface Water Quality

The European Communities Directive 2000/60/EC (the 'Water Framework Directive' (WFD)) established a framework for community action in the field of water policy. The WFD requires 'Good Water Status' for all European waters by 2015, to be achieved through a system of river basin management planning and extensive monitoring. 'Good status' means both 'Good Ecological Status' and 'Good Chemical Status'. In the second cycle River Basin Management Plan (2018), the impacts of a range of pressures were assessed including diffuse and point pollution, water abstraction and morphological pressures (e.g. water regulation structures). The purpose of this exercise was to identify waterbodies at risk of failing to meet the objectives of the WFD and include a programme of measures to address and alleviate these pressures.

The strategies and objectives of the WFD in Ireland have influenced a range of national legislation and regulations. These include the following:

- European Communities (**Water Policy**) Regulations, 2003 (S.I. No. 722 of 2003).
- European Communities (**Drinking Water**) Regulations 2014 (S.I. 122 of 2014).
- European Communities Environmental Objectives (**Surface Waters**); Regulations, 2009 (S.I. No. 272 of 2009 as amended by S.I. No. 77 of 2019).
- European Communities Environmental Objectives (**Groundwater**) Regulations, 2010 (S.I. No. 9 of 2010 as amended by S.I. No. 366 of 2016).
- European Communities (**Good Agricultural Practice for Protection of Waters**) Regulations, 2010 (S.I. No. 610 of 2010).

- European Communities (**Technical Specifications for the Chemical Analysis and Monitoring of Water Status)** Regulations, 2011 (S.I. No. 489 of 2011).

Figure 10.2, below, presents the EPA surface water quality monitoring points in the context of the Site and regional drainage setting, as well as the waterbodies' WFD risk category. Surface water quality is monitored periodically by the EPA at various regional locations along principal and other smaller watercourses. With reference to the Site of the proposed Project, the nearest EPA monitoring station is situated upstream at Drumcondra (Drumcondra Road Bridge Station Code RS09T011200) to the north west of the Site on the Tolka. The EPA assesses the water quality of rivers and streams across Ireland using a biological assessment method, which is regarded as a representative indicator of the status of such waters and reflects the overall trend in conditions of the watercourse. The biological indicators range from Q5 - Q1. Level Q5 denotes a watercourse with good water quality and high community diversity, whereas Level Q1 denotes very low community diversity and bad water quality.

The surface water quality data for the nearest monitoring station (Drumcondra Road Bridge) to the site of the proposed Project (upstream) for the Tolka shows a Q rating of Q2-3 denoting a poor (moderately polluted status), as shown in Figure 10.2. This was last assessed in 1994. Further upstream at Glasnevin Cemetery, the river station Violet Hill Drive Finglas (Station Code RS09T011100) was last assessed in 2019 and recorded a Q Value Score of 3 confirming the poor Q status of the station further downstream.

In accordance with the WFD, each river catchment within the former ERBD was assessed by the EPA and a Water Management Plan detailing the programme of measures was put in place for each. All water bodies in Ireland were reported as being aone of four levels of risk of not meeting the WFD objectives:

- 1a, At Risk;
- 1b, Probably At Risk;
- 2a, Probably Not At Risk; and
- 2b, Not At Risk

Currently, the EPA classifies a WFD River Waterbody risk score of 1a for the Tolka meaning: 'At risk of not achieving good status'. The WFD Status for the Tolka was previously denoted as 'Unassigned' (2nd Cycle Status 2013 – 2018).

The transitional waterbody of the Tolka Estuary is currently listed as 'At Risk'. The Liffey Estuary Lower and North Bull Island WFD status is currently 'under review'[49]. The Liffey Estuary Lower was listed as having a 'Good Status', The Tolka Estuary as 'Moderate' and North Bull Island was 'Unassigned' in the previous cycle (2013 – 2018). The Dublin Bay Coastal Waterbody to the east of the site previously had a 'Good Status' and is listed as 'Not at Risk' by the EPA.

10.4.2 Local Drainage

On Site, there is a combination of combined drains and surface water drains. There is an existing surface water system which collects run-off from the internal access roads, via road gullies, before discharging in a southerly direction into the 375 mm diameter combined sewer on Clonliffe Road.

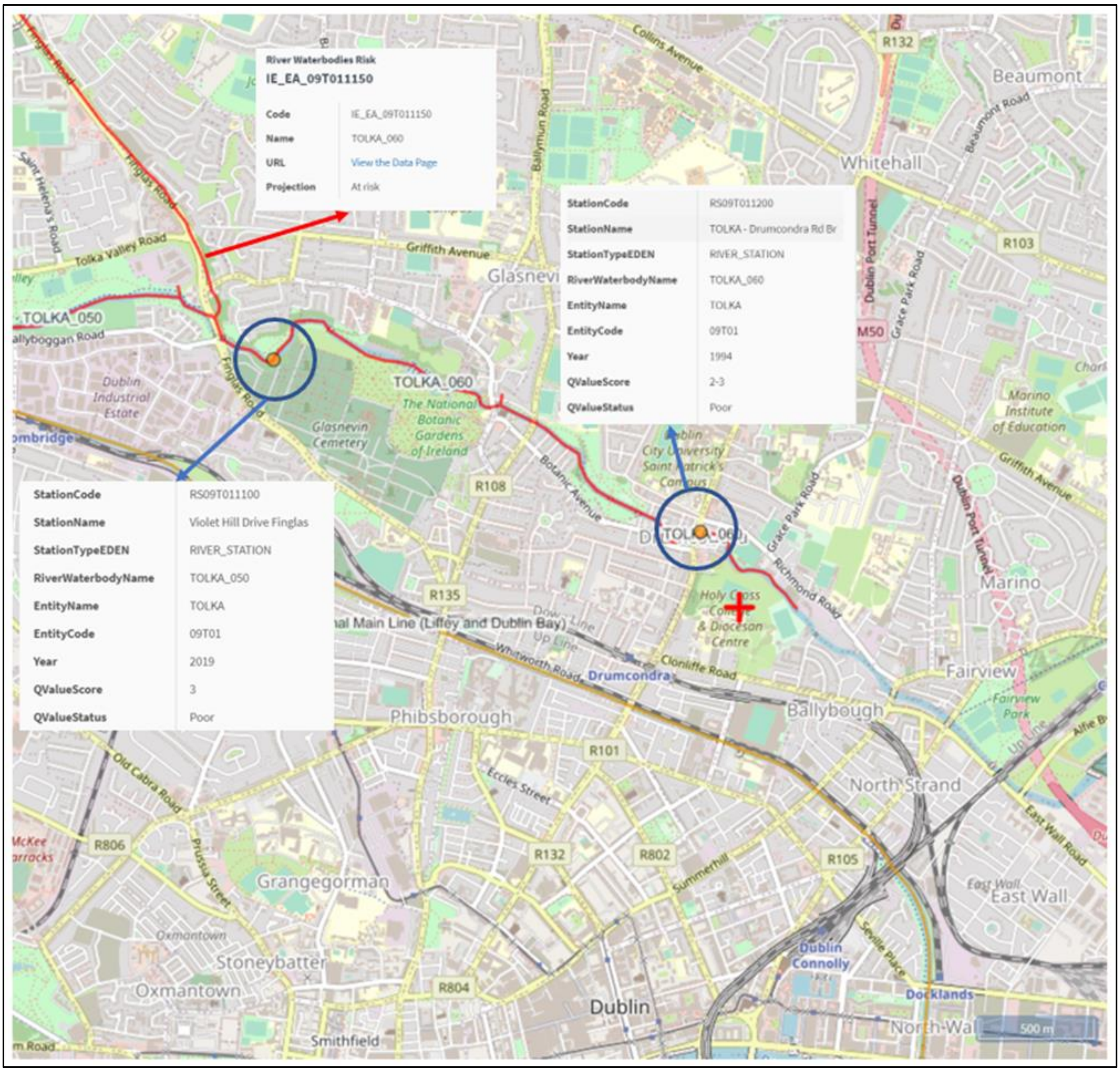
There is an existing combined system serving the cluster of Seminary Buildings, the majority of which discharge in a southerly direction, into the 225 mm combined sewer on Holy Cross Avenue, and from there into the

[49] requires more information to assign a status

375 mm combined sewer on Clonliffe Road. A small proportion of the combined drainage system discharges in a northerly direction and into the 675 mm diameter combined public sewer.

Refer to Barrett Mahony Civil & Structural Consulting Engineers (BMCE) drawing CLA-BMD-00-ZZ-DR-C-1001, Sheets S1 - S4, submitted as part of this application under separate cover, for a copy of the existing drainage site plan layouts. BMCE have also highlighted the current surface water drainage in their Infrastructure Planning Report, submitted as part of this application under separate cover.

Figure 10.2: Local hydrological environment and current WFD risk, including locations of river stations (site location shown with red cross)

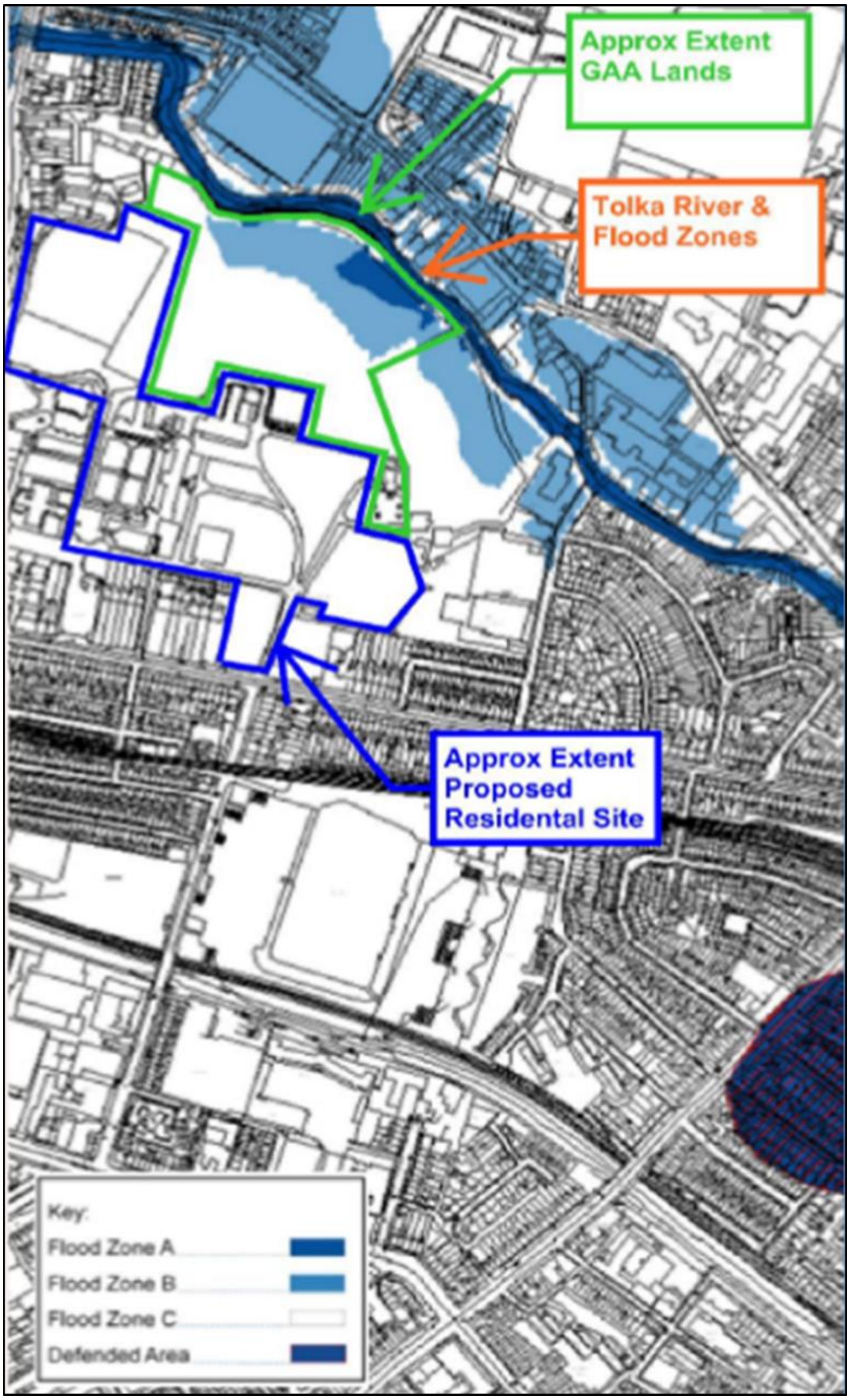


10.4.3 Surface Water Flooding / Flood Risk Assessment

The following relevant flood risk assessment reports have been prepared in respect of the proposed Project and wider Masterplan lands, respectively, and submitted as part of this application, under separate cover:

- BMCE (2021a). *Site Specific Flood Risk Assessment Lands at Holycross College, ClonlIff Road, Dublin 3 & Drumcondra Road Lower, Drumcondra, Dublin 9.*
- BMCE (2021b). *Masterplan Area Flood Risk Report Lands at Holycross College, ClonlIff Road, Dublin 3 & Drumcondra Road Lower, Drumcondra, Dublin 9.*
- BMCE (2021d). *Outline Construction Surface Water Management Plan: Lands at Holycross College, ClonlIff Road, Dublin 3 & Drumcondra Road Lower, Drumcondra, Dublin 9.*

Figure 10.3: Available Flood Extents for proposed site (Barrett Mahony, 2021b)



The lands that are the subject of this application / proposed Project are all located within Flood Zone C and, as such, there is negligible flood risk associated with the proposed Project, and negligible flood risk to surrounding areas arising from the proposed Project (see Figure 10.3).

The OPW Catchment Flood Risk Assessment Maps (CFRAM) are currently under review for the Tolka extents. Older information, including the Tolka Flood Study (2010) carried out by RPS for Dublin City Council (DCC) / OPW, was reviewed and indicates that the lands which are the subject of a separate planned project for GAA pitches and clubhouse (see Figure 10.3) lie partially within the 1-in-1000-year fluvial extents combined with the 1-in-2-year tidal extents. The study concluded that "*… the 0.1% AEP fluvial coupled with the 50% AEP tidal event was the most appropriate to apply to Tolka River for the Dublin City area*".

Part of the GAA lands are within Flood Zone B; however, the proposed Project (given its location in Flood Zone C) is deemed to be 'less vulnerable' / 'water compatible' and therefore the proposed Project is deemed 'Appropriate' in accordance with the OPW guidelines, without the need for a justification test.

10.4.4 Areas of Conservation

According to the NPWS (2021) online database, the following European and national designated areas of conservations ('Designated Sites') are located closest to the Site:

- North Dublin Bay Special Aarea of Conservation (SAC) (Site Code 000206) – c. 5 km east of the Site.
- South Dublin Bay and River Tolka Estuary Special Protection Area (SPA) (Site Code 004024) – c. 1.8 km east of the Site.
- North Bull Island SPA (Site Code 004024) – c. 5.2 km east of the Site.
- South Dublin Bay SAC (Site Code 000210) – c. 4.4 km south east of the Site
- The nearest proposed Natural Heritage Area (NHA) (Royal Canal pNHA) is c. 420 m to the south of the Site.

Refer to Chapter 8 (Biodiversity) for further information on these Designated Sites.

10.4.5 Rating of Site Importance of Hydrological Features

The nearest river (Tolka) and open water are bounding the Site to the north. Currently, the northern section of the Site is hydraulically connected to the Tolka via overland flows. However, based on the distance to the nearest European / Natura 2000 Site (South Dublin Bay and theTolka Estuary SPA), which is c. 1.8 km to the east, there would be no likely impact to the SPA. Based on the NRA methodology (refer to Appendix 10.1) for the criteria for rating the importance of hydrological features, the features at this site are rated as **medium importance**. This is due to a poor biotic index (Q value of 2 – 3) and its lack of use as a potable water source.

10.5 Predicted Impacts of the Proposed Project

An analysis of the potential impacts of the proposed Project on the hydrological environment during the construction and operational phases is outlined below.

10.5.1 Do-Nothing Impact

The Do-Nothing scenario refers to the environment as it would be in the future should the proposed Project not be carried out. Should the project not go ahead, the construction and operational phase impacts on hydrology (as detailed below) would not arise.

10.5.2 Construction Phase

10.5.2.1 Increased Run-off & Sediment Loading

Surface water run-off during the construction phase will contain increased silt levels or become otherwise polluted (e.g. from hydrocarbons, cementitious material, solvents, etc.) from construction activities. The Tolka is bounding the site to the north and there is potential for a direct water quality impacts thereupon.

Currently, the northern section of the site (greenfield) is hydraulically connected to the Tolka via overland flows. However, based on the distance to the nearest European Site (South Dublin Bay and theTolka Estuary SPA), which is c. 1.8 km to the east, there would be no likely impact to the SPA.

Currently, there is a 675 mm diameter combined sewer traversing GAA lands from NW to SW. This sewer connects to the sewers in Clonliffe Road future to the East and connects to the Poplar Row pumping station, from where foul waste is pumped to Ringsend Wastewater Treatment plant so is not hydraulically connected to the Tolka or other surface water features in the area. There is also potential for blocking of stormwater drainage if run-off is not managed adequately from the proposed Project during the construction phase.

During the construction phase, there is potential for a slight run-off due to the introduction of impermeable surfaces and the compaction of soils. This will reduce the infiltration capacity and increase the rate and volume of direct surface run-off. The potential impact of this is a possible increase in surface water run-off and sediment loading, which could potentially impact local drainage and the Tolka.

10.5.2.2 Contaminated Surface Water Drainage

During the construction phase, there is a risk of accidental surface water pollution incidences from the following sources:

- Spillage or leakage of oils and fuels stored on-site or refuelling on-site;
- Spillage of oil or fuel from refuelling machinery on-site;
- Spillage or leakage of oils and fuels from construction machinery or Site vehicles; and
- The use of wet concrete and cement.

Machinery on-site during the construction phase will result in contamination of surface water, primarily the existing surface water drainage system to the south of the Site and the Tolka to the north. The potential impacts could derive from accidental spillage of fuels, oils, paints and solvents; which could impact surface water and groundwater quality if allowed to infiltrate or run-off to surface water drainage systems and / or receiving watercourses.

Concrete operations carried out near surface water courses and drains during construction activities could lead to a discharge of alkaline, cementitious wastewaters to a watercourse. Concrete (specifically, the cement component) is highly alkaline and any spillage to a local watercourse would be detrimental to water quality and aquatic ecology.

Based on the points stated above, the predicted impact from the construction phase on the hydrological environment, prior to mitigation, is ***short term-slight,*** with a ***neutral*** effect on quality.

10.5.3 Operational Phase

10.5.3.1 Surface Water Run-off

If not managed correctly, surface water run-off during the operational phase can become a source of contamination of the Tolka, and increase the risk of flooding in the local area. BMCE have developed an

Infrastructure Planning Report which has been submitted under separate cover as part of this application, and which should be read in conjunction with this Chapter. It lists a number of design measures to manage the quantity and quality of surface water from the proposed Project during the operational phase.

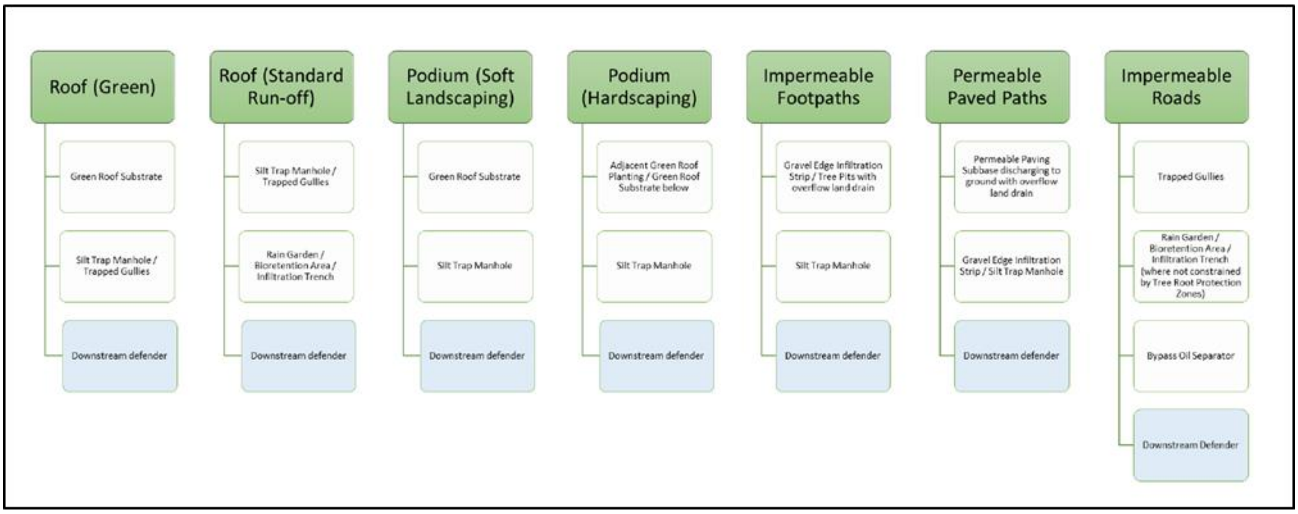
Surface water run-off from the proposed Project will drain by gravity and will be attenuated prior to discharge into the Tolka via two (2) proposed outfalls, with the exception of Block C2 adjacent to Clonliffe Road, which will discharge at a restricted attenuated flow into the Irish Water combined sewer on Clonliffe Road. Sustainabele Drainage Systems (SuDS) measures will be incorporated into the development and will include green roofs, permeable paving, filter drains, rain garden and shallow infiltration systems. Surface water run-off will go through a minimum of two-stage treatment prior to discharge by gravity into the receiving systems.

In response to DCC Drainage Division comments regarding SuDS and the requirement for a minimum two-stage treatment train, the design team have reviewed the surface water strategy in detail and have amended the surface water design in order to incorporate additional SuDS measures, where feasible. The amended design seeks to integrate increased opportunities for interception of surface water at source through natural retention measures. Please refer to BMCE drawings CLN-BMCE-S0-ZZ-DR-C-1005-S1 and CLN-BMCE-S0-ZZ-DR-C-1005-S2, submitted as part of this application under separate cover, showing the amended SuDS strategy layouts.

The proposed SuDS measures will reduce the quantity and improve the quality of water discharging into the receiving systems. The design of the proposed surface water drainage system will be detailed in accordance with the DCC Drainage Division and Irish Water requirements. Refer to BMCE drawings CLN-BMCE-S0-ZZ-DR-C-1008 (Sheets S1 - S8) for layout of the proposed surface water drainage system.

An Outline Construction Surface Water Management Plan (CSWMP) has also been developed by BMCE, and submitted under separate cover as part of this application. The proposed CSWMP is in line with the key requirements of the DCC Drainage Division Planning & Development Control Section. The proposed surface water drainage system takes cognisance of the Dublin City Development Plan (2016 – 2022), with respect to SuDS Section 9.5.4. The proposed SuDS measures provide a minimum of two-stage treatment train approach including interception and primary and secondary treatment of surface water run-off (see Figure 10.4, below). This treatment approach is in line with The CIRIA SuDS Manual C753. See BCME Infrastructure Planning Report, submitted as part of this application under separate cover, for more details.

Figure 10.4: Surface Water Management Train for Operational Phase of Proposed Project (BMCE, 2021c)



10.5.3.2 Wastewater

The proposed wastewater (foul drainage) system will be designed to take discharges from the new residential units. Drainage from kitchen / canteen facilities will discharge through a grease separator designed in accordance with IS EN 1825 Part 1 and Part 2 and / or to Irish Water requirements. The foul system will connect to the Irish Water network at three locations, including two connection points into the existing 675 mm combined sewer below the future planned GAA pitches, and a third connection on Clonliffe Road. Refer to BMCE drawings CLN-BMCE-S0-ZZ-DR-C-1008 (Sheets S1 - S8) submitted under separate cover as part of this application, for layout of the proposed foul drainage.

It is calculated that the proposed Project will have a total hydraulic loading of 719 m^3 per day of foul effluent during the operational phase. This equates to an average flow of 8.32 litres/second (over a 24-hour period) and a peak flow of 24.96 litres/second (BMCE, 2021c).

A Pre-connection Enquiry application was submitted to Irish Water to confirm the capacity in the receiving network and confirmation of feasibility was obtained.

10.5.3.3 Water Supply

The water supply connection to the proposed Project will be from the existing 600 mm public main on Drumcondra Road Lower, with a cross-connection to the existing 225 mm public main on Drumcondra Road Lower, as directed by Irish Water. In addition, it is proposed that the Project will be serviced by a second connection to the 800 mm diameter public main on Clonliffe Road.

The proposed watermain system through the site will be 250 mm diameter. As stated above, Irish Water have confirmed connection to its water network can be facilitated, subject to a connection agreement.

10.5.3.4 Fuel and Other Accidental Spills

There is a potential for leaks and spillages from vehicles on the internal road network and in parking areas during the operational phase. Any accidental emissions of oil, petrol or diesel could cause contamination if the emissions enter the water environment unmitigated.

Based on the points stated above, the predicted impact from the operational phase on the Hydological Envieonment, prior to mitigation, is ***short term, not significant***, with a ***neutral*** effect on quality. This is based on the proximity of the site itself to the Tolka (possible overland flow hydraulic link) and the distance downstream to both National and European protected sites.

10.6 Mitigation Measures

The design of the proposed Project has taken account of the potential impacts to the water environment specific to the areas where construction is taking place. Some of these design measures have also been discussed in Section 10.4 above. These measures seek to avoid or minimise potential effects in the main through the implementation of best practice construction methods and adherence to all relevant legislation.

10.6.1 Construction Phase

10.6.1.1 Construction Management Plan (CMP)

A preliminary Construction Management Plan (CMP) accompanies this planning application. A final CMP will be prepared and maintained by the Appointed Contractors prior to the commencement of the construction phase of the proposed Project. The CMP will cover all potentially polluting activities and include an emergency response procedure for pollution incidents. All personnel working on the Site will be trained in the implementation of the CMP. At a minimum, the CMP will be formulated in consideration of the standard best international practice including, but not limited, to the following:

- CIRIA (2001). *Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors (C532)*;
- CIRIA (2002). *Control of water pollution from construction sites: guidance for consultants and contractors (SPI56);*
- CIRIA (2005). *Environmental Good Practice on Site (C650);*
- *BPGCS005, Oil Storage Guidelines*;
- CIRIA (2007). *The SUDS Manual (697)*; and
- UK Environment Agency (2004). *UK Pollution Prevention Guidelines (PPG).*

Additionally, the DCC Drainage Division requested details of protections to the Tolka from any Site run-off or other forms of possible pollution from Site activities during construction works. In response, BMCE have prepared the CSWMP, submitted under separate cover as part of this application. The Construction Surface Water Management Plan shall be finalised by the successful Contractor prior to the commencement of the proposed works. Full protection measures for the Tolka to the north of the Site, as set out in the Outline CSWMP, will be strictly adhered to.

10.6.1.2 Surface Water Run-Off

Surface water run-off containing silt will be contained on-Site via settlement tanks and treated to ensure adequate silt removal. Silt reduction measures on-Site will include a combination of silt fencing, settlement measures (silt traps, silt sacks and settlement tanks / ponds). Full protection measures for the Tolka to the north of the Site, as set out in the Outline CSWMP, will be strictly adhered to.

The temporary storage of soil will be carefully managed. Stockpiles will be tightly compacted to reduce run-off and graded to aid in run-off collection. Materials will be stored away from any surface water drains. This will prevent any potential negative impact on the stormwater drainage. The movement of materials will be minimised to reduce the degradation of soil structure and generation of dust. Excavations will remain open for as little time as possible before the placement of fill. This will help to minimise the potential for water ingress into excavations. Soil from works will be stored away from existing drainage features to avoid any potential associated impacts.

Weather conditions will be considered when planning construction activities to minimise the risk of run-off from the Site, and the suitable distance of topsoil piles from surface water drains will be maintained (> 10 m). All contractors will be made aware of the CSWMP and all management / mitigation measures within this area will be strictly adhered to.

Documents including but not limited to Inland Fisheries Ireland's 2016 *Guidelines on Protection of Fisheries During Construction Works and Adjacent to Waters* shall also be consulted in finalising the CMP and CSWMP.

10.6.1.3 Fuel and Chemical Handling

The following mitigation measures will take place during the construction phase in order to prevent any spillages to ground of fuels, and prevent any resulting pollution of surface waters:

- Designation of a bunded refuelling areas on the Site;
- Provision of spill kit facilities across the Site; and

- Where mobile fuel bowsers are used, the following measures will be taken:
  - Any flexible pipe, tap or valve will be fitted with a lock and will be secured when not in use;
  - The pump or valve will be fitted with a lock and will be secured when not in use;
  - All bowsers will carry a spill kit and operatives must have spill response training;
  - Portable generators or similar fuel-containing equipment will be placed on suitable drip trays.

In the case of drummed fuel or other potentially polluting substances being used during the construction phase, the following measures will be adopted:

- Secure storage of all containers that contain potentially polluting substances in a dedicated internally bunded chemical storage cabinet unit or inside a concrete bunded area;
- Clear labelling of containers so that appropriate remedial measures can be taken in the event of a spillage;
- All drums will be quality approved and manufactured to a recognised standard;
- If drums are to be moved around the Site, they will be secured and on spill pallets; and
- Drums will be loaded and unloaded by competent and trained personnel using appropriate equipment.

The above-listed measures are non-exhaustive and will be included in the final CMP and CSWMP. All appointed Contractors will be required to implement the CMP and CSWMP.

All ready-mixed concrete will be brought to the Site by truck. A suitable risk assessment for wet concreting will be completed prior to works being carried out, which will include measures to prevent discharge of alkaline wastewaters or contaminated stormwater to the underlying subsoil. Wash-down and washout of concrete transporting vehicles will take place at an appropriate facility off-Site.

10.6.1.4 Accidental Releases

Emergency response procedures will be outlined in the finalised CMP and CSWMP. All personnel working on the Site will be suitably trained in the implementation of the procedures.

10.6.1.5 Soil Removal and Compaction

Excavated material will be reused on-Site, where possible, for site levelling, roads, car parking areas and other landscaping purposes. Surplus material will be removed off-Site for re-use, recovery and / or disposal. The project engineers have estimated that c. 70,000 m^3 of material will require removal from Site. The temporary storage of soil will be carefully managed in such a way as to prevent any potential negative impact on the receiving environment. The material will be stored away from any surface water drains (see Section 10.5.1.2, above) and at least 10 m away from any surface water features such as the Tolka. The movement of material will be minimised to reduce the degradation of soil structure and generation of dust.

All excavated materials will be visually assessed for signs of possible contamination such as staining or strong odours. Should any unusual staining or odour be noticed, samples of this soil will be analysed for the presence of potential contaminants to ensure that historical pollution of the soil has not occurred. Should it be determined that any of the soil excavated is contaminated, this will be segregated and appropriately disposed of by a suitably permitted / licensed waste disposal contractor.

10.6.2 Operational Phase

10.6.2.1 Surface Water

The proposed new storm water drainage arrangements will be designed and carried out in accordance with the following:

- *Greater Dublin Strategic Drainage Study Volume 2;*
- *Greater Dublin Regional Code of Practice for Drainage Works;*
- *BS EN – 752:2008, Drains & Sewer Systems Outside Buildings;* and
- Part H (Building Drainage) of the Building Regulations.

As stated above, rainfall run-off from the proposed Project Site will go through at least a two-stage treatment train prior to discharge into the Tolka. The proposed SuDS measures will reduce the quantity and improve the quality of water discharging into the receiving system, as follows:

- Green Roofs: The proposed green roofs will consist of sedum roofing on maintenance only roofs, and intensive green roofing on rooftop amenity spaces. The proposed green roofs will cover approx. 62% average across new roof areas. The limitations in providing full green roof coverage is due to plant enclosures. The green roof will provide interception of rainfall, filtration through the medium, and storage within the voids, facilitating evapotranspiration.

  The green roofs will intercept and absorb the first 5 – 10 mm of rainfall, thereby reducing the volume of run-off into the receiving systems. Rainfall run-off that is not absorbed by the green roof will filtrate through the substrate and geotextile filter fabric. A limited attenuation volume will be provided by the green roof crate layer system below the geotextile filter fabric, which will provide a time delay between the rainfall event and discharge into the system, thereby reducing peak discharge rates. According to the leading green roof supplier / manufacturer, Bauder, up to 40% of average annual rainfall can be absorbed and released back into the atmosphere by transpiration and evaporation.

  Therefore, rainfall run-off from roof areas covered by the proposed green roofs will go through a two-stage treatment train including interception and primary treatment in line with SuDS Manual C753 Table 26.7

- Filter Drains: The proposed filter drains will be linear excavations filled with suitable granular material with a minimum void porosity of 30% and wrapped in a geotextile filter membrane. The filter drains will intercept pavement run-off at ground level. Catchpits will be provided downstream of the filter drains to offer additional surface water treatment including retention.

  The proposed filter drains will provide interception and reduce peak run-off rates prior to discharge into the surface water drainage system. The granular material and geotextile filter material will provide interception and act as a secondary treatment in preventing ingress of fine material from paved areas prior to discharge into surface water drainage system.

  Therefore, rainfall run-off that will discharge into the filter drains / catchpits will go through a three-stage treatment train including interception, primary and secondary treatment in line with SuDS Manual C753 Table 26.7

- Permeable Pavements: The proposed permeable pavements will be located at parking bays throughout the proposed Project. The proposed permeable paving structures will be filled with suitable granular material with a minimum void porosity of 30% and wrapped in a geotextile filter membrane. The granular material will provide interception within the voids and by raising the invert of the outlet pipe to 150 mm above the base. The geotextile filter material can offer secondary treatment of rainfall run-off by preventing ingress of fine material from paved areas through filtration prior to discharge into surface water drainage system.

Therefore, rainfall run-off from localised access road will go through a two-stage treatment train including interception and primary treatment in line with SuDS Manual C753 Table 26.7.

- **Rain Garden and Tree Pits**: There is a proposed rain garden, located to the southeast corner of Block C1. This will intercept and treat pavement run-off from the adjacent access roads and roof areas. It will allow surface water run-off to pond temporarily, before filtering through vegetation and underlaying soil, before discharge into the system and, therefore, will serve as a bio-retention system providing interception as the water discharges through plants, shrubs and landscape medium. The planters will provide temporary retention for the 1-in-1-year flood event in the shallow depressions. Sand-based material will be used to filter the water passing through. Further filtration will be provided by the geotextile filter membrane prior to discharge into the surface water system.

  Therefore, rainfall run-off from the adjacent access roads. will go through a three-stage treatment train including interception, primary and secondary treatment in line with SuDS Manual C753 Table 26.7.

- **Rainwater Harvesting**: Run-off from terraces open to the elements and above ground will be collected via a pipework system to discharge into a proposed rainwater harvesting system for irrigation purposes. Rainwater harvesting will serve as interception and reduce the quantity of water discharging into the receiving system. The proposed rainwater harvesting will improve surface water run-off quality and reduce the quantity by using stored water for irrigation. Refer to the Landscape Architect's (Niall Montgomery & Partner's) Drawings and BMCE's drawings for details of rainwater harvesting and irrigation systems.

- **Proprietary Surface Water Treatment Systems**: Due to existing Site constraints including mature trees adjacent to existing roads, the construction of many forms of SuDS is not easily achievable. At suitable locations, a break will be introduced in the proposed kerbs to allow run-off to infiltrate to ground and into tree pits. Where this option is not available, it is the design intent to install proprietary surface water treatment systems prior to discharge into the river. The surface water treatment systems include catchpits, oil separators and sediment removers such as a 'Downstream Defender' or similar.

See BMCE's Infrastructure Planning Report, submitted under separate cover as part of this application, for more detail in relation to these mitigation measures.

10.7 Residual Impacts

Assuming the implementation of the above-listed mitigation measures, the proposed Project will have ***no likely significant negative impact*** on the natural surface water regime either qualitatively or quantitatively.

10.7.1 Construction Phase

Following the implementation of mitigation measures detailed in Section 10.5, the predicted residual impact on the surface water environment as a result of the construction phase (in accordance with EPA Draft Guidelines[50]) is ***likely, neutral, imperceptible and short-term***.

[50] EPA (2017).

10.7.2 Operational Phase

Assuming the implementation of mitigation measures detailed in Section 10.5, the predicted residual impact on the surface water environment once the development is constructed and operational (in accordance with EPA Draft Guidelines[50]) is considered to be ***likely, neutral, imperceptible and long-term***. There will be ***no impact*** on the quality of the Tolka or the downstream SPA and SAC due to lack of direct hydraulic control measures cited. Overall, the attenuation proposed for the Project will aid in flood management and protection of surface water quality.

10.7.3 Conclusion

Assuming the full and proper implementation of the mitigation measures set out herein and in the Construction Surface Water Management Plan (CSWMP) and the Construction Management Plan (CMP), ***no likely significant negative effects*** are predicted to occur as a result of the construction or operation of the proposed Project.

10.8 Monitoring

10.8.1 Construction Phase

Regular inspection of surface water run-off and any sediment control measures (e.g. silt traps) will be carried out during the construction phase. Regular auditing of construction / mitigation measures will be undertaken (e.g. concrete pouring, refuelling in designated areas, etc.).

10.8.2 Operational Phase

No future surface water monitoring is proposed for the operational phase of the proposed Project due to the low hazard potential of the proposal. Hydrocarbon interceptor(s) will be maintained and cleaned out in accordance with the manufacturer's instructions. Maintenance of the surface water drainage system and foul sewers as per normal urban developments (gully cleaning, pipeline inspection and cleaning, etc.) is recommended to minimise any accidental discharges to ground.

10.9 Interactions

10.9.1 Land, Soils, Geology & Hydrogeology

As previously stated, there is an inter-relationship between hydrology and land, soils, geology and hydrogeology (addressed in Chapter 9 – Land, Soils, Geology and Hydrogeology). There will be no potential cumulative impacts on the bedrock as the aquifer vulnerability is 'Low' (no bedrock was encountered to > 10 m) and the aquifer is locally important with little importance regionally.

Surface water run-off can have the potential to enter soil and groundwater. Implementation of appropriate mitigation measures as outlined in Chapters 9 (Land, Soils, Geology and Hydrology)and in this Chapter will eliminate the potential for the influx of surface contaminants into the underlying geology and hydrogeology.

10.10 Cumulative Impacts

The anticipated cumulative effects of the proposed Project and the other known surrounding developments listed in Chapter 22 (Cumulative Impacts) are summarised below. In relation to the potential cumulative impact on hydrology during the construction phases, the construction works have the potential to give rise to the following impacts (in the absence of mitigation) which could combine with those of other existing / proposed plans / projects (see Chapter 22 – Cumulative Impacts) to result in cumulative impacts:

- Surface water run-off during the construction phase will contain increased silt levels or become polluted from construction activities. Run-off containing large amounts of silt can cause damage to surface water systems and receiving watercourses, namely the Tolka, bounding the Site to the north. Appropriate mitigation measures, as detailed in Section 10.5, above, will be implemented during works to ensure there is no discharge of silt-laden water into the surrounding surface water drainage system.
- Contamination of local water sources from accidental spillage and leakage from construction traffic and construction materials can occur unless project-specific CMPs (and / or Surface Water Management Plans) are put in place for each development, and complied with. In relation to the proposed Project, appropriate mitigation measures, as detailed in Section 10.5, above, will be implemented during works to avoid / minimise impacts of this nature.

Potential cumulative impacts which could arise during the operational phase (in the absence of mitigation) include:

- Increased hard standing areas will reduce local recharge to ground and increase surface water run-off potential if not limited to the green field run-off rate from the Site.
- Increased risk of accidental releases from fuel storage/ delivery unless mitigated adequately i.e. bunded tank.
- Increased risk of accidental discharge of hydrocarbons from car parking areas and along roads and unless diverted to surface water system with petrol interceptor.

Appropriate mitigation measures have been prescribed in relation to the above-listed potential sources of impacts, as detailed in Section 10.5, above.

For other proposed plans / projects, any additional foul discharges should be treated where appropriate and / or diverted to the foul sewer system and not directly to ground. Similar mitigation measures to those described in Section 10.5 will need to be implemented for other proposed plans / projects to protect water quality.

An increase in wastewater loading and water supply requirements is an impact of all development. Each future proposed development will require approval from Irish Water confirming available capacity in the water and wastewater infrastructure. In the case of the proposed Project which is the subject of this application, Irish Water have confirmed connection to its water and foul network can be facilitated, subject to a connection agreement.

Additionally, future proposed development will likely result in an increase in hard standing, which will in turn result in localised reduced recharge to ground and an increased rate of run-off. Each future proposed development will be required to comply with the Local Authority and Irish Water requirements by providing suitable attenuation on-Site to ensure greenfield run-off rates and ensure that there is no increase in off-Site flooding as a result thereof.

Furthermore, with all developments in proximity to / hydrologically connected to surface water bodies, there is the potential for contamination of watercourses during construction and / or operation. Mitigation measures are required to manage sediment run-off and fuel leakages during construction and operation. All future proposed developments are required to ensure they will not have an impact on the quality of the receiving water environment in accordance with the relevant legislation (WFD, planning and associated legislation).

Overall, the cumulative impact on hydrology of the proposed Project in combination with existing / proposed plans / projects is anticipated to be **long-term, neutral and imperceptible**, assuming appropriate mitigation measures to manage water quality run-off in compliance with legislative requirement are put in place for each development.

10.11 Difficulties Encountered in Compiling this Chapter

There were no difficulties encountered in the compilation of this chapter of the EIAR.

10.12 References

- BMCE (2021a). *Site Specific Flood Risk Assessment Lands at Holycross College, ClonlIff Road, Dublin 3 & Drumcondra Road Lower, Drumcondra, Dublin 9*
- BMCE (2021b). *Masterplan Area Flood Risk Report Lands at Holycross College, ClonlIff Road, Dublin 3 & Drumcondra Road Lower, Drumcondra, Dublin 9.*
- BMCE (2021c). *Infrastructure Planning Report Lands at Holycross College, ClonlIff Road, Dublin 3 & Drumcondra Road Lower, Drumcondra, Dublin 9.*
- BMCE (2021d). *Outline Construction Surface Water Management Plan: Lands at Holycross College, ClonlIff Road, Dublin 3 & Drumcondra Road Lower, Drumcondra, Dublin 9.*
- *BS EN – 752:2008, Drains & Sewer Systems Outside Buildings*.
- CIRIA (2001). *Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors (C532).*
- CIRIA (2002). *Control of water pollution from construction sites: guidance for consultants and contractors (SPI56).*
- CIRIA (2005). *Environmental Good Practice on Site (C650).*
- *BPGCS005, Oil Storage Guidelines.*
- CIRIA (2007). *The SUDS Manual (697).*
- European Communities (**Water Policy**) Regulations, 2003 (S.I. No. 722 of 2003).
- European Communities (**Drinking Water**) Regulations 2014 (S.I. 122 of 2014).
- European Communities Environmental Objectives (**Surface Waters**); Regulations, 2009 (S.I. No. 272 of 2009 as amended by S.I. No. 77 of 2019).
- European Communities Environmental Objectives (**Groundwater**) Regulations, 2010 (S.I. No. 9 of 2010 as amended by S.I. No. 366 of 2016).
- European Communities (**Good Agricultural Practice for Protection of Waters**) Regulations, 2010 (S.I. No. 610 of 2010).
- European Communities (**Technical Specifications for the Chemical Analysis and Monitoring of Water Status)** Regulations, 2011 (S.I. No. 489 of 2011).
- European Communities Directive 2000/60/EC (the 'Water Framework Directive)
- EPA (2017). *Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports.*
- EPA (2015). *Draft Advice Notes on Current Practice in the Preparation of Environmental Impact Statements.*
- *Greater Dublin Strategic Drainage Study Volume 2.*
- *Greater Dublin Regional Code of Practice for Drainage Works.*

- National Roads Authority (NRA) (2009). *Guidelines on Procedures for the Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes.*
- Part H (Building Drainage) of the Building Regulations.
- UK Environment Agency (2004). *UK Pollution Prevention Guidelines (PPGs).*

11 Air Quality & Climate

11.1 Introduction

This Chapter assesses the air quality and climate impacts likely to occur and associated with the proposed Project at Clonliffe Road, Dublin. A full description of the proposal is available in Chapter 5 – Description of the Proposed Project.

This chapter was completed by Ciara Nolan, an environmental consultant in the air quality section of AWN Consulting Ltd. She holds an MSc (First Class) in Environmental Science from University College Dublin and has also completed a BSc in Energy Systems Engineering. She is an Associate Member of both the Institute of Air Quality Management (AMIAQM) and the Institution of Environmental Science (AMIEnvSc). She has been active in the field of air quality for 4 years, with a primary focus on consultancy.

11.2 Methodology

11.2.1 Criteria for Rating of Impacts

11.2.1.1 Ambient Air Quality Standards

In order to reduce the risk to health from poor air quality, national and European statutory bodies have set limit values in ambient air for a range of air pollutants. These limit values or "Air Quality Standards" are health or environmental-based levels for which additional factors may be considered. For example, natural background levels, environmental conditions and socio-economic factors may all play a part in the limit value which is set (see Appendix 11.1).

Air quality significance criteria are assessed on the basis of compliance with the appropriate standards or limit values. The applicable standards in Ireland include the Air Quality Standards Regulations 2011 (S.I. no. 180 of 2011), which incorporate EU Directive 2008/50/EC, which has set limit values for a number of pollutants. The limit values for NO_2, PM_{10} and $PM_{2.5}$ are relevant to this assessment (see Table 11.1). Although the EU Air Quality Limit Values are the basis of legislation, other thresholds outlined by the EU Directives are used, which are triggers for particular actions (see Appendix 11.1).

Table 11.1: Ambient Air Quality Standards

Pollutant	Regulation Note 1	Limit Type	Value
Nitrogen Dioxide (NO_2)	2008/50/EC	Hourly limit for protection of human health - not to be exceeded more than 18 times/year	200 $\mu g/m^3$
		Annual limit for protection of human health	40 $\mu g/m^3$
		Critical level for protection of vegetation	30 $\mu g/m^3$ NO + NO_2
Particulate Matter (as PM_{10})	2008/50/EC	24-hour limit for protection of human health - not to be exceeded more than 35 times/year	50 $\mu g/m^3$
		Annual limit for protection of human health	40 $\mu g/m^3$
Particulate Matter (as $PM_{2.5}$)	2008/50/EC	Annual limit for protection of human health	25 $\mu g/m^3$

Note 1: EU 2008/50/EC – Clean Air For Europe (CAFÉ) Directive replaces the previous Air Framework Directive (1996/30/EC) and daughter directives 1999/30/EC and 2000/69/EC

11.2.1.2 Dust Deposition Guidelines

The concern from a health perspective is focussed on particles of dust which are less than 10 microns (PM_{10}) and less than 2.5 microns ($PM_{2.5}$) in diameter, and the EU ambient air quality standards outlined in Table 11.1 have set ambient air quality limit values for PM_{10} and $PM_{2.5}$.

With regards to larger dust particles that can give rise to nuisance dust, there are no statutory guidelines regarding the maximum dust deposition levels that may be generated during the construction phase of a development in Ireland. Furthermore, no specific criteria have been stipulated for nuisance dust in respect of this development.

With regard to dust deposition, the German TA-Luft standard for dust deposition (non-hazardous dust) (German VDI, 2002) sets a maximum permissible emission level for dust deposition of 350 mg/(m^2*day), averaged over a one year period, at any receptors outside the site boundary. Recommendations from the Department of the Environment, Heritage & Local Government (DEHLG, 2004) apply the Bergerhoff limit of 350 mg/(m^2*day) to the site boundary of quarries. This limit value can also be implemented with regard to dust impacts from construction of the proposed Project.

11.2.1.3 Climate Agreements

Ireland is party to both the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol. The Paris Agreement, which entered into force in 2016, is an important milestone in terms of international climate change agreements and includes an aim of limiting global temperature increases to no more than 2°C above pre-industrial levels, with efforts to limit this rise to 1.5°C. The aim is to limit global greenhouse gas (GHG) emissions to 40 gigatonnes as soon as possible whilst acknowledging that peaking of GHG emissions will take longer for developing countries. Contributions to GHG emissions will be based on Intended Nationally Determined Contributions (INDCs) which will form the foundation for climate action post-2020. Significant progress was also made in the Paris Agreement on elevating adaptation onto the same level as action to cut and curb emissions.

In order to meet the commitments under the Paris Agreement, the EU enacted Regulation (EU) 2018/842 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement and amending Regulation (EU) No. 525/2013 (the Regulation). The Regulation aims to deliver, collectively by the EU in the most cost-effective manner possible, reductions in GHG emissions from the Emission Trading Scheme (ETS) and non-ETS sectors, amounting to 43% and 30%, respectively, by 2030 compared to 2005. Ireland's obligation under the Regulation is a 30% reduction in non-ETS GHG emissions by 2030 relative to its 2005 levels.

In 2015, the Climate Action and Low Carbon Development Act 2015 (No. 46 of 2015) (Government of Ireland, 2015) was enacted (the Act). The purpose of the Act was to enable Ireland "*to pursue, and achieve, the transition to a low carbon, climate resilient and environmentally sustainable economy by the end of the year 2050*" (3 (1) of No. 46 of 2015). This is referred to in the Act as the "*national transition objective*". The Act made provision for a national mitigation plan, and a national adaptation framework. In addition, the Act provided for the establishment of the Climate Change Advisory Council with the function to advise and make recommendations on the preparation of the national mitigation and adaptation plans and compliance with existing climate obligations.

The Climate Action Plan (CAP) (Government of Ireland, 2019) outlines the status (at the time of publication) across key sectors including electricity, transport, built environment, industry and agriculture, and outlines the various broad scale measures required for each sector to achieve ambitious decarbonisation targets. The CAP also details the required governance arrangements for implementation, including carbon-proofing of policies, establishment of carbon budgets, a strengthened Climate Change Advisory Council, and greater accountability to the Oireachtas. The CAP has set a built environment sector reduction target of 40 – 45% relative to 2030 pre-National Development Plan (NDP) projections.

Following on from Ireland declaring a climate and biodiversity emergency in May 2019, and the European Parliament approving a resolution declaring a climate and environment emergency in Europe in November 2019, the Government approved the publication of the General Scheme in December 2019, followed by the publication of the Climate Action and Low Carbon Development (Amendment) Bill 2021 (hereafter referred to as the 2021 Climate Bill) in March 2021. The 2021 Climate Bill was prepared for the purposes of giving statutory effect to the core objectives stated within the CAP.

The purpose of the 2021 Climate Bill, if enacted, is to provide for the approval of plans "*for the purpose of pursuing the transition to a climate resilient, biodiversity rich and climate neutral economy by no later than the end of the year 2050*". The 2021 Climate Act will also "*provide for carbon budgets and a decarbonisation target range for certain sectors of the economy*". The 2021 Climate Bill defines the carbon budget as "*the total amount of greenhouse gas emissions that are permitted during the budget period*".

The 2021 Climate Bill removes any reference to a national mitigation plan and instead refers to both the Climate Action Plan, as published in 2019, and a series of National Long Term Climate Action Strategies. In addition, the Environment Minister shall request that each Local Authority produce a climate action plan lasting five years, specifying the mitigation measures and the adaptation measures to be adopted by the Local Authority.

The Dublin City Council (DCC) Climate Change Action Plan (DCC & Codema, 2019) outlines a number of targets and actions to mitigate and adapt to climate change. There are five key action areas within the plan: energy and buildings, transport, flood resilience, nature-based solutions and resource management. Some of the measures promoted within the Action Plan involve building retrofits, energy master-planning, development of segregated cycle routes, the promotion of bike share schemes, development of flood resilient designs, promotion of the use of green infrastructure and water conservation initiatives. The implementation of these measures will enable the DCC administrative area to adapt to climate change and will assist in bringing Ireland closer to achieving its GHG emissions reduction targets in future years. New developments need to be cognisant of the Action Plan and incorporate climate friendly designs and measures where possible.

11.2.2 Construction Phase

11.2.2.1 Air Quality

The Institute of Air Quality Management in the UK (IAQM) guidance document '*Guidance on the Assessment of Dust from Demolition and Construction*' (2014) outlines an assessment method for predicting the impact of dust emissions from demolition, earthworks, construction and haulage activities, based on the scale and nature of the works and the sensitivity of the area to dust impacts. The IAQM methodology has been applied to the construction phase of this proposed Project in order to predict the likely risk of dust impacts in the absence of mitigation measures and to determine the level of site specific mitigation required. The use of UK guidance is considered best practice in the absence of applicable Irish guidance.

- Construction phase traffic also has the potential to impact air quality and climate. The UK Highways Agency Design Manual for Roads and Bridges (DMRB) guidance (UK Highways Agency, 2019a), states that road links meeting one or more of the following criteria can be defined as being 'affected' by a proposed development and should be included in the local air quality assessment: Annual average daily traffic (AADT) changes by 1,000 or more;

- Heavy duty vehicle (HDV) AADT changes by 200 or more;
- A change in speed band; and / or
- A change in carriageway alignment by 5 m or greater.

The use of the UK guidance is recommended by the TII (2011) in the absence of specific Irish guidance. This approach is considered best practice and can be applied to any development that causes a change in traffic.

The construction phase traffic has been reviewed and none of the impacted road links meet the above criteria. Therefore, a detailed air quality assessment has been scoped out as there is no potential for significant impacts to air quality from construction traffic emissions.

11.2.2.2 Climate

The impact of the construction phase of the proposed Project on climate was determined by a qualitative assessment of the nature and scale of GHG generating construction activities associated with the proposed Project.

The UK Highways Agency has published an updated DMRB guidance document in relation to climate impact assessments, *LA 114 Climate.* The following scoping criteria are used to determine whether a detailed climate assessment is required for a proposed project. If any of the road links impacted by the proposed Project meet the below criteria then further assessment is required:

- A change of more than 10% in AADT;
- A change of more than 10% to the number of HDVs; and / or
- A change in daily average speed of more than 20 km/hr.

The construction phase traffic has been reviewed and none of the impacted road links meet the above criteria. Therefore, a detailed climate assessment has been scoped out as there is no potential for significant impacts to climate from construction traffic emissions.

11.2.3 Operational Phase

11.2.3.1 Air Quality

Operational phase traffic has the potential to impact local air quality as a result of increased vehicle movements associated with the proposed Project. The UK Highways Agency DMRB scoping criteria detailed in Section 11.2.2.1 were used to determine if any road links will be affected by the proposed Project and, as such, require inclusion in a detailed air dispersion modelling assessment. The proposed Project will increase the AADT on a section of the N1 by, at most, 971 AADT. Therefore, according to the DMRB scoping criteria in section 11.2.2.1, none of the local road links can be classed as 'affected' and detailed air dispersion modelling of operational phase traffic emissions is not required, as there is no potential for significant impacts to air quality.

11.2.3.2 Climate

Ireland has annual GHG targets which are set at an EU level and need to be complied with in order to reduce the impact of climate change. Impacts to climate as a result of GHG emissions are assessed against the targets set out by the EU under Regulation (EU) 2018/842 on binding annual greenhouse gas emission reductions by

Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement and amending Regulation (EU) No. 525/2013, which has set a target of 30% reduction in non-ETS sector GHG emissions by 2030 relative to 2005 levels.

As per the EU guidance document *Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment* (European Commission, 2013) the climate baseline is first established with reference to EPA data on annual GHG emissions (see Section 11.3.3). The impact of the proposed Project on climate is determined in relation to this baseline. Road traffic associated with the proposed Project will emit certain volumes of carbon dioxide (CO_2) and, to a lesser degree, methane (CH_4), nitrous oxide (N_2O) and, potentially, hydrofluorocarbons, all of which have global warming potential.

Operational phase traffic has the potential to impact climate as a result of increased vehicle movements associated with the proposed Project. The UK Highways Agency DMRB scoping criteria detailed in Section 11.2.2.2 were used to determine if any road links are affected by the proposed Project and, as such, require inclusion in a detailed air dispersion modelling assessment. The proposed Project will not increase traffic by more than 10% AADT on any nearby road links. Therefore, none of the scoping criteria are met and a detailed climate assessment is not required as there is no potential for significant impacts to climate as a result of traffic emissions.

The EU guidance (2013) also states that indirect GHG emissions as a result of a proposed Project must be considered. These include emissions associated with energy usage. The Energy & Sustainability Report for the proposed Project, prepared by O'Connor Sutton Cronin (OCSC) and submitted under separate cover as part of this application, has been reviewed to inform the operational phase climate assessment. This report outlines a number of measures in relation to energy usage from the proposed Project primarily in relation to heat and electricity. A number of measures have been incorporated into the overall design of the development to reduce the impact to climate, where possible.

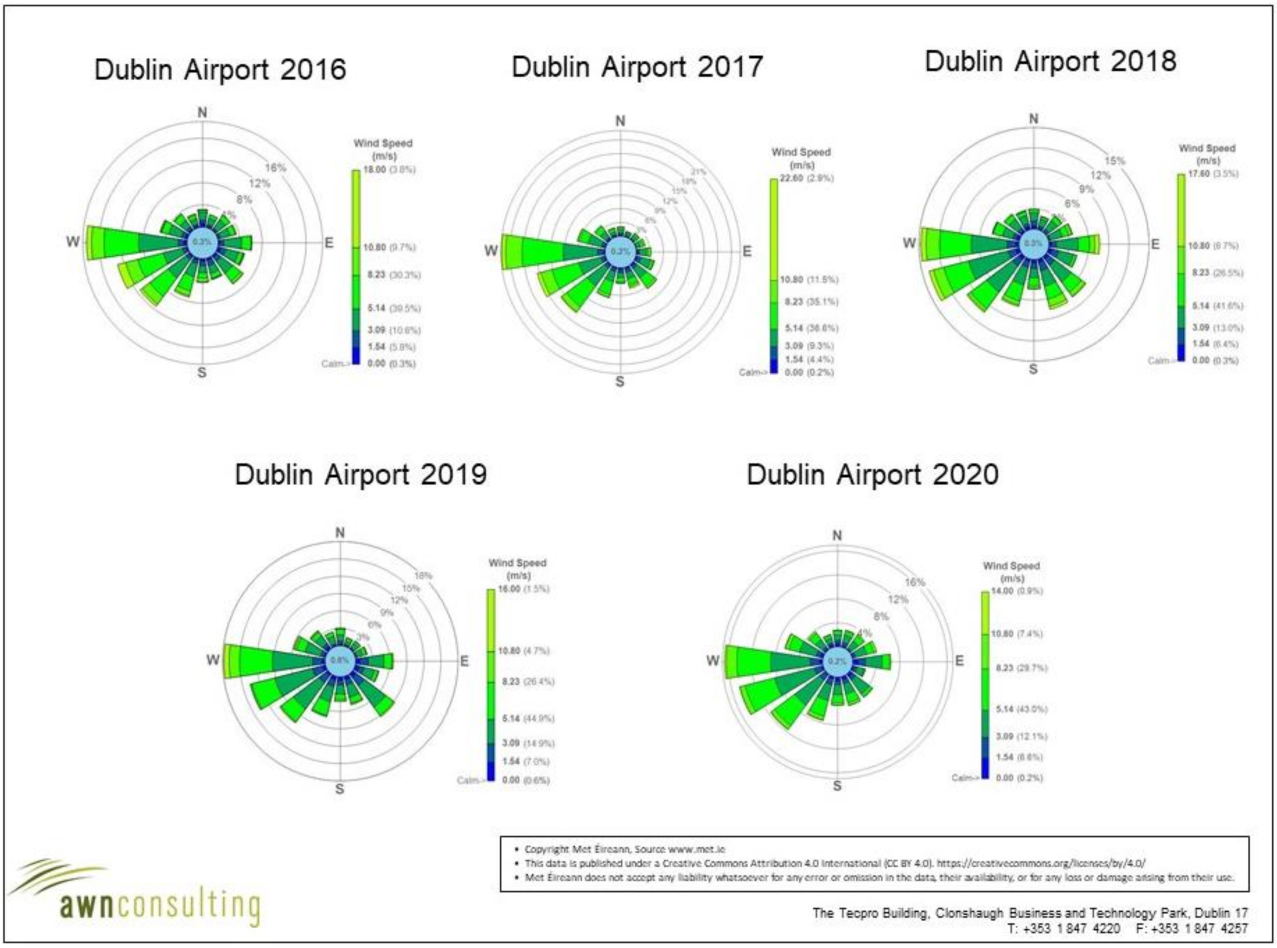
11.3 Baseline Environment

11.3.1 Meteorological Conditions

A key factor in assessing temporal and spatial variations in air quality is the prevailing meteorological conditions. Depending on wind speed and direction, individual receptors may experience very significant variations in pollutant levels under the same source strength (i.e. traffic levels) (WHO, 2006). Wind is of key importance in dispersing air pollutants and for ground level sources, such as traffic emissions, and pollutant concentrations are generally inversely related to wind speed. Thus, concentrations of pollutants derived from traffic sources will generally be greatest under very calm conditions and low wind speeds, when the movement of air is relatively low. In relation to PM_{10}, the situation is more complex due to the range of sources of this pollutant. Smaller particles (less than $PM_{2.5}$) from traffic sources will be dispersed more rapidly at higher wind speeds. However, fugitive emissions of coarse particles ($PM_{2.5}$ - PM_{10}) will actually increase at higher wind speeds. Thus, measured levels of PM_{10} will be a non-linear function of wind speed.

The nearest representative weather station collating detailed weather records is at Dublin Airport., which is located approximately 6 km north of the Site. Dublin Airport meteorological data has been examined to identify the prevailing wind direction and average wind speeds over a five-year period (see Figure 11.1). The predominant wind direction is westerly to south-westerly over the period 2016 - 2020, with a mean wind speed of 5.5 m/s over the period 1981 – 2010 (Met Éireann, 2021).

Figure 11.1: Dublin Airport Windrose 2016 – 2020



11.3.2 Baseline Air Quality

Air quality monitoring programs have been undertaken in recent years by the EPA and Local Authorities. The most recent annual report on air quality in Ireland is '*Air Quality In Ireland 2019*' (EPA, 2020a). The EPA website details the range and scope of monitoring undertaken throughout Ireland and provides both monitoring data and the results of previous air quality assessments (EPA, 2021).

As part of the implementation of the Air Quality Standards Regulations 2002 (S.I. No. 271 of 2002), four air quality zones have been defined in Ireland for air quality management and assessment purposes (EPA, 2020a). Dublin is defined as Zone A, and Cork as Zone B. Zone C is composed of 23 towns with a population of greater than 15,000. The remainder of the country, which represents rural Ireland but also includes all towns with a population of less than 15,000, is defined as Zone D.

In terms of air monitoring and assessment, the proposed Project site is within Zone A (EPA, 2020a) . The long-term monitoring data has been used to determine background concentrations for the key pollutants in the region of the proposed Project. The background concentration accounts for all non-traffic derived emissions (e.g. natural sources, industry, home heating, etc.).

Long-term NO_2 monitoring was carried out at the Zone A suburban locations of Rathmines, Ballyfermot, Dún Laoghaire and Swords, and the urban location of Winetavern Street, for the period 2015 – 2019 (EPA, 2020a). Long-term average concentrations are significantly below the annual average limit of 40 µg/m^3 for both the urban and suburban locations. Average results range from 13 – 22 µg/m^3 for the suburban background locations and from 27 – 37 µg/m^3 for the urban location of Winetavern Street. The NO_2 annual average for this five year period suggests an upper average limit of no more than 22 µg/m^3 (Table 11.2) as a background concentration for the suburban locations. Based on the above information, a conservative estimate of the current background NO_2 concentration for the region of the proposed Project is 20 µg/m^3.

Table 11.2: Trends in Zone A Air Quality – NO_2

Station	Station Classification	Averaging Period Note 1	Year				
			2015	2016	2017	2018	2019
Rathmines	Suburban Background	Annual Mean NO_2 (µg/m^3)	18	20	17	20	22
		99.8th%ile 1-hr NO_2 (µg/m^3)	105	88	86	87	102
Ballyfermot	Suburban Background	Annual Mean NO_2 (µg/m^3)	16	17	17	17	20
		99.8th%ile 1-hr NO_2 (µg/m^3)	127	90	112	101	101
Dún Laoghaire	Suburban Background	Annual Mean NO_2 (µg/m^3)	16	19	17	19	15
		99.8th%ile 1-hr NO_2 (µg/m^3)	91	105	101	91	91
Swords	Suburban Background	Annual Mean NO_2 (µg/m^3)	13	16	14	16	15
		99.8th%ile 1-hr NO_2 (µg/m^3)	93	96	79	85	80
Winetavern Street	Urban Traffic	Annual Mean NO_2 (µg/m^3)	31	37	27	29	28
		99.8th%ile 1-hr NO_2 (µg/m^3)	128	120	110	115	115

Note 1: Annual average limit value of 40 µg/m^3 and hourly limit value of 200 µg/m^3 (EU Council Directive 2008/50/EC & S.I. No. 180 of 2011).

Continuous PM_{10} monitoring was carried out at the Zone A locations of Winetavern Street, Rathmines, Dún Laoghaire, Ballyfermot and Phoenix Park from 2015 – 2019. These showed an upper average limit of no more than 15 µg/m^3 (Table 11.3). Levels range from 9 – 16 µg/m^3 over the five year period, with, at most, 9 exceedances of the 24-hour limit value of 50 µg/m^3 in Rathmines and Winetavern Street in 2019 (35 exceedances are permitted per year) (EPA, 2020a). Sufficient data is available for the Phoenix Park to observe long-term trends in the data, which suggest an upper average annual mean value of at most 12 µg/m^3 as a background concentration. Based on the EPA data, a conservative estimate of the current background PM_{10} concentration in the region of the proposed Project is 13 µg/m^3.

Table 11.3: Trends in Zone A Air Quality – PM_{10}

Station	Station Classification	Averaging Period	Year				
			2015	2016	2017	2018	2019
Ballyfermot	Suburban Background	Annual Mean PM_{10} (µg/m^3)	12	11	12	16	14
		24-hr Mean > 50 µg/m^3 (days)	3	0	1	0	7
Dún Laoghaire	Suburban Background	Annual Mean PM_{10} (µg/m^3)	13	13	12	13	12
		24-hr Mean > 50 µg/m^3 (days)	3	0	2	0	2
Winetavern Street	Urban Traffic	Annual Mean PM_{10} (µg/m^3)	14	14	13	14	15
		24-hr Mean > 50 µg/m^3 (days)	4	2	3	1	9
Rathmines	Suburban Background	Annual Mean PM_{10} (µg/m^3)	15	15	13	15	15
		24-hr Mean > 50 µg/m^3 (days)	5	3	5	2	9
Phoenix Park	Urban Background	Annual Mean PM_{10} (µg/m^3)	12	11	9	11	11
		24-hr Mean > 50 µg/m^3 (days)	2	0	1	0	2

Note 1: Annual average limit value of 40 µg/m^3 and 24-hour limit value of 50 µg/m^3 (EU Council Directive 2008/50/EC & S.I. No. 180 of 2011).

Monitoring of both PM_{10} and $PM_{2.5}$ takes place at the station in Rathmines which allows for the $PM_{2.5}$/PM_{10} ratio to be calculated. Average $PM_{2.5}$ levels in Rathmines over the period 2015 – 2019 ranged from 9 - 10 µg/m^3, with a $PM_{2.5}/PM_{10}$ ratio ranging from 0.60 – 0.68 (EPA, 2020a). Based on this information, a conservative ratio of 0.7 was used to generate an existing $PM_{2.5}$ concentration in the region of the proposed Project of 9.1 $\mu g/m^3$.

11.3.3 Climate Baseline

Anthropogenic emissions of GHGs in Ireland included in the EU 2020 strategy are outlined in the most recent review by the EPA, which details provisional emissions up to 2019 (EPA, 2020b). The data published in 2020 indicated that Ireland exceeded its 2019 annual limit set under the EU's Effort Sharing Decision (ESD), 406/2009/EC1 by an estimated 6.98 Mt. For 2019, total national GHG emissions were estimated to be 59.90 million tonnes CO_2 equivalent (Mt CO_2eq), with a 45.71 MtCO_2eq share of these emissions associated with the ESD sectors, for which compliance with the EU targets is required. Agriculture was the largest GHG contributor in 2019, at 35.3% of the total; with the transport sector accounting for 20.3%.

GHG emissions for 2019 were estimated to be 4.5% lower than those recorded in 2018. Emission reductions were recorded in 6 of the 10 years preceding the publication. However, compliance with the annual EU targets had not been met for four years in a row. Emissions from 2016 – 2019 exceeded the annual EU targets by 0.29 Mt CO_2eq, 2.94 Mt CO_2eq, 5.57 Mt CO_2eq and 6.98 Mt CO_2eq, respectively. Agriculture is consistently the largest contributor to GHG emissions in Ireland, with emissions from the transport and energy sectors being the second and third largest contributors, respectively, in recent years.

The EPA 2020 GHG Emissions Projections Report for 2019 – 2040 (EPA 2020c) notes that there is a long-term projected decrease in GHG emissions as a result of inclusion of new climate mitigation policies and measures that formed part of the Climate Action Plan (CAP) which was published in 2019. Implementation of these are classed as a "*With Additional Measures*" scenario for future scenarios. Changes from generating electricity using coal and peat to wind power, and diesel vehicle engines to electric vehicle engines, are envisaged under this scenario. While emissions are projected to decrease in these areas, emissions from agriculture are projected to grow steadily due to an increase in animal numbers. Over the period 2013 – 2020, Ireland is projected to cumulatively exceed its compliance obligations with the EU's ESD (Decision No. 406/2009/EC) 2020 targets by approximately 13.4 Mt CO_2eq under the *"With Existing Measures"* scenario and 12.6 Mt CO_2eq under the *"With Additional Measures"* scenario (EPA, 2020c).

11.3.4 Sensitivity of the Receiving Environment

In line with the UK IAQM guidance document '*Guidance on the Assessment of Dust from Demolition and Construction'* (2014), prior to assessing the impact of dust from a proposed development, the sensitivity of the area must first be assessed. Both receptor sensitivity and proximity to proposed works areas are taken into consideration. For the purposes of this assessment, high sensitivity receptors are regarded as residential properties where people are likely to spend the majority of their time; as well as schools, hospitals, nursing homes or areas where users would expect a high level of amenity. Commercial properties, parks and places of work are regarded as medium sensitivity, while low sensitivity receptors are places where people are present for short periods or do not expect a high level of amenity.

Figure 11.2 shows the sensitive receptors within 50 m of the proposed Project. It is estimated that there are between 60 – 100 high sensitivity receptors within 20 m of the site. Based on the IAQM criteria outlined in Table 11.4, the worst case sensitivity of the area to dust soiling is considered high.

Figure 11.2: Sensitive Receptors within 20m of Proposed Project

Table 11.4: Sensitivity of the Area to Dust Soiling Effects on People and Property

Receptor Sensitivity	Number Of Receptors	Distance from source (m)			
		<20	<50	<100	<350
High	>100	High	High	Medium	Low
	10-100	**High**	Medium	Low	Low
	1-10	Medium	Low	Low	Low
Medium	>1	Medium	Low	Low	Low
Low	>1	Low	Low	Low	Low

Source: IAQM (2014) *Guidance on the Assessment of Dust from Demolition and Construction*

In addition to sensitivity to dust soiling, the IAQM guidelines also outline the assessment criteria for determining the sensitivity of the area to human health impacts. The criteria take into consideration the current annual mean PM_{10} concentration, receptor sensitivity and the number of receptors affected within various distance bands from the construction works.

In terms of receptor sensitivity to human health impacts, the IAQM guidance defines high sensitivity receptors as "*locations where members of the public are exposed over a time period relevant to the air quality objective for PM_{10} (in the case of the 24-hour objectives, a relevant location would be one where individuals may be exposed for eight hours or more in a day)*" (IAQM, 2014). Examples include residential properties, schools and hospitals. Office and shop workers are considered of medium sensitivity. Low sensitivity receptors are areas where exposure is transient, such as public footpaths and shopping streets.

It is estimated that there are between 60 – 100 high sensitivity receptors within 20 m of the proposed Project Site. A conservative estimate of the current annual mean PM_{10} concentration in the vicinity of the proposed Project is 13 µg/m^3 (see Section 11.3.2). Based on the IAQM criteria outlined in Table 11.5, the worst case sensitivity of the area to human health is considered low.

Table 11.5: Sensitivity of the Area to Human Health Impacts

Receptor Sensitivity	Annual Mean PM_{10} Concentration	Number Of Receptors	Distance from source (m)				
			<20	<50	<100	<200	<350
High	< 24 µg/m^3	>100	Medium	Low	Low	Low	Low
		10-100	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
Medium	< 24 µg/m^3	>10	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
Low	< 24 µg/m^3	>1	Low	Low	Low	Low	Low

Source: IAQM (2014) *Guidance on the Assessment of Dust from Demolition and Construction*

11.4 Predicted Impacts of the Proposed Project

11.4.1 Do-Nothing Scenario

The Do-Nothing scenario includes retention of the current Site without the proposed Project in place. In this scenario, ambient air quality at the Site will remain as per the baseline and will change in accordance with trends within the wider area (including influences from potential new developments in the surrounding area, changes in road traffic, etc.). As per Section 11.3, the general air quality in the area is of a good level and is within the air quality guidelines for the protection of human health. With the implementation of the numerous climate measures set out under various government plans, including the Climate Action Plan 2019, emissions of pollutants from road traffic, including NO_2, PM_{10}, $PM_{2.5}$ and CO_2 will likely decrease in future years with the addition of further electric vehicles to the fleet and the phasing out of fossil fuelled vehicles.

11.4.2 Construction Phase

11.4.2.1 Air Quality

The greatest potential impact on air quality during the demolition and construction phase of the proposed Project is from construction dust emissions and the potential for nuisance dust. While construction dust tends to be deposited within 350 m of a construction site, the majority of the deposition occurs within the first 50 m. The extent of any dust generation depends on the nature of the dust (soils, peat, sands, gravels, silts, etc.) and the nature of the construction activity. In addition, the potential for dust dispersion and deposition depends on local meteorological factors such as rainfall, wind speed and wind direction. A review of Dublin Airport meteorological data (see Section 11.3.1) indicates that the prevailing wind direction is westerly to south-westerly and wind speeds are generally moderate in nature. In addition, dust generation is considered negligible on days where rainfall is greater than 0.2 mm. A review of historical 30 year average data for Dublin Airport indicates that, on average, 191 days per year have rainfall over 0.2 mm (Met Éireann, 2021) and, therefore, it can be determined that dust generation will be reduced over 50% of the time.

In order to determine the level of dust mitigation required during the proposed works, the potential dust emission magnitude for each dust generating activity needs to be taken into account, in conjunction with the previously established sensitivity of the area (see Section 11.3.4). The major dust generating activities are divided into four types within the IAQM guidance (2014) to reflect their different potential impacts. These are:

- Demolition;
- Earthworks;
- Construction; and
- Trackout (i.e. movement of heavy vehicles).

The magnitude of each of the four categories is divided into large-, medium- or small-scale, depending on the nature of the activities involved, based on the IAQM guidance (2014).

Demolition
Demolition will primarily involve the removal of buildings or structures currently on the site in a potentially dusty manner. This may also involve dust generation at heights. Dust emission magnitude from demolition can be classified as small, medium or large, as follows:

- **Large**: Total building volume >50,000 m^3, potentially dusty construction material (e.g. concrete), on-site crushing and screening, demolition activities >20 m above ground level;
- **Medium**: Total building volume 20,000 m^3 – 50,000 m^3, potentially dusty construction material, demolition activities 10 – 20 m above ground level; and
- **Small**: Total building volume less than 20,000 m^3.

There is approximately 30,000 m^3 of buildings to be demolished under the scope of the proposed works. Therefore, the demolition works can be classified as 'medium', as per the criteria above. As the overall sensitivity of the area to dust soiling impacts is high, there is a medium risk of dust soiling impacts from the proposed demolition activities according to the IAQM guidance (see Table 11.6). There is an overall low risk of human health impacts as a result of the demolition activities, as the overall sensitivity of the area to human health impacts is low (Section 11.3.4).

Table 11.6: Risk of Dust Impacts - Demolition

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Medium Risk
Medium	High Risk	Medium Risk	Low Risk
Low	Medium Risk	Low Risk	Negligible

Earthworks
Earthworks typically involve excavating material, loading and unloading of materials, and tipping and stockpiling activities. Activities such as levelling the site and landscaping works are also considered under this category. Dust emission magnitude from earthworks can be classified as small, medium and large, as follows:

- **Large:** Total site area > 10,000 m^2, potentially dusty soil type (e.g. clay which is prone to suspension when dry due to small particle size), >10 heavy earth moving vehicles active at any one time, formation of bunds > 8 m in height, total material moved >100,000 tonnes;
- **Medium:** Total site area 2,500 m^2 – 10,000 m^2, moderately dusty soil type (e.g. silt), 5 – 10 heavy earth moving vehicles active at any one time, formation of bunds 4 – 8 m in height, total material moved 20,000 – 100,000 tonnes; and
- **Small:** Total site area < 2,500 m^2, soil type with large grain size (e.g. sand), < 5 heavy earth moving vehicles active at any one time, formation of bunds < 4 m in height, total material moved < 20,000 tonnes, earthworks during wetter months.

Following the IAQM guidance (2014), the proposed earthworks can be classified as 'large', as the total Site area is greater than 10,000 m^2 and there will be approximately 120,000 m^3 of material involved in infill and excavation works. This results in an overall high risk of dust soiling impacts and a low risk of human health impacts as a result of earthworks activities (see Table 11.7).

Table 11.7: Risk of Dust Impacts - Earthworks

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

Construction

Dust emission magnitude from construction can be classified as small, medium or large, as follows:

- **Large:** Total building volume > 100,000 m^3, on-site concrete batching, sandblasting;
- **Medium:** Total building volume 25,000 m^3 – 100,000 m^3, potentially dusty construction material (e.g. concrete), on-site concrete batching;
- **Small:** Total building volume < 25,000 m^3, construction material with low potential for dust release (e.g. metal cladding or timber).

The dust emission magnitude from construction associated with the proposed works can be classified as 'large', as the total building volume will be 363,000 m^3, excluding basements. Therefore, there is an overall high risk of dust soiling impacts and a low risk of human health impacts as a result of the proposed construction activities (Table 11.8).

Table 11.8: Risk of Dust Impacts – Construction

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

Trackout

Factors which determine the dust emission magnitude associated with trackout are vehicle size and speed, number of vehicles, road surface material and duration of movement. Dust emission magnitude from trackout can be classified as small, medium or large, as follows:

- **Large:** > 50 HGV (> 3.5 t) outward movements in any one day, potentially dusty surface material (e.g. high clay content), unpaved road length > 100 m;
- **Medium:** 10 – 50 HGV (> 3.5 t) outward movements in any one day, moderately dusty surface material (e.g. high clay content), unpaved road length 50 – 100 m;
- **Small:** < 10 HGV (> 3.5 t) outward movements in any one day, surface material with low potential for dust release, unpaved road length < 50 m.

Dust emission magnitude from trackout can be classified as 'large', as there are predicted to be on average 66 outward HGV movements per day during the construction phase, with a conservative estimate of 250 HGV movements during days where concrete pouring is taking place. This results in an overall high risk of dust soiling impacts and a low risk of human health impacts as a result of the proposed trackout activities (see Table 11.9).

Table 11.9: Risk of Dust Impacts – Trackout

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

Summary of Dust Emission Risk

The risk of dust impacts as a result of the proposed Project is summarised in Table 11.10 for each activity. The magnitude of risk determined is used to prescribe the level of site specific mitigation required for each activity in order to prevent significant impacts occurring.

Overall, in order to ensure that no dust nuisance occurs during the demolition, earthworks, construction and trackout activities, a range of dust mitigation measures associated with a high risk of dust impacts must be implemented. In the absence of mitigation, there is the potential for ***short-term, localised, significant*** dust related impacts to air quality as a result of the proposed Project.

Table 11.10: Summary of Dust Impact Risk used to Define Site-Specific Mitigation

Potential Impact	Dust Emission Risk			
	Demolition	Earthworks	Construction	Trackout
Dust Emission Magnitude	Medium	Large	Large	Large
Dust Soiling Risk	Medium Risk	High Risk	High Risk	High Risk
Human Health Risk	Low Risk	Low Risk	Low Risk	Low Risk

There is also the potential for traffic emissions to impact air quality in the short-term over the construction phase, particularly due to the increase in HGVs accessing the Site. The construction stage traffic has been reviewed and, while a conservative estimate out 250 outward HGVs was outlined, this is only for days where concrete pouring will be taking place – overall, the annual average will remain at 66 HGVs. As a result, a detailed air quality assessment was scoped out, as the construction stage traffic did not meet the DMRB scoping criteria outlined in Section 11.2.2.1. Therefore, the air quality impact of construction phase traffic is considered ***short-term, neutral and imperceptible***.

11.4.2.2 Climate

A number of GHG emissions will occur during the demolition and construction phase of the proposed Project. Construction vehicles, generators, etc., will give rise to CO_2 and N_2O emissions. The IAQM *Guidance on the Assessment of Dust from Demolition and Construction* (2014) states that site traffic and plant is unlikely to make a significant impact on climate. As per Section 11.3.3, Ireland had total GHG emissions of 59.9 million tonnes of CO_2eq in 2019, emissions from the demolition and construction phase of the Proposed Project will be a small fraction of this. Therefore, the impact of the construction phase on climate is considered to be ***imperceptible and short-term***.

11.4.2.3 Human Health

Dust emissions from the demolition and construction phase of the proposed Project have the potential to impact human health through the release of PM_{10} and $PM_{2.5}$ emissions. As per Table 11.5, the surrounding area is considered of low sensitivity to dust related human health impacts. There is an overall low risk of dust related human health impacts as a result of the construction of the proposed Project (Table 11.10). Therefore, in the absence of mitigation there is the potential for ***slight, negative, short-term impacts*** to human health as a result of the proposed Project.

11.4.3 Operational Phase

11.4.3.1 Air Quality

Operational phase traffic has the potential to impact local air quality as a result of increased vehicle movements associated with the proposed Project. However, the proposed Project it is not predicted to significantly change the existing traffic on the nearby road links. The proposed Project will increase AADT on a section of the N1 by, at most, 971. Therefore, according to the DMRB scoping criteria in Section 11.2.2.1, none of the local road links can be classed as 'affected'. The potential impact to air quality during the operational phase is considered ***long-term, neutral and imperceptible***.

11.4.3.2 Climate

Climate change has the potential to alter weather patterns and increase the frequency of rainfall in future years. As a result of this, there is the potential for flooding related impacts on site in future years. However, adequate attenuation and drainage have been provided for to account for increased rainfall in future years, as part of the design of this proposed Project. Therefore, the impact will be ***long-term, localised, neutral and imperceptible***. For a detailed assessment of the impacts of the proposed Project in relation to flood risk, refer to Chapter 10 (Hydrology).

There is also the potential for increased traffic volumes to impact climate. The change in AADT values is not of the magnitude to require a detailed climate assessment as per the DMRB screening criteria outlined in Section 11.2.3.2 (UK Highways Agency, 2019b). There is a less than 10% change in in the AADT and HDV AADT. It can, therefore, be determined that traffic related CO_2 and N_2O emissions during the operational phase will *be* ***long-term, localised, neutral and imperceptible****.*

The proposed Project has been designed to reduce the impact to climate, where possible, during operation. Full details of the incorporated design measures are outlined within the Energy & Sustainability Statement prepared by OCSC in respect of this application, submitted under separate cover. The proposed Project will comply with Part L 2019 (Nearly Zero Energy Building (NZEB)) for residential and Part L 2017 (NZEB) for non-residential. The proposal aims to achieve a Building Energy Rating (BER) of A2/A3. The proposed Project will be designed to reduce the waste generation, where possible, by using locally sourced materials and materials with a recycled content, where possible. Recycling and reuse of materials will be promoted, if practicable. In addition, the proposed Project will incorporate measures to reduce water usage through the appropriate selection of low consumption sanitary fittings, leak detection systems and water monitoring facilities.

The following measures will be incorporated into the proposed Project to achieve a more energy efficient (i.e. less carbon intensive) design:

- High performance U-values;
- Improved air tightness;
- Improved thermal transmittance and thermal bridging;
- Use of natural daylight where possible and energy efficient light fittings;
- Use of natural ventilation where possible or high efficiency mechanical ventilation;
- A Building Energy Management System will be installed to monitor the use of all major systems within the buildings;

- Air source heat pumps and VRF heat pumps are being considered as part of the renewable energy technologies; and
- Solar photovoltaic panels will be incorporated into the proposed Project, where practicable.

Due to the location of the proposed Project, in close proximity to Dublin City Centre, there are a number of alternative sustainable travel options to reduce the requirement for occupants to need personal motor cars and, thus, reduce travel-related GHG emissions. The proposed Project is in close proximity to a number of bus routes and a train line. It is also proposed to incorporate bicycle parking spaces within the proposed Project (at a relatively high ratio of 1.3 per residential unit) to promote the use of sustainable transport. Overall, the incorporated design measures will reduce the operational phase impact of the proposed Project on climate.

11.4.3.3 Human Health

Traffic-related air emissions have the potential to impact human health if they do not comply with the ambient Air Quality Standards detailed in Table 11.1. However, the traffic generated by the proposed Project does not satisfy the assessment criteria to require an air modelling assessment, as outlined in Section 11.2.2.1. Therefore, there is no potential for significant impacts. It can be determined that the impact to human health during the operational stage will be ***neutral, localised, long-term and imperceptible***.

11.5 Mitigation Measures

11.5.1 Construction Phase

A detailed Dust Minimisation Plan associated with a high level risk of dust impacts is outlined in Appendix 11.2. This plan draws on best practice mitigation measures from Ireland, the UK and the USA in order to ensure the highest level of mitigation possible. Care has specifically been paid to the requirements and recommendations within the DCC (2019) guidance entitled '*Air Quality Monitoring and Noise Control Unit's Good Practice Guide for Construction and Demolition*'. In summary, some of the measures which will be implemented will include:

- Prior to demolition, blocks shall be soft stripped inside buildings (retaining walls and windows in the rest of the building, where possible, to provide a screen against dust).
- During the demolition process, water suppression shall be used, preferably with a hand-held spray. Only the use of cutting, grinding or sawing equipment fitted or used in conjunction with a suitable dust suppression technique such as water sprays / local extraction should be used.
- Drop heights from conveyors, loading shovels, hoppers and other loading equipment shall be minimised, if necessary fine water sprays will be employed.
- Hard surface roads will be swept to remove mud and aggregate materials from their surface while any un-surfaced roads will be restricted to essential site traffic.
- Any road that has the potential to give rise to fugitive dust will be regularly watered, as appropriate, during dry and / or windy conditions.
- Vehicles exiting the site shall make use of a wheel wash facility prior to entering public roads.
- Vehicles using site roads will have their speed restricted, and this speed restriction will be enforced rigidly. A speed limit of 20 kmph will be enforced on site roads.
- Public roads and footpaths outside the site will be regularly inspected for cleanliness and cleaned, as necessary. If sweeping using a road sweeper is not possible due to the nature of the surrounding area, then a suitable smaller scale street cleaning vacuum will be used.

- Material handling systems and site stockpiling of materials will be designed and laid out to minimise exposure to wind. Water misting or sprays will be used, as required, if particularly dusty activities are necessary during dry or windy periods.
- During movement of materials both on and off-site, trucks will be stringently covered with tarpaulin at all times. Before entrance onto public roads, trucks will be adequately inspected to ensure no potential for dust emissions.
- Hoarding or screens shall be erected around works areas to reduce visual impact. This will also have an added benefit of preventing larger particles of dust from travelling off-site and impacting receptors.

At all times, these procedures will be strictly monitored and assessed. In the event of dust nuisance occurring outside the Site boundary, all operations likely to cause dust emissions will be curtailed and satisfactory procedures implemented to rectify the problem before the resumption of construction operations.

11.5.2 Operational Phase

The impact of the proposed Project on air quality and climate is predicted to be imperceptible with respect to the operational phase in the long-term. Therefore, no additional site specific mitigation measures are required beyond the incorporated design mitigation, as described in Section 11.4.3.2.

11.6 Residual Impacts

11.6.1 Construction Phase

11.6.1.1 Air Quality

In order to minimise dust emissions during construction, a series of mitigation measures have been prepared in the form of a Dust Minimisation Plan (Appendix 11.2). Provided the dust minimisation measures outlined in the plan are adhered to, the predicted residual air quality impacts during the construction phase are ***short-term, negative, localised and imperceptible***.

11.6.1.2 Climate

According to the IAQM guidance (2014), Site traffic and plant are unlikely to make a significant impact on climate during the construction phase. Therefore, the predicted residual impact on climate of the construction phase is considered to be ***imperceptible and short-term***.

11.6.1.3 Human Health

Best practice mitigation measures are proposed for the construction phase of the proposed Project, which will focus on the proactive control of dust and other air pollutants to minimise generation of emissions at source. The mitigation measures that will be put in place during construction of the proposed Project will ensure that the impact complies with all EU ambient air quality legislative limit values which are based on the protection of human health (see Table 11.1). Therefore, the predicted residual impact of construction of the proposed Project is ***negative, short-term and imperceptible*** with respect to human health.

11.6.2 Operational Phase

11.6.2.1 Air Quality

As the traffic generated by the proposed Project does not meet the criteria detailed in Section 11.2.2.1 for requiring a detailed air quality assessment, the residual impact to air quality from traffic emissions during the operational stage is predicted to be ***neutral, long-term and imperceptible***.

11.6.2.2 Climate

The traffic associated with the operational phase of the proposed Project is below the criteria requiring a detailed climate assessment. As detailed above, the design of the proposed Project includes numerous features that are expected to mitigate its operational carbon footprint, including energy efficiency measures and bicycle-friendly design. The residual impact to climate as a result of traffic emissions during the operational phase is predicted to be ***long-term, neutral and imperceptible***.

11.6.2.3 Human Health

Emissions of air pollutants are predicted to be significantly below the ambient air quality standards, which are based on the protection of human health. Accordingly, residual impacts to human health during the operational phase are predicted to be ***long-term, neutral and imperceptible***.

11.7 Monitoring

11.7.1 Construction Phase

Monitoring of construction dust deposition along the Site boundary to nearby sensitive receptors during the construction phase of the proposed Project is recommended to ensure mitigation measures are working satisfactorily. This can be carried out using the Bergerhoff method in accordance with the requirements of the German Standard VDI 2119. The Bergerhoff Gauge consists of a collecting vessel and a stand with a protecting gauge. The collecting vessel is secured to the stand with the opening of the collecting vessel located approximately 2 m above ground level. The TA Luft limit value is 350 mg/(m^2*day) during the monitoring period between 28 – 32 days.

11.7.2 Operational Phase

There is no monitoring recommended for the operational phase of the proposed Project as impacts to air quality and climate are predicted to be imperceptible.

11.8 Interactions

An adverse impact due to air quality in either the construction or operational phase has the potential to cause human health and dust nuisance issues. The mitigation measures that will be put in place at the proposed Project will ensure that the impact complies with all ambient air quality legislative limits and, therefore, that the predicted residual impact is ***short-term, negative and imperceptible*** during the construction phase, and ***long-term, neutral and imperceptible*** during the operational phase.

Interactions between air quality and traffic can be significant. With increased traffic movements and reduced engine efficiency, i.e. due to congestion, the emissions of vehicles increase. The impacts of the proposed Project on air quality are assessed by reviewing the change in AADT on roads close to the Site. In this assessment, the impact of the interactions between traffic and air quality during both construction and operational phases, are considered to be ***imperceptible***.

With the appropriate mitigation measures to prevent fugitive dust emissions (refer to Appendix 11.2), it is predicted that there will be no significant interaction between air quality and land and soils.

As discussed above, climate change has the potential to increase flood risk over time. However, adequate attenuation and drainage have been provided for to account for increased rainfall in future years, as part of the design of the proposed Project, and it has been concluded that the associated impact will be ***long-term, localised, neutral and imperceptible***.

No other noteworthy interactions with air quality and climate have been identified.

11.9 Cumulative Impacts

11.9.1 Construction Phase

According to the IAQM guidance (2014), should the construction phase of the proposed Project coincide with the construction phase of any other development within 350 m, then there is the potential for cumulative construction dust impacts. However, a high level of dust control will be implemented across the Site, which will avoid significant dust emissions. Provided these mitigation measures are in place for the duration of the demolition and construction phase, cumulative dust related impacts to nearby sensitive receptors are not predicted to be significant. Cumulative impacts to air quality will be ***short-term, localised, negative and imperceptible***.

Due to the short-term duration of the construction phase and the low potential for significant GHG emissions, cumulative impacts to climate are considered ***neutral***.

No significant cumulative impacts to air quality or climate predicted for the construction phase of the proposed Project.

11.9.2 Operational Phase

The traffic data reviewed for the operational stage impacts to air quality and climate included the cumulative traffic associated with other existing and permitted developments in the local area. Therefore, the cumulative impact is included within the operational stage impact for the proposed Project, as assessed above. The impact is predicted to be ***long-term, neutral and imperceptible*** with regards to air quality and climate.

11.10 Conclusion

Once the dust mitigation measures outlined in Section 11.5 and Appendix 11.2 are implemented, demolition and construction dust emissions are predicted to be short-term, negative, localised and imperceptible and will not cause a nuisance at nearby sensitive receptors. The best practice dust mitigation measures that will be put in place during construction of the proposed Project will ensure that the impact of the Project complies with all EU ambient air quality legislative limit values which are based on the protection of human health. Therefore, the impact of construction of the proposed Project is likely to be ***short-term, localised, negative and imperceptible*** with respect to human health.

Potential impacts to air quality and climate during the operational phase of the proposed Project are as a result of increased traffic volumes on the local road network. As the changes in traffic did not meet the screening criteria, no air quality or climate assessment was required, and it can be determined that the operational phase of the proposed Project will have an ***imperceptible, neutral and long-term impact*** on air quality and climate.

The proposed Project has been designed to reduce the impact on climate, where possible. It will comply with the NZEB standards and will achieve a BER of A2/A3. A relatively high ratio of bicycle parking has been incorporated into the Project to promote a modal shift and, thus, reduce GHG emissions.

There are ***no significant impacts*** to air quality or climate predicted as a result of the proposed Project once the mitigation measures outlined in this chapter are implemented.

11.11 References

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- UK Office of Deputy Prime Minister (2002). *Controlling the Environmental Effects of Recycled and Secondary Aggregates Production Good Practice Guidance*
- USEPA (1997). *Fugitive Dust Technical Information Document for the Best Available Control Measures*
- World Health Organisation (2006). *Air Quality Guidelines - Global Update 2005* (and previous Air Quality Guideline Reports 1999 & 2000)

12 Noise & Vibration

12.1 Introduction

This EIAR Chapter has been prepared by AWN Consulting Ltd. (AWN) to assess the potential noise and vibration effects of the proposed Project in the context of current relevant standards and guidance as detailed in relevant sections below.

This chapter includes a description of the receiving ambient noise climate in the vicinity of the subject Site and an assessment of the potential noise and vibration impact associated with the proposed Project, during both the short-term construction phase and the permanent operational phase, on its surrounding environment. The assessment of direct, indirect and cumulative noise and vibration effects on the surrounding environment have been considered in this chapter.

Mitigation measures are included, where relevant, to ensure the proposed Project is constructed and operated in an environmentally sustainable manner in order to ensure minimal impact on the receiving environment.

This assessment has been prepared by Mike Simms BE MEngSc MIOA MIET, Senior Acoustic Consultant at AWN, who has worked in the field of acoustics for over 15 years and has been a consultant since 1998. He has extensive experience in all aspects of environmental surveying, noise modelling and impact assessment for various sectors including; energy, industrial, commercial and residential. Recent experience of residential developments where noise is an important element of the environmental assessment include:

- Bailey Gibson Strategic Housing Development, Dublin 8
- St Marnock's Bay Phase 1C, Portmarnock, Co Dublin;
- Kettle's Lane housing development, Kinsealy, Co Dublin;
- Carr's Lane housing development, Malahide Road, Co Dublin; and
- Havelock House mixed-use development, Ormeau Road, Belfast.

12.2 Methodology

The assessment of effects has been undertaken with reference to the most appropriate guidance documents relating to environmental noise and vibration, which are set out within the relevant sections of this report. In addition to specific guidance documents for the assessment of noise and vibration effects, which are discussed further in the relevant sections, the following guidelines were considered and consulted for the purposes of this report:

- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning & Local Government, 2018);
- Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017);
- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports – Draft (EPA, 2017);
- EPA Guidelines on the Information to be contained in Environmental Impact Statements, (EPA, 2002);
- EPA Advice Notes on Current Practice (in the preparation of Environmental Impact Statements), (EPA, 2003);
- EPA Guidelines on the Information to be contained in Environmental Impact Assessment Reports, (Draft August 2017);
- EPA Advice Notes for Preparing Environmental Impact Statements, (Draft, September 2015);

- Environmental Noise Regulations 2006 (S.I. No. 140 of 2006);
- Dublin Agglomeration Action Plan Relating to The Assessment and Management of Environmental Noise December 2018–July2023;
- BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Noise;
- BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 2 – Vibration;
- BS 7385-2:1993 Evaluation and measurement for vibration in buildings. Guide to damage levels from groundborne vibration;
- British Standard BS 4142: 2014+A1:2019: Methods for Rating and Assessing Industrial and Commercial Sound;
- Design Manual for Roads and Bridges (NRA (now TII), 2011);
- UK Design Manual for Roads and Bridges (DMRB), LA111 Rev02 (Highways England et al, 2020)
- ISO 1996: 2017: Acoustics – Description, measurement and assessment of environmental noise;
- Environmental Noise Guidelines for the European Region (World Health Organisation, 2018);
- Guidelines for Community Noise (World Health Organisation, 1999); and
- EC Directive on Outdoor Noise Emissions 2000/14/EC.

The study has been undertaken using the following methodology:

- An environmental noise survey has been undertaken in the vicinity of the subject Site in order to characterise the existing baseline noise environment;
- A review of the most applicable standards and guidelines has been conducted in order to set a range of acceptable noise and vibration criteria for the construction and operational phases of the proposed Project;
- Predictive calculations have been performed for the construction phase of the proposed Project at the nearest sensitive locations to the Project Site;
- Predictive calculations have been performed to assess the potential effects associated with the operation of the proposed Project at the most sensitive locations surrounding the Site; and
- A schedule of mitigation measures has been proposed to reduce, where necessary, the identified potential outward effects relating to noise and vibration from the proposed Project.

12.2.1 Construction Phase Assessment Criteria

12.2.1.1 Noise

There is no published statutory Irish guidance relating to the maximum permissible noise level that may be generated during the construction phase of a project. Local Authorities typically control construction activities by imposing limits on the hours of operation and consider noise limits at their discretion.

In order to set appropriate construction noise limits for the Project Site, reference has been made to BS 5228 2009+A1 2014 *Code of practice for noise and vibration control on construction and open sites*. Part 1 of this document provides guidance on selecting appropriate noise criteria relating to construction works.

BS 5228-1:2009+A1:2014 sets out guidance on permissible noise levels relative to the existing noise environment. The approach calls for the designation of a noise sensitive location into a specific category (A, B or C) based on exiting ambient noise levels in the absence of construction noise. This then sets a threshold noise value that, if exceeded at this location, indicates a significant noise impact is associated with the construction activities.

Table 12.1 sets out the values which, when exceeded, signify a significant effect at the façades of residential receptors.

Table 12.1: Example Threshold of Significant Effect at Dwellings

Assessment Category and Threshold Value Period (L_{Aeq})	Threshold Value (dB*)		
	Category A[A]	Category B[B]	Category C[C]
Daytime (week days) (07:00 – 19:00) and Saturdays (07:00 – 13:00)	65	70	75
Evenings and weekends [D]	55	60	65
Night-time (23:00 to 07:00)	45	50	55

* Decibels

A. Threshold values to use when ambient noise levels (when rounded to the nearest 5dB) are less than these values.

B. Threshold values to use when ambient noise levels (when rounded to the nearest 5dB) are the same as category A values.

C. Threshold values to use when ambient noise levels (when rounded to the nearest 5dB) are higher than category A values.

D. 19:00 – 23:00 weekdays, 13:00 – 23:00 Saturdays and 07:00 – 23:00 Sundays.

For the appropriate assessment period (i.e. daytime in this instance) the ambient noise level is determined and rounded to the nearest 5dB. Baseline monitoring carried out as part of this assessment, indicates that the baseline categories summarised in Table 9.5 are appropriate in terms of the nearest noise sensitive locations being considered in this instance

If the construction noise exceeds the appropriate category value, then a significant effect is deemed to occur.

12.2.1.2 Vibration

In terms of vibration, British Standard *BS 5228-2:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Vibration*, recommends that, for soundly constructed residential properties and similar structures that are generally in good repair, a threshold for minor or cosmetic (i.e. non-structural) damage will be taken as a peak component particle velocity (PPV; in frequency range of predominant pulse) of 15 mm/s at 4 Hz, increasing to 20 mm/s at 15 Hz and 50 mm/s at 40 Hz and above. The standard also notes that below 12.5 mm/s PPV the risk of damage tends to zero. It is therefore common, on a precautionary basis, to use this lower value. Taking the above into consideration, the vibration criteria in Table 12.2 are recommended.

Table 12.2: Recommended Vibration Criteria during Construction Phase

Allowable vibration (in terms of PPV) at the closest part of sensitive property to the source of vibration, at a frequency of:		
Less than 15 Hz	15 to 40 Hz	40 Hz and above
12 mm/s	20 mm/s	50 mm/s

Expected vibration levels from the construction works will be discussed further in Section 12.4.1.2.

12.2.1.3 Construction Traffic

For the assessment of potential noise effects from construction related traffic, it is proposed to adopt guidance from the UK Design Manual for Roads and Bridges (DMRB), a publication of Highways England, Transport Scotland, The Welsh Government and The Department of Infrastructure (2019). Although not an Irish document, it is generally considered as best practice guidance and has been widely adopted in Ireland in the absence of a national equivalent.

Table 12.3, adapted from Section 13.7 of DMRB and with the appropriate EPA (2017) significance of effect also noted, presents guidance as to the likely impact associated with any change in the background noise level ($L_{Aeq,T}$) at a noise sensitive receiver as a result of construction traffic. The significance is selected based on the expected change in traffic noise level.

Section 3.19 of DMRB states that construction noise and construction traffic noise shall constitute a significant effect where it is determined that a major or moderate magnitude of impact will occur for a duration exceeding:

- 10 or more days or nights in any 15 consecutive days or nights; or
- A total number of days exceeding 40 in any 6 consecutive months.

Table 12.3: Significance in Change of Noise Level – Construction Phase Traffic (Adapted from DMRB)

Change in Sound Level (dB)	DMRB Magnitude of Impact	EPA (2017) Significance of Effect
<1.0	No impact	Imperceptible
1.0 – 2.9	Minor	Slight - moderate
3.0 – 4.9	Moderate	Significant
≥5	Major	Very significant

The DMRB guidance outlined will be used to assess the predicted increases in traffic levels on public roads associated with the proposed Project and comment on the likely effects during the construction phase.

12.2.2 Operational Phase Assessment Criteria

12.2.2.1 Building Services Plant Noise

The most appropriate standard used to assess the impact of a new continuous source (i.e. plant items) to a residential environment is BS 4142:2014+A1:2019 *Methods for rating and assessing industrial and commercial sound*. This standard describes a method for assessing the impact of a specific noise source at a specific location with respect to the increase in background noise level generated. The standard provides the following definitions that are pertinent to this application:

- ***Specific sound level*** ($L_{Aeq, Tr}$) is the equivalent continuous A-weighted sound pressure level produced by the specific sound source at the assessment location over a given reference time interval, T. This level has been determined with reference to manufacturers' information for specific plant items.
- ***Rating level*** ($L_{Ar,Tr}$) is the specific noise level plus adjustments for the character features of the sound (if any).

- ***Background noise level*** is the A-weighted sound pressure level that is exceeded by the residual sound at the assessment location for 90% of a given time interval, T. This level is expressed using the L_{A90} parameter. These levels were measured as part of the baseline survey.

The assessment procedure in BS4142 is outlined as follows:

- Determine the specific noise level;
- Determine the rating level as appropriate;
- Determine the background noise level; and
- Subtract the background noise level from the specific noise level in order to calculate the assessment level.

The lower the rating level is relative to the measured background sound level, the less likely it is that the specific source will have a negative impact or a significant negative impact. A difference of +10 dB or more is likely to be an indication of a significant negative impact. A difference of around +5 dB is likely to be an indication of a negative impact, dependent on the context. Where the rated plant noise level is equivalent to the background noise level, noise effects are typically considered to be neutral.

12.2.2.2 Deliveries and Waste Collection

In order to set appropriate operational noise criteria for delivery activity, guidance has been taken from BS 8233:2014 *Guidance on Sound Insulation and Noise Reduction for Buildings*. The recommended internal noise levels for dwellings are set out in Table 12.4.

Table 12.4: Recommended Internal Residential Noise Levels

Activity	Rooms	Design Range, $L_{Aeq,T}$ dB	
		Daytime $L_{Aeq,16hr}$ (07:00 to 23:00hrs)	Night-time $L_{Aeq,8hr}$ (23:00 to 07:00hrs)
Resting	Living room	35 dB $L_{Aeq,16hr}$	-
Dining	Dining room/area	40 dB $L_{Aeq,16hr}$	-
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq,16hr}$	30 dB $L_{Aeq,8hr}$
Note: BS 8233:2014 comments that the internal $L_{AFmax,T}$ noise level may be exceeded no more than 10 times per night without a significant impact occurring.			

To set an external noise level limit based on the internal criteria noted above, the degree of noise reduction afforded by a partially open window has been considered, which is suggested in BS 8233 as a 15 dB reduction. Using this value, external noise levels of 50 and 45 dB $L_{Aeq,T}$ are considered appropriate for day and night-time periods, respectively. The time period for day-time noise levels has been set over a 1-hour period to provide a robust criterion. Given the higher sensitivity of people to noise at night, the time period for night-time levels is set as 15 minutes. In this instance, the following criteria relate to noise from building service plant at the nearest noise sensitive properties external to the Site. Figure 12.5 shows areas where noise-sensitive locations are in relation to the proposed Project.

- Daytime (07:00 to 23:00hrs) 50dB $L_{Aeq,1hr}$
- Night-time (23:00 to 07:00hrs) 45dB $L_{Aeq,15min}$

These criteria are also in compliance with the following guidance taken from the World Health Organisation's Guidelines for Community Noise (1999, p xiii):

> *"To protect the majority of people from being seriously annoyed during the daytime, the sound pressure level should not exceed 55dB L_{Aeq}.*
>
> *At night-time outdoors, sound pressure levels should not exceed 45dB L_{Aeq}, so that people may sleep with bedroom windows open."*

As there is the potential for short periods of noise to cause a greater disturbance at night-time, a shorter assessment time period (T) is adopted. Appropriate periods are 1 hour for day / evening time (07:00 to 23:00 hrs) and 15 minutes for night-time (23:00 to 07:00 hrs).

12.2.2.3 Additional Vehicular Traffic on Surrounding Roads

There are no specific guidelines or limits relating to traffic related sources along the local or surrounding roads. Given that traffic from the proposed Project will make use of existing roads already carrying traffic volumes, it is appropriate to assess the calculated increase in traffic noise levels that will arise because of vehicular movements associated with the Project. In order to assist with the interpretation of the noise associated with additional vehicular traffic on public roads, Table 12.5 is adapted from DMRB with the appropriate EPA (2017) significance of effect also noted.

Table 12.5: Significance in Change of Noise Level – Operational Phase Traffic

Change in Sound Level (dB)	Subjective Reaction	DMRB Magnitude of Impact	EPA (2017) Significance of Effect
0	Inaudible	No impact	Imperceptible
0.1 – 2.9	Barely perceptible	Negligible	Not significant
3 – 4.9	Perceptible	Minor	Slight - moderate
5 – 9.9	Up to a doubling of loudness	Moderate	Significant
10+	Doubling of loudness and above	Major	Very significant

The criteria outlined in Table 12.5 will be used to assess the predicted increases in traffic levels on public roads associated with the proposed Project and comment on the likely long-term effects during the operational phase.

12.2.2.4 Vibration

The proposed Project is residential in nature, therefore it is not anticipated that there will be any operational impact associated with vibration

12.3 Baseline Environment

12.3.1 Site Location

The Site of the proposed Project is located within the Dublin 3 area, bound to the north by playing fields which are south of the Tolka River, to the west by residential areas at Corn Mill Apartments and Susanville Road, to south by Clonliffe Road and Holy Cross Avenue and to the west by Drumcondra Road Lower.

The surrounding environment in the vicinity of the Project Site is primarily residential, with sports fields to the north and north-west, and a mixture of offices and light industrial buildings to the north of the River Tolka. Within the Site, there is a former seminary. The centre of the Site is protected from traffic noise by its distance from the roads and acoustic screening afforded by the surrounding buildings.

12.3.2 Baseline Noise Survey

12.3.2.1 Survey Locations

An environmental noise survey has been conducted at the Site in order to quantify the existing noise environment. The survey was conducted in accordance with ISO 1996: 2017: Acoustics – Description, measurement and assessment of environmental noise.

The noise measurement locations were selected to represent the noise environment at noise sensitive location surrounding the proposed Project. The locations were chosen to capture how noise levels in the area around the site vary, from the moderately high noise levels along Clonliffe Road to the relatively quiet locations on Distillery Road. The selected locations, shown in the Figure 12.1, below, are as follows:

Figure 12.1: Noise Measurement Locations

- AT1 – Measurement location representing the existing noise climate at façades along Clonliffe Road;
- AT2 – Measurement location representing the existing noise climate at Distillery Road and Clonliffe Gardens;

- AT3 – Measurement location representing the existing noise climate at Distillery Road at Cian Park; and
- AT4 – Measurement location within the proposed Project Site by the existing seminary buildings.

12.3.2.2 Survey Periods

The attended noise survey was carried out on Thursday the 2nd of July 2020. Noise levels were measured over 15-minute periods on a cyclical basis at each measurement location. The weather during the survey was dry with varying cloud cover. Wind speeds were moderate; however, they were not considered to have had a detrimental effect on the noise measurements.

12.3.2.3 Personnel and Instrumentation

AWN provided the noise monitoring equipment used to conduct the surveys, as listed in Table 12.6, below.

Table 12.6: Instrumentation Details

Equipment	Type	Serial Number	Calibration Date
Sound Level Meter	Rion NL-52	564809	August 2018

12.3.2.4 Measurement Parameters

The noise survey results are presented in terms of the following parameters.

L_{Aeq} is the equivalent continuous sound level. It is a type of average and is used to describe a fluctuating noise in terms of a single noise level over the sample period.

L_{AFmax} is the instantaneous maximum sound level measured during the sample period using the 'F' time weighting.

L_{A10} is the sound level that is exceeded for 10% of the sample period. It is typically used as a descriptor for traffic noise.

L_{A90} is the sound level that is exceeded for 90% of the sample period. It is typically used as a descriptor for background noise.

The "A" suffix denotes the fact that the sound levels have been "A-weighted" in order to account for the non-linear nature of human hearing. All sound levels in this report are expressed in terms of decibels (dB) relative to $2x10^{-5}$ Pa.

12.3.2.5 Survey Results

Noise level measurements of 15 minutes' duration were taken at locations AT1 to AT4. The results are presented in Tables 12.7 – 12.10, below.

Table 12.7: Summary of Noise Measurement Results at Location AT1

Time	Subjective Impression of Noise Environment	Measured Noise Levels (dB re. 2x10-5 Pa)			
		L_{Aeq}	L_{Amax}	L_{A10}	L_{A90}
11:10	- Road traffic dominant - Birdsong - Pedestrian activity - Electric hedge trimmer in distance	50	57	52	46
13:28	- Road traffic dominant - Birdsong - Pedestrian activity - Hammering	51	76	52	45

Time	Subjective Impression of Noise Environment	Measured Noise Levels (dB re. 2x10-5 Pa)			
		L_{Aeq}	L_{Amax}	L_{A10}	L_{A90}
15:11	- Road traffic dominant - Birdsong - Pedestrian activity	49	68	52	45

Noise levels at AT1 were in the range 49 to 51 dB $L_{Aeq,15min}$ and 45 to 46 dB $L_{A90,15min}$. The main contributors to noise build-up were road traffic in the surrounding area and birdsong.

Table 12.8: Summary of Noise Measurement Results at Location AT2

Time	Subjective Impression of Noise Environment	Measured Noise Levels (dB re. 2x10-5 Pa)			
		L_{Aeq}	L_{Amax}	L_{A10}	L_{A90}
11:50	- Light traffic - Birdsong - Pedestrian activity - Municipal waste truck	58	91	58	42
13:55	- Light traffic - Birdsong - Pedestrian activity - Lawn mower	58	83	60	53
15:38	- Light traffic - Birdsong - Pedestrian activity - Consaw in distance	48	64	50	40

Noise levels at AT2 were in the range 48 to 58 dB $L_{Aeq,15min}$ and 40 to 53 dB $L_{A90,15min}$. The main contributors to noise build-up were road traffic in the surrounding area and birdsong.

Table 12.9: Summary of Noise Measurement Results at Location AT3

Time	Subjective Impression of Noise Environment	Measured Noise Levels (dB re. 2x10-5 Pa)			
		L_{Aeq}	L_{Amax}	L_{A10}	L_{A90}
12:36	- Road works - Pedestrian activity - Light road traffic	56	80	58	45
14:24	- Pedestrian activity - Light road traffic - Distant consaw	57	83	53	42
16:08	- Pedestrian activity - Light road traffic - Distant hammering	50	68	51	41

Noise levels at AT3 were in the range 50 to 57 dB $L_{Aeq,15min}$ and 41 to 45 dB $L_{A90,15min}$. The main contributors to noise build-up were road traffic in the surrounding area, construction works and birdsong.

Table 12.10: Summary of Noise Measurement Results at Location AT4

Time	Subjective Impression of Noise Environment	Measured Noise Levels (dB re. 2x10-5 Pa)			
		L_{Aeq}	L_{Amax}	L_{A10}	L_{A90}
13:02	- Light wind in foliage - Light distant traffic - Birdsong	45	70	44	34
14:52	- Light wind in foliage - Light distant traffic - Birdsong	46	71	45	37

Time	Subjective Impression of Noise Environment	Measured Noise Levels (dB re. 2x10-5 Pa)			
		L_{Aeq}	L_{Amax}	L_{A10}	L_{A90}
16:33	- Light wind in foliage - Light distant traffic - Birdsong	38	55	41	35

Noise levels at AT4 were in the range 38 to 46 dB $L_{Aeq,15min}$ and 34 to 37 dB $L_{A90,15min}$. The main contributors to noise build-up were road traffic in the surrounding area and birdsong.

12.3.2.6 Comparison with Dublin City Noise Maps

For comparison, the EPA Round 3 Road noise maps for the area near the site are presented for daytime and night-time in Figures 12.2 and 12.3. The noise maps clearly show that the areas with the highest noise levels are the surrounding streets, and that the inner part of the site is levels of below 55 dB L_{den} and below 50 dB L_{night}.

Figure 12.2: EPA Round 3 Noise Map for L_{den} (day-evening-night)

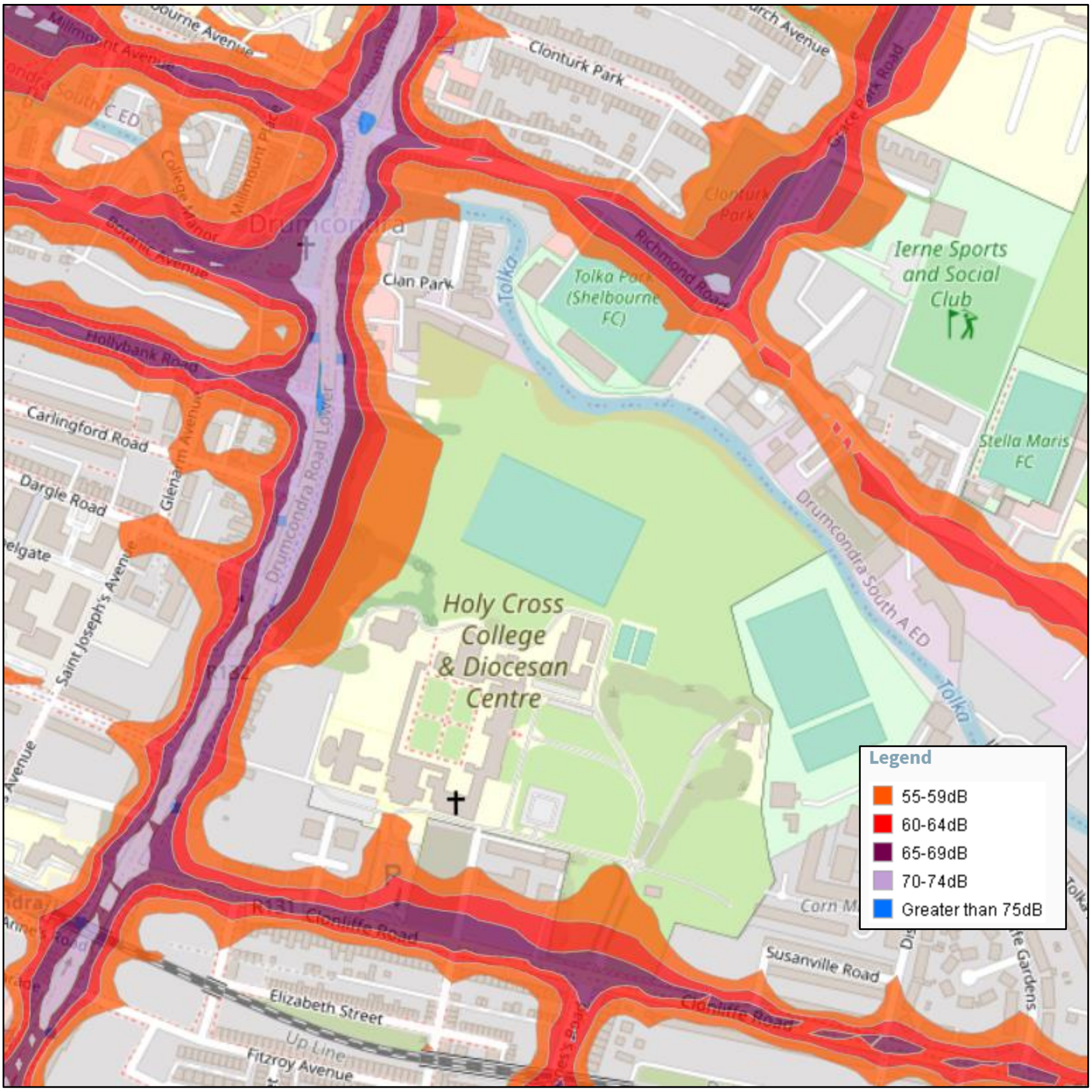
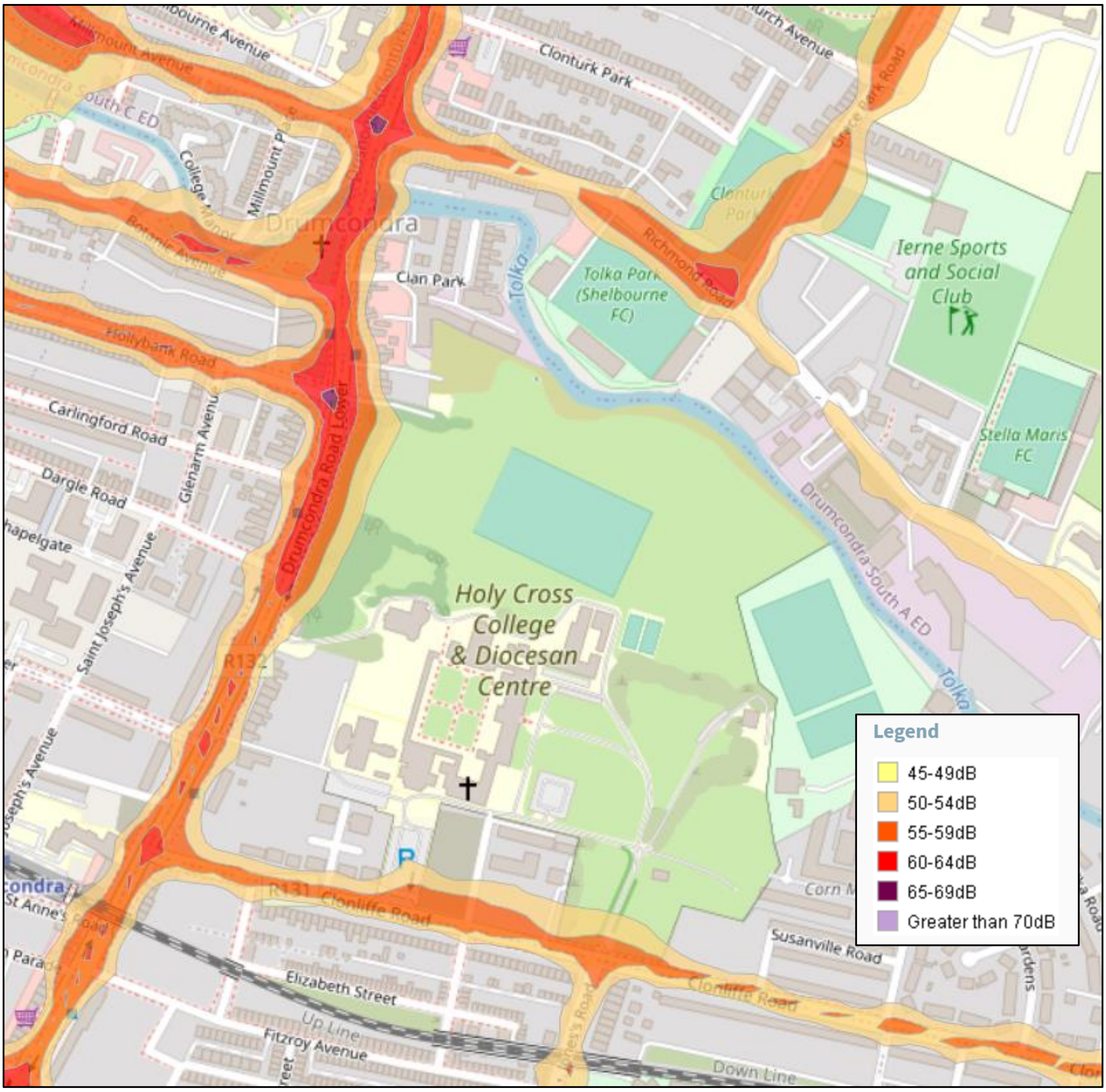


Figure 12.3: EPA Round 3 Noise Map for L_{night}



12.4 Predicted Impacts of the Proposed Project

In the absence of the proposed Project being constructed (i.e. Do Nothing scenario), the noise environment at the nearest noise sensitive locations and within the Project Site will remain largely unchanged, resulting in a neutral and local impact in the long-term.

The potential effects of the proposed Project are considered for the short-term construction phase (approximately 36 months) and permanent operational phase (effects lasting 60+ years). These are set out in the following sections.

12.4.1 Construction Phase

12.4.1.1 Construction Noise

Noise levels generated by the Site operations and experienced at local receptors will depend upon a number of variables, the most significant of which are:

- The amount of noise generated by plant and equipment being used at the Project Site, generally expressed as a sound power level;
- The periods of operation of the plant at the Project Site, known as the 'on-time';
- The distance between the noise source and the receptor, known as the 'stand-off';
- Attenuation due to ground absorption or barrier screening effects; and
- Reflections of noise due to the presence of hard vertical faces, such as walls.

The Construction Management Plan sets out the general phasing for the construction of the proposed Project. However, as with any Project of this nature, works during the various construction phases will be transient in nature and will involve the use of several different plant items at any one time. As such, it is difficult at this stage of the assessment to state accurately what items of plant will be in use and what levels of noise will be experienced during construction works. The appropriate approach in this instance is to prepare indicative noise prediction calculations in relation to construction activities. The calculations have been undertaken in line with guidance set out in British Standard BS 5228 (2009 +A1 2014): *Code of practice for noise and vibration control on construction and open sites – Part 1: Noise*.

A variety of items of plant will be in use for the purposes of demolition, site clearance, excavations and construction. There will be vehicular movements to and from the site that will make use of existing roads. Due to the nature of these activities, there is potential for generation of high levels of noise.

For the purposes of the calculation, the closest noise sensitive locations to construction works are the residential buildings on Clonliffe Road, Distillery Road, Holycross Avenue and at Cian Park. Based on the noise levels measured during the noise survey, a criterion of 65 dB L_{Aeq} is adopted for construction noise. These areas are illustrated in Figure 12.4, below.

Table 12.11 sets out a range of construction noise levels relating to different construction activity at a distance of 40 m from said activity. The predicted noise levels assume that the construction Site will be surrounded by a solid hoarding and that the 'on-time' of plant items is 8 hours in any 12-hour working day.

On review of the proximity of the closest noise sensitive buildings, construction activities have the potential to exceed the recommended noise criterion of 65 dB L_{Aeq} when construction activity is 40m or less from the noise-sensitive location. At a distance of 40 m or greater, the noise levels are within the adopted criterion of 65 dB L_{Aeq}.

At distances greater than 40m from the construction activity, the effects during the construction phase are therefore described as ***negative, moderate, local and short-term***. At distances of 40 m or less from the construction activities, the effects during the construction phase are therefore described as ***negative, significant, local and short-term***. However, noise levels would be typical of construction of developments of this scale.

Figure 12.4: Nearest Noise-sensitive Locations

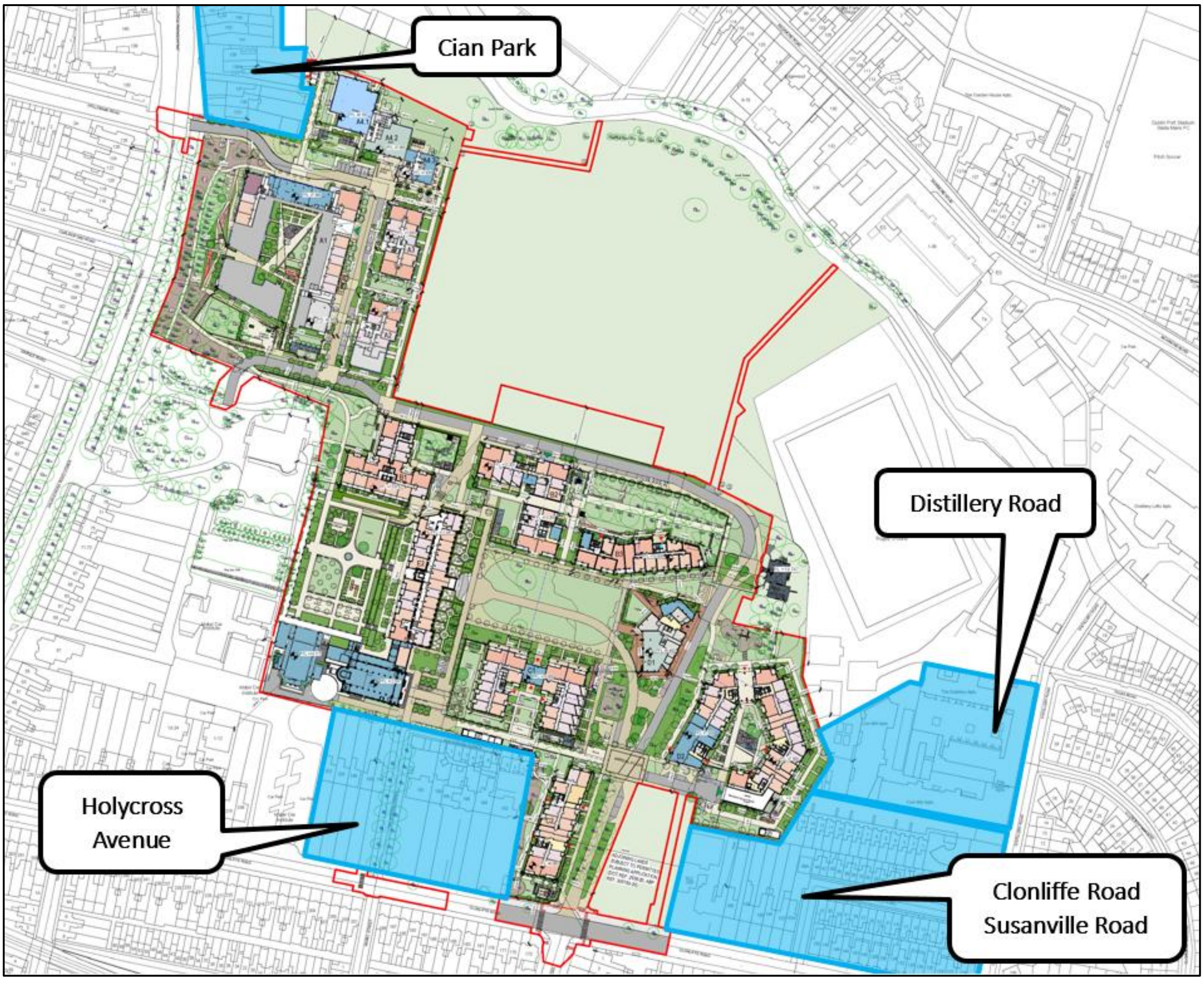


Table 12.11: Typical Predicted Noise Levels Associated with Different Construction Activities and Phases

Phase	Item of Plant (BS 5228-1 Ref)	Predicted Noise Level at Reference 10 m Distance	Predicted Noise Level at 40m L_{Aeq} (dB)
Site Clearance	Hand-held pneumatic breaker (C1.6)	83	64
	Tracked excavator (C2.21)	71	52
	Dump Truck (C2.30)	79	60
	Tracked Mobile Crane (C4.50)	71	52
	Angle Grinder (C4.93)	80	61
Basement Excavation	Dozer (C2.10)	80	61
	Tracked excavator (C2.15)	76	57
	Crushing concrete/rubble tracked crusher (C1.14)	82	63
Piling and foundations	Crane mounted auger (C3.16)	79	60
	Tracked mobile crane (C3.28)	67	48
	Concrete pump (C3.25)	78	59
	Concrete mixer truck (C4.20)	80	61
	Tower crane (C4.48)	76	57
General Construction	Compressor (D7.08)	70	51
	Telescopic Handler (C4.54)	79	60

Phase	Item of Plant (BS 5228-1 Ref)	Predicted Noise Level at Reference 10 m Distance	Predicted Noise Level at 40m L_{Aeq} (dB)
	Hand Held Circular Saw (C4.72)	79	60
	Diesel Generator (C4.76)	61	42
	Internal Fit out	70	51

12.4.1.2 Construction Vibration

The main potential source of vibration during the construction programme is associated with piling, and ground-breaking activities. In terms of piling, low vibration methods involving bored or augured piles will be used, where possible, in order to minimise vibration levels from this activity. Reference to BS 5228 (2009 +A1 2014) – *Part 2: Vibration*, shows measured vibration levels during rotary bored piling for different ground conditions and varying pile diameter. The data indicate that at distances of 10 m, measured PPV values are typically below 1 mm/s with individual events during driving casing or auger hitting rock at or below 3 mm/s.

Considering the low vibration levels at close distances to the piling rigs, vibration levels are not expected to pose any significant risk in terms of cosmetic or structural damage to buildings in proximity to the proposed works. In addition, the range of vibration levels is typically below a level which would cause any disturbance to occupants of adjacent buildings.

Where rock breaking is required or during certain demolition activities, there is also potential for vibration to be generated through the ground. Pneumatic rock breaking is necessary only towards the bottom of the excavation. Empirical data for these activities is not provided in the BS 5228-2 standard; however, the likely levels of vibration are expected to be significantly below the lower adopted criteria for building damage based on experience from other, similar sites. It is possible that vibration levels will be detectable within adjacent buildings for short periods of time, depending on the level of breaking activity used. Notwithstanding the above, any construction activities undertaken on the site will be required to operate below the recommended vibration criteria set out in Table 12.2.

12.4.1.3 Construction Traffic

During the construction phase of the proposed Project, there will be a small increase in vehicular traffic on surrounding roads associated with the delivery of materials to the site. Heavy goods vehicles (HGVs) travelling to the Site will make use of local roads. Full details of the construction traffic assessment are included in Chapter 18 of this EIAR (Traffic & Transportation) and in the Construction Traffic Management Plan submitted under separate cover. The construction site layout is expected to contain a number of staging areas or construction compounds for logistical receipt and craneage, but their locations will depend on the construction plan and will also evolve as the construction programme progresses. The assessment of noise due to activities within these locations is covered within the assessment of construction plant noise above and the following assessment of construction traffic. For the purpose of assessing potential noise impacts, it is appropriate to consider the relative increase in noise level associated with construction traffic movements on existing roads surrounding the Project Site. Using the information on daily flows in terms for annual average daily trips (AADT) for the peak construction traffic period presented in Chapter 18, the impact from the increase in traffic from the construction of the relative to the Do Nothing scenario along the sections of road detailed in Table 12.12.

Table 12.12: Predicted Change in Noise Levels Associated with Vehicular Traffic – Construction Phase

Road Link	Change in Noise Level (dB)
Drumcondra Road north of Botanic Ave	+0.3

Road Link	Change in Noise Level (dB)
Drumcondra Road from Botanic Ave to Cain Pk	+0.3
Drumcondra Road from Cian Park to St Alphonsus Road	+0.3
Drumcondra Road from St Alphonsus Road to Clonliffe Road	+0.3
Clonliffe Road west of site entrance	+1.3
Clonliffe Road east of site entrance	+1.1

The highest increases in noise level are of the order of +1.3 dB. With reference to Table 12.3, the associated impact is considered ***negative, slight and short-term***.

12.4.2 Operational Phase

12.4.2.1 Building Services Plant Noise

Once operational, there will be building services plant items required to serve the commercial and residential aspect of the proposed Project. These will typically be limited to heating and cooling plant, pumps and extraction units, depending on the building design and user requirements. Certain areas are likely to require mechanical services during the daytime hours only, however, there may be requirement for night-time operational plant, depending on specific requirements.

The location or type of building services plant has not yet been established, therefore it is not possible to calculate noise levels to the surrounding environment. In this instance, is it best practice to set appropriate noise limits that will inform the detailed design during the selection and layout of building services for the development.

These plant items will be selected at a later stage, however, they will be designed and located so that there is no negative impact on sensitive receptors off-site or within the development itself. The cumulative operational noise level from building services plant at the nearest noise sensitive location within the development (e.g. apartments, etc.) will be designed / attenuated to meet the relevant BS 4142 noise criteria for day and night-time periods as set out in this assessment. Based on the baseline noise data collected for this assessment it is considered an appropriate external design criterion is the order of 40dB $L_{Aeq,15min}$ at the façade of any noise-sensitive location . This limit is set in order to achieve acceptable internal noise levels within residential spaces based on prevailing noise levels in the area.

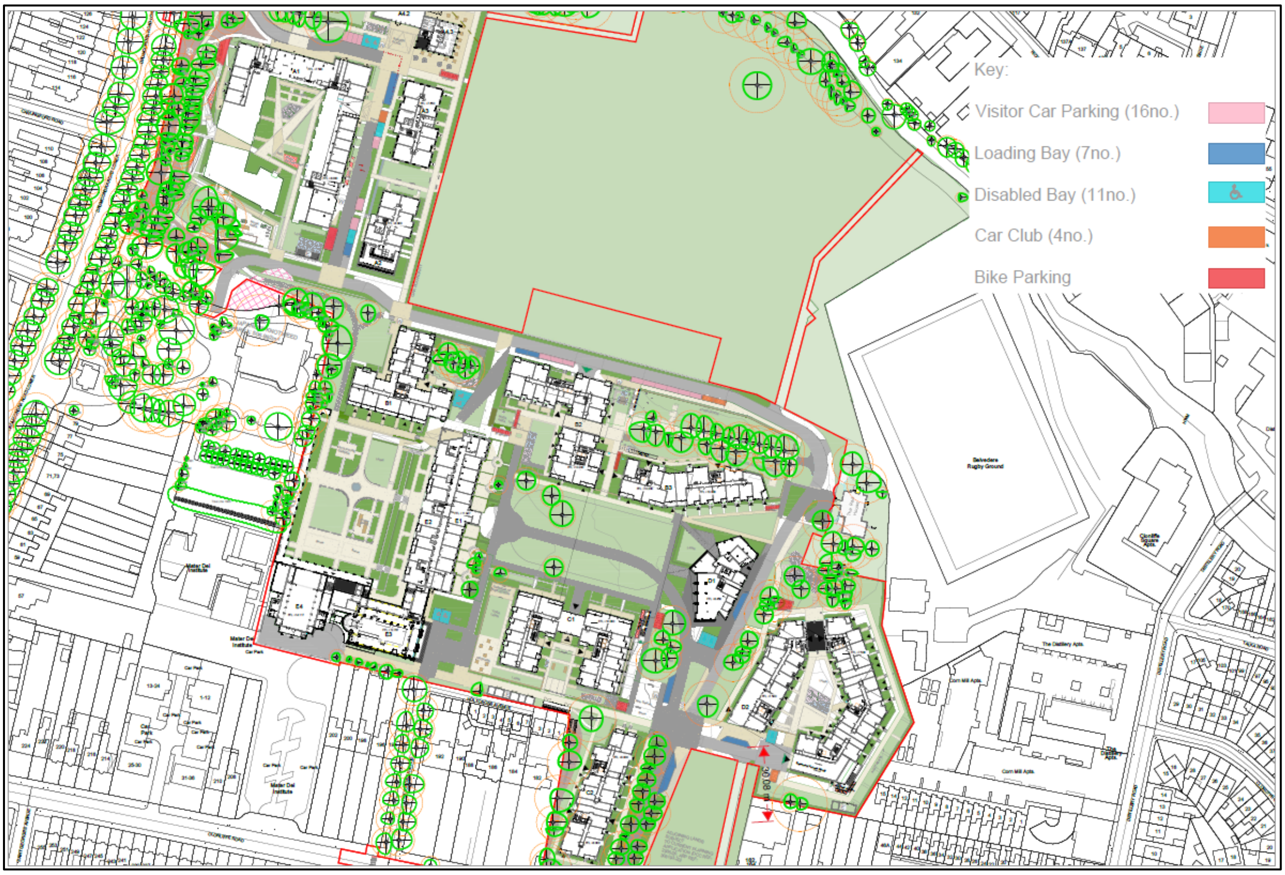
Taking into account that sensitive receptors within the development are much closer than off-site sensitive receptors, once the relevant noise criteria are achieved within the development it is expected that there will be ***no negative impact*** off site. The associated likely noise and vibration impact is described as ***negative, not significant, local and long-term***.

12.4.2.2 Deliveries Activities

Principal noise sources during delivery activities are the movement of vehicles, opening and closing of doors and movement of goods on palettes, trolleys or similar.

There are a number of areas as designated delivery areas as indicated on Figure 12.5. The closest one of these to existing noise-sensitive locations is at the south end of Block D2, which is situated at some 23 m from a house on Clonliffe Road.

Figure 12.5: Site Plan showing Loading Bays



From previous studies by AWN of the noise associated with delivery activities, noise levels were found up to 67 dB $L_{Aeq,30min}$ at 10 m distance. Applying a correction for additional distance and the screening provided by the boundary walls, and also assuming that, on average, there will only be one 20 minute delivery event in any one-hour period, the predicted noise level is 50 dB $L_{Aeq,1hr}$. This noise level is within the criteria of 50dB $L_{Aeq,1hr}$ set out in Section 12.2.2.2. However, the predicted noise level of delivery activity would exceed the night-time criterion of 45 dB $L_{Aeq,15mins}$; therefore, it is recommended that deliveries are restricted to day-time periods, i.e. 07:00 hrs to 23:00 hrs.

The associated likely noise and vibration impact is described as ***negative, not significant, local and long-term***.

12.4.2.3 Additional Vehicular Traffic on Surrounding Roads

During the operational phase of the proposed Project, there will be a small increase in vehicular traffic on surrounding roads associated with the proposed Project and other planned developments. Details of the traffic assessment are included in Chapter 18 of this EIAR.

For the purposes of assessing the associated potential noise impact, it is appropriate to consider the relative increase in noise level associated with traffic movements on existing roads surrounding the Site with and without the proposed Project. Using the information on morning and evening peak hours presented in Chapter 18, the impact from the increase in traffic from the proposed Project has been assessed for the year of 2022 and the year of 2037 relative to the Do Nothing scenario along the sections of road detailed in Table 12.13.

In terms of the overall traffic data as described by peak hour vehicle flows, in order to increase traffic noise levels by 1 dB, traffic volumes would need to increase by the order of 25%, approximately. A review of the potential traffic flow increases attributable to the proposed Project indicates that the proposal will not give rise to increases of this magnitude on the surrounding road network during the operational phase.

Table 12.13: Predicted Changes in Noise Levels Associated with Vehicular Traffic – Operational Phase

Road Link	2025		2040	
	Increase in traffic flow	Increase in noise level (dB)	Increase in traffic flow	Increase in noise level (dB)
Drumcondra Road north of Botanic Ave	1%	0.1	1%	0.1
Drumcondra Road from Botanic Ave to Cain Pk	2%	0.1	1%	0.1
Drumcondra Road from Cian Park to St Alphonsus Road	2%	0.1	2%	0.1
Drumcondra Road from St Alphonsus Road to Clonliffe Road	2%	0.1	2%	0.1
Drumcondra Road from Clonliffe Road to Whitworth Road	3%	0.1	3%	0.1
Clonliffe Road west of site entrance	7%	0.3	6%	0.2
Clonliffe Road east of site entrance	7%	0.3	6%	0.2
Jones's Road / Russel St	7%	0.3	6%	0.2
R101 west of Russel Street	1%	0.0	1%	0.0
R101 east of Russel Street	1%	0.0	1%	0.0

The predicted increase in traffic flows associated with the proposed Project in 2025 and 2040 will result in an increase in noise levels of less than 1 dB along all roads receiving traffic from the proposed Project. With reference to Table 12.5, the likely effect is therefore ***neutral, imperceptible, local and permanent***.

12.5 Mitigation Measures

12.5.1 Construction Phase

With regard to demolition and construction activities, best practice control measures for noise and vibration from construction sites are found within *BS 5228 (2009 +A1 2014) Code of Practice for Noise and Vibration Control on Construction and Open Sites* Parts 1 and 2, which include guidance on several aspects of construction site practices, including, but not limited to:

- Selection of quiet plant;
- Control of noise sources;
- Screening (boundary and / or localised plant screening);
- Hours of work;
- Liaison with the public; and
- Monitoring.

Detailed comment is offered on these items in the following paragraphs. Noise control measures that will be implemented include the selection of quiet plant, enclosures and screens around noise sources, limiting the hours of work and noise monitoring.

12.5.1.1 Selection of Quiet Plant

In general, selection of quiet plant is recommended in relation to sites with static plant such as compressors and generators. In this case, the Contractor shall ensure that these units be supplied with manufacturers' proprietary acoustic enclosures, where possible. The potential for any item of plant to generate noise will be assessed prior to the item being brought onto the Site. To facilitate this, each item of plant equipment will be required to comply with the EC Directive on Outdoor Noise Emissions 2000/14/EC. The least noisy item will be selected, wherever possible.

12.5.1.2 Noise Control at Source

If replacing a noisy item of plant is not a viable or practical option, the Contractor will ensure that consideration is given to noise control 'at source' and that corresponding measures are implemented, where possible. This refers to the modification of an item of plant or the application of improved sound reduction methods in consultation with the supplier. For example, resonance effects in panel work or cover plates can be reduced through stiffening or application of damping compounds, while rattling and grinding noises can often be controlled by fixing resilient materials in between the surfaces in contact.

BS 5228 states that *"as far as reasonably practicable sources of significant noise should be enclosed"*, and the Contractor shall be obliged to comply with this measure. In applying this guidance, constraints such as mobility, ventilation, access and safety must be taken into account. Items suitable for enclosure include pumps and generators.

BS 5228 makes a number of recommendations in relation to the use and siting of equipment, which are directly relevant to the proposed Project. It will be a requirement that the Contractor ensure that these measures are adopted on Site:

- Plant shall always be used in accordance with manufacturers' instructions.
- Care shall be taken to keep site equipment away from noise-sensitive areas. Where possible, loading and unloading will be carried out away from such areas.
- Machines whose use is intermittent in nature, such as cranes, , shall be shut down between work periods or throttled down to a minimum. Machines will not be left running unnecessarily; as this can be noisy, wastes energy and needlessly generates pollutant emissions to air.
- Plant known to emit noise strongly in one direction shall, where possible, be orientated so that the noise is directed away from noise-sensitive areas. Attendant operators of the plant can also benefit from this acoustical phenomenon by sheltering, when possible, in the area with reduced noise levels.
- Acoustic covers to engines shall be kept closed when the engines are in use and idling. The use of compressors that have effective acoustic enclosures and are designed to operate when their access panels are closed is recommended.
- Materials shall be lowered whenever practicable and shall not be dropped. Where appropriate, the surfaces on to which materials are being moved will covered by resilient material.

Other forms of noise control at source relevant to the proposed works are set out below, and shall be adhered to by the Contractor insofar as possible and practicable:

- For mobile plant items such as cranes, dump trucks, excavators and loaders, the installation of an acoustic exhaust and / or maintaining enclosure panels closed during operation will be considered, and can reduce noise levels by up to 10 dB.
- Mobile plant will be switched off when not in use and not left idling.
- For percussive tools such as pneumatic concrete breakers, noise control measures include fitting muffler or sound reducing equipment to the breaker 'tool' and ensure any leaks in the air lines are sealed. Such measures will be considered in implemented, as appropriate. The Contractor will erect localised screens around breaker or drill bit when in operation in close proximity to noise sensitive boundaries.

- For concrete mixers, control measures will be employed during cleaning to ensure no impulsive hammering is undertaken at the mixer drum.
- For all materials handling, the Contractor will ensure that materials are not dropped from excessive heights. Drop chutes and dump trucks will be lined with resilient materials.
- Demountable enclosures will be used to screen operatives using hand tools / breakers and will be moved around site as necessary.
- All items of plant will be subject to regular maintenance. Such maintenance can prevent unnecessary increases in plant noise and can serve to prolong the effectiveness of noise control measures.

12.5.1.3 Screening

Typically, screening is an effective method of reducing the noise level at a receiver location and can be used successfully as an additional measure to all other forms of noise control. The effectiveness of a noise screen will depend on the height and length of the screen and its position relative to both the source and receiver. Screening is a useful form of noise control when works are taking place at basement and ground level to screen noise levels at ground floor adjacent buildings. It will be a requirement that the Contractor ensure that appropriate and effective screening is erected, where needed.

In addition, careful planning of the site layout will also be considered. The use of localised mobile (mobile hoarding screens and / or acoustic quilts) to items of plant with the potential to generate high levels of noise is an effective noise control measure. Localised screening will be used by the Contractor, where relevant, when percussive works are taking place in close proximity to the nearest sensitive perimeter buildings.

12.5.1.4 Liaison with the Public

A designated Community Liaison Officer (CLO) will be appointed to site by the Contractor for the duration of the construction works. All noise complaints will be logged and followed up in a prompt fashion by the CLO. In addition, prior to particularly noisy construction activity (e.g. demolition, breaking, piling, etc.), the CLO will inform residents at the nearest noise sensitive locations of the time and expected duration of the noisy works.

12.5.1.5 Hours of Work

Construction works will be limited to the times below, as per the Construction Management Plan:

- Monday to Friday 07:00 to 19:00 hrs
- Saturdays 08:00 to 14:00 hrs
- Sundays and Public Holidays No work on site*

* However, where required for specific circumstances (e.g. exceptional / emergency circumstances, such as connections to public service systems or utilities), it may be necessary for certain construction operations to be undertaken outside these times. The timing of such works will be agreed in advance with Dublin City Council.

Operational Phase

In order to ensure that acceptable operational noise levels at the nearest noise sensitive locations are achieved, the following mitigation measures will be considered during the detailed design stage.

12.5.1.6 Building Services Plant

The basement plant rooms and outdoor plant areas will be designed to ensure that noise levels at the façades of the noise-sensitive locations both within the Site and in the surrounding area do not exceed the criteria of 40dB $L_{Aeq,15\ min}$,outside any noise-sensitive location, as discussed in Section 12.2.2.1.

During the detailed design of the proposed Project, the selection and location of mechanical and electrical plant will be undertaken in order to ensure the noise emission criterion of 40dB $L_{Aeq,15\ min}$, outside any noise-sensitive location are not exceeded.

In addition to selecting plant with suitable noise levels, the Applicant shall ensure that the following best practice measures will be adhered to, insofar as possible, for all plant items, in order to minimise potential noise disturbance for residents of on-site and adjacent buildings during the operational phase:

- Where ventilation is required for plant rooms, consideration will be given to acoustic louvers or attenuated acoustic vents, where required to reduce noise breakout.
- Ventilation plant serving plant rooms and car parks will be fitted with effective acoustic attenuators to reduce noise emissions to the external environment.
- Perimeter plant screens will be used, where required, for roof top plant areas, to screen noise sources.
- Attenuators or silencers will be installed on external air handling plant.
- All mechanical plant items (e.g. fans, pumps, etc.) shall be regularly maintained to ensure that excessive noise generated by any worn or rattling components is minimised.
- Any new or replacement mechanical plant items, including plant located inside new or existing buildings, shall be designed so that all noise emissions from Site do not exceed the noise limits of 40dB $L_{Aeq,15\ min}$, outside any noise-sensitive location outlined in this document.
- Installed plant will have no tonal or impulsive characteristics when in operation.

12.5.1.7 Deliveries

Deliveries will be restricted to daytime periods, i.e. 07:00 hours to 23:00 hours to avoid disturbance to noise-sensitive locations both within the Project Site and at the neighbouring noise-sensitive locations.

12.5.1.8 Additional Vehicular Traffic on Surrounding Roads

During the operational phase of the proposed Project, noise mitigation measures with respect to the outward impact of traffic from the Site are not deemed necessary.

12.6 Residual Impacts

This section describes the degree of environmental change that will occur after the proposed mitigation measures have taken effect.

12.6.1 Construction Phase

During the construction phase of the proposed Project, there is the potential for temporary noise effects on nearby noise sensitive properties due to noise emissions from site activities. The application of binding noise limits and hours of operation, along with implementation of appropriate noise and vibration control measures (as set out in Section 12.5, above), will ensure that noise and vibration impact is kept to a minimum as far as practicable. For the duration of the demolition and construction period, residual construction noise and vibration effects will be ***short-term, negative, slight to significant***, depending on the proximity of the works to the site boundary.

12.6.2 Operational Phase

12.6.2.1 Building Services Plant

Noise levels associated with operational plant are expected to be well within the adopted day and night-time noise limits at the nearest noise sensitive properties once the design criteria in Section 12.2.2.1 are adopted. Assuming the operational noise levels do not exceed the adopted design goals, the resultant residual noise effects from this source will be ***negative, not significant, and permanent***.

12.6.2.2 Delivery Activity

The location of the delivery area and the mitigation measure outlined in Section 12.5.2.2 will ensure that residual noise effects from this source will be ***neutral, not significant and permanent***.

12.6.2.3 Additional Vehicular Traffic on Surrounding Roads

The change in noise levels associated with additional traffic is predicted to be imperceptible along the existing road network. In the context of the existing noise environment, the overall effects from noise contribution of increased traffic is considered to be of ***neutral, imperceptible and permanent*** effect to nearby noise sensitive locations.

12.7 Monitoring

During the demolition and construction phase, noise and vibration monitoring shall be carried out by the contractor to ensure that the recommended threshold levels set out in Table 12.1 and Table 12.2 and / or any additional noise and vibration limits conditioned in the planning permission (if granted) are not exceeded. Suggested construction noise monitoring locations are presented in Figure 12.6.

Noise monitoring will be conducted in accordance with the International Standard ISO 1996: 2017: *Acoustics – Description, measurement and assessment of environmental noise* and located a distance of greater than 3.5 m away from any reflective surfaces, e.g. walls, in order to ensure a free-field measurement without any influence from reflected noise sources.

Vibration monitoring will be conducted in accordance with BS 7385-1 (1990*) Evaluation and measurement for vibration in buildings — Part 1: Guide for measurement of vibrations and evaluation of their effects on buildings* or BS 6841 (1987*) Guide to Measurement and Evaluation of Human Exposure to Whole-Body Mechanical Vibration and Repeated Shock*.

Figure 12.6: Recommended Construction Noise Monitoring Locations

12.8 Interactions

Briefly, there are interactions between the noise and vibration assessment and traffic assessment. With increased traffic movements, the noise levels in the surrounding area increase. The impacts of the proposed Project on the noise environment are assessed by reviewing the change in traffic flows on roads close to the site. In this assessment, the impact of the interactions between traffic and noise are considered to be imperceptible due to the low-level changes in traffic flows associated with the proposed Project.

12.9 Cumulative Impacts

In respect of cumulative impacts, the only other developments in the immediate area of scale are the Hotel (ABP Ref.: PL29N.308193) and the GAA Pitches and Clubhouse (for which an application has not been submitted). The main aspects of cumulative impact for noise and vibration are the construction phase in general and the impact due to additional vehicular traffic on surrounding roads.

In respect of construction noise, as both these developments form part of a single masterplan for the lands, appropriate construction phasing and coordination between the developments will be implemented as part of the detailed construction management plans. The cumulative construction noise impact is ***short-term, negative and slight to significant***, depending on the proximity of the works to the site boundary.

In respect of additional vehicular traffic during the operational phase, the traffic flow figures used in the assessment in Section 12.4.2.3 include the effects of the permitted hotel (ABP Ref.: PL29N.308193) and planned future GAA developments and, as such, the cumulative impact is accounted for. The cumulative traffic noise impact is therefore of ***neutral, imperceptible and long-term*** effect at nearby noise sensitive locations.

12.10 Conclusion

When considering a development of this nature, the potential noise and vibration effects on the surroundings must be considered for two stages: the short-term construction phase and the permanent operational phase.

The assessment of construction noise and vibration and has been conducted in accordance best practice guidance contained in BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Noise and BS 5228-2:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Vibration. Subject to good working practice as recommended in the EIAR Chapter, noise associated with the construction phase is not expected to exceed the recommended limit values for noise-sensitive locations beyond 40m from the site boundary and therefore no significant effects are expected. At distances less than 40m from the boundary, construction noise has the potential to exceed the recommended limit values depending. A variety of standard proven best practice noise mitigation is proposed together with noise monitoring to ensure that limit values are adhered to.

This chapter demonstrates that the predicted noise levels associated with the operational phase of the proposed Project will be within best practice noise limits recommended in Irish guidance, therefore it is not considered that a significant effect is associated with the development.

No significant vibration effects are associated with the operation of the site.

In summary, the noise and vibration impact of the proposed Project is not significant in the context of current national guidance.

12.11 References

- BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Noise;
- BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 2 – Vibration;
- BS 7385-2:1993 Evaluation and measurement for vibration in buildings. Guide to damage levels from groundborne vibration;
- BS 4142: 2014+A1:2019: Methods for Rating and Assessing Industrial and Commercial Sound;
- Department of Housing, Planning & Local Government (2018). *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment*;
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- EC Directive on Outdoor Noise Emissions 2000/14/EC.
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- ISO 1996: 2017: Acoustics – Description, measurement and assessment of environmental noise;
- TII (2011). *Design Manual for Roads and Bridges*;
- WHO (1999). *Guidelines for Community Noise*;
- WHO (2018). *Environmental Noise Guidelines for the European Region*;

13 Landscape & Visual

13.1 Introduction

This chapter on landscape and visual impacts has been prepared by Thomas Burns, Landscape Architect and Environmental Planner with Brady Shipman Martin. Thomas has a B.Agr.Sc. in Landscape and a Diploma in EIA Management, both from UCD, and an Advanced Diploma in Planning and Environmental Law from Kings Inn. Thomas is a member of the Landscape Institute and Environmental Management and Law Association. Thomas has been preparing landscape and visual impact assessments for over 30 years and has prepared assessment for a wide range and scale of urban and rural development projects.

This assessment addresses two separate but closely related aspects:

1. The first is visual impacts, focusing on the extent to which the proposed Project can be seen, the potential loss of existing site features and the introduction of new site features;
2. The second is impacts on the character of the landscape, the changes the proposed Project will bring to the landscape in general, the impacts of those changes upon views from the surrounding area, and examining responses which are felt towards the combined effects of the proposed Project.

This latter topic is complex because it can encompass many other environmental topics such as ecology, archaeology and architectural history, and because attempts to scientifically measure feelings and perceptions are not universally reliable.

Given the urban location of the Site, the term ‘landscape’ and ‘townscape’ (i.e. acknowledging the urban setting of the lands) are used interchangeably herein.

13.2 Methodology

This chapter has been prepared having particular regard to the following guidelines and documents:

- EPA (2017). *Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports*;
- Landscape Institute & Institute of Environmental Management and Assessment (2013). *Guidelines for Landscape and Visual Impact Assessment (‘GLVIA3’)* (Third Edition);
- Landscape Institute (2016). *Technical Information Note on Townscape Character Assessment*;
- Department of Housing, Planning and Local Government (2018). *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment*;
- Dublin City Council (2016). *Dublin City Development Plan 2016 – 2022*;
- Dublin City Council (2007). *Richmond Road Area Action Plan*;
- Henry J Lyons (2021). *Holy Cross College Masterplan*[51]; and
- Other documents, drawings and reports prepared for the Proposed Project, submitted under separate cover as part of this application.

Specific guidance for the assessment of landscape and visual impacts is set out in the GLVIA3, while the EPA Guidelines provide guidance on overall approach and structure. The EPA Guidelines themself reference GLVIA3 in terms of landscape and visual impact assessment.

[51] Submitted under separate cover as part of this application.

The GLVIA3 outlines a methodology for determining the sensitivity of a landscape or view to the proposed Project and the significance of effects arising from the Project. Sensitivity of a landscape or view is judged by balancing its value with its susceptibility to the type of development proposed. The significance of effects on that landscape or view is then assessed by balancing its sensitivity with the magnitude of change arising from the proposed Project (refer to Figure 1.2 in Chapter 1 – Introduction). GLVIA3 also recognises (at para 2.23) that "*professional judgement is a very important part of LVIA. While there is scope for quantitative measurement of some relatively objective matters much of the assessment must rely on qualitative judgements*."

An initial desk study was undertaken to establish an understanding of the Site and surroundings, its planning context and to make an initial assessment of the likely visual context *i.e.* areas from which the Site / proposed Project may be seen. Relevant maps, development plans and other published documents were used for this purpose and are referenced at the end of this Chapter.

A visual field survey of the Site and surroundings was carried out, examining the nature of the local built environment, considering the contribution that landscape components make to local character, and exploring the potential for views of the Site / proposed Project from the surrounding area. A selection of key / representative views have been identified, which support this landscape and visual appraisal and inform preparation of associated Photomontages of the proposed Project (prepared by BSM and submitted under separate cover as part of this application). These views were selected from publicly accessible areas, where the proposed Project is likely to be openly or partly visible both within the Site and from surrounding roads, streets, amenities, open spaces and parks.

The potential impact of the proposed Project on the landscape is assessed with reference to the following landscape factors:

- **Context**: a description of the Site and its surroundings.
- **Character**: identifies distinct landscape units within the Site and / or its surroundings and outlines the defining features of the landscape.
- **Sensitivity**: This is based on:
  - Value: whether a landscape / view is scarce or unique (and designated for this reason); recognised for its high amenity; whether it is 'ordinary' or even 'derelict'; and
  - Susceptibility: to what extent there is pressure for / vulnerability to the type of proposed Project and the damage likely to arise as a result.
- **Significance**: susceptibility is combined with the anticipated magnitude of change to determine the likely effects (impacts) of the proposed Project.
- **Magnitude of change**: the degree to which the proposed Project alters the existing landscape / view.

Potential changes in character, visibility and land use patterns have been considered, including direct, indirect, secondary and cumulative impacts. This has given direction to proposed mitigation measures, which have been incorporated into the proposed Project. The assessment of likely residual landscape and visual impacts takes account of proposed mitigation measures.

The assessment has also had regard to the assessments presented in other Chapters of the EIAR, and in particular to the findings in Chapter 8 (Biodiversity) and Chapter 14 (Cultural Heritage – Architectural Heritage).

13.3 Baseline Environment

13.3.1 Description of the Site and Surrounding Environment

The Site comprises c. 8.9 hectares of buildings and lands within the wider lands at Holy Cross College, off Clonliffe Road Dublin 3, and off Drumcondra Road Lower, Dublin 9 (refer to Figure 13.1).

The lands / Site are bounded to the south by Clonliffe Road and properties off Clonliffe Road and Holy Cross Avenue. The main entrance to the lands / Site is off Clonliffe Road and aligns with Jones' Road which runs south from Clonliffe Road to Croke Park. The southern boundary and entrance is defined by a high brick wall with curving brick walled entrance way of late 20th century construction. The entrance leads to a mature tree-lined avenue (refer to Figures 13.1 and 13.2). In April 2021 permission was granted for a new hotel up to 7 storeys in height on Holy Cross College lands immediately east of the existing entrance and access avenue (DCC ref. no.:2935/20 & ABP ref. no.: 308179-20).

The Holy Cross College lands / Site are bounded to the west by Drumcondra Road Lower and properties off Drumcondra Road Lower, including the residence of the Archbishop of Dublin and Mater Dei College. A secondary (emergency) access to the lands is located immediately south of No. 133 Drumcondra Road Lower at the northwest corner of the Site. This secondary entrance is defined by metal gates and stone piers set into the high boundary stone wall (a Protected Structure) with Drumcondra Road Lower.

The college lands are bounded by the River Tolka corridor to the north, however, with the exception of connections for surface water, the boundary of the Site is setback from the river corridor with intervening lands zoned as riverside open space and as lands formerly used as playing pitches.

To the east the lands / Site are bounded by Belvedere Rugby Grounds and residential development at Corn Mill Apartments (refer to Figures 13.1 and 13.2).

Holy Cross College was founded in 1854 as the Catholic diocesan seminary for Dublin. After seminary duties ceased in c. 2001, the college eventually closed in 2018 with the sale of the lands. The college was established on the grounds of Red House, which was formerly known as Clonliffe House (refer to Figures 13.1 and 13.2).

Today, the Site comprises a range of large 19th and 20th century former college buildings and chapel, some of which are Protected Structures. The Main Seminary Block is 19th century three-storey over raised-basement building with central flight of steps facing parkland to the east. Formal cloister gardens laid out in an open quadrangle are located to the west of the Seminary Block and these were enclosed by the late 1950's colonnaded 'Ambulatory' on the south and west side. The main buildings are grouped close to the centre of the lands and towards the western boundary. Green areas lie to south, east and north, while Mater Dei College and the Archbishop's House, which is set within its own mature gardens, lie to the west (refer to Figures 13.1 and 13.2). A detailed description of the history and development of the college and its grounds is provided in Chapter 14 (Cultural Heritage – Architectural Heritage).

The Site includes mature trees in an avenue along the access off Clonliffe Road and in the landscape areas east of the main college buildings. Belts of mature tree planting surround Red House, and an avenue along an east-west pathway delineates the boundary between the core college area and the open northern lands. Tree belts also define the boundary with the Archbishop's House and with Drumcondra Road Lower. Established trees and hedgerows are located along both banks of the River Tolka to the north of the Site.

Figure 13.1: Site Context with Boundary outlined in Red (© Google Maps, 2021)

The Site is gently sloping with higher ground to the west, southwest falling towards the River Tolka to the north, northeast. There is a noticeable step down in the Site at the transition to the open lands north of the central core area.

The Site is located between the established residential communities of Drumcondra to the west and north, and Clonliffe Road / Ballybough to the south and east. Both are established, mature suburbs of Dublin City with the surrounding area predominately developed. The Site is c. 400 m northeast of Drumcondra Commuter Railway Station and the immediate area includes a range of public facilities including community centres, healthcare, libraries, shops and sports / recreation facilities.

A comprehensive range of Photomontages have been prepared by BSM to illustrate the physical and visual character of the proposed Project from both within the Site and from surrounding roads and public locations. These have been submitted under separate cover as part of this application and should be reviewed in conjunction with this Chapter. An ‘as existing’ and ‘as proposed’ version is presented for each view and a ‘cumulative’ version shows the proposed Project together with the proposed hotel recently permitted on the wider college lands (DCC ref. no.:2935/20 & ABP ref. no.: 308179-20). For some views, summer-time and winter-time versions are presented.

Figure 13.2: Aerial View south-southwest over Holy Cross College lands (Site Strategy Document (HJL 2021))

13.3.2 Trees and Woodlands

An Arboricultural Report (The Tree File, 2021) has been prepared for the lands / Site and accompanies the planning application (under separate cover). The history of the development of the Site is reflected in its tree population. Though many trees to the east of Holy Cross College are relatively young, much of the woodland belt to the west of the Site and adjoining Drumcondra Road appears to be a century or more in age structure. Only a small remnant of the original landscape associated with the Red House (Clonliffe House) remains. This landscape is now restricted to isolated pockets and particularly to the east of the access drive to Red House and adjoining the eastern façade of the gable walls of the housing terrace on Clonliffe Road.

The tree population can be considered under three categories:

1. 'Woodland blocks' such as along Drumcondra Road Lower and at Red House;
2. 'Tree-lines' such as between the Red House and the Main Seminary Building or the line of Cypress trees located to the north of main buildings; and
3. 'Standalone trees' such as those within the lawns as part of a dispersed parkland setting.

The tree survey identifies 664 trees or tree groups on the wider lands, of which 296 trees or tree groups are within the application area. The report notes that the tree population is of reasonable condition, having been managed regularly over time. Eleven trees (4%) are identified as being of high quality, 'Category A' trees. Forty-seven percent (47%) of the trees (139 no.) are of moderate quality ('Category B'). And 40% (120 no.) are of low-quality ('Category C'). The Site includes some potentially low quality and unsustainable trees. In this regard, 26 no. (9%) low quality ('Category U') trees are recommended for removal due to their poor condition, regardless of whether the proposed Project were to be permitted.

There are no tree preservation orders (TPOs) pertaining to the trees on the Site. Nevertheless, the diversity and maturity of existing trees, including the lime avenue and parkland specimens, make a significant contribution to the landscape and visual character of the lands.

13.3.3 Planning Context

13.3.3.1 Dublin City Development Plan (2016 – 2022)

The former college lands and Site are located within the administrative area of Dublin City Council (DCC). In the Dublin City Development Plan (2016 – 2022), the vast majority of the lands / and virtually all of the Site lies within Zone Z12, for which the objective is: "*To ensure that existing environmental amenities are protected in the predominately residential future use of these lands*". The corridor along the River Tolka to the north of the Site is within Zone Z9, for which the objective is: "*To preserve, provide and improve recreational amenity and open space and green networks*". However, a very limited portion of the application Site lies within this zone, for the purpose of providing surface water connections to the river and wastewater drainage network (refer to Figure 13.3).

A number of Protected Structures are located on and adjoining the lands of Holy Cross College and within the Site including:

- **RPS Ref. No. 1901**: The Main College Building, Holy Cross Church, South Link Building, Ambulatory and the Assembly Hall (all within the Site);
- **RPS Ref. No 1902**: The Red House – a detached Georgian House (within college lands immediately east of the Site). (The Red House is also included on the Record of Monuments and Places, Ref. No. 018-019); and
- **RPS Ref. No 2361**: Archbishop's House – a detached Victorian residence / office, gate lodge at entrance, entrance gates, piers, railings and plinth walls (immediately west of the Site).

In addition, a number of houses along Clonliffe Road, along Susanville Road, along Drumcondra Road Lower, and at the Corn Mill and Distillery Buildings off Distillery Road, are identified as Protected Structures and / or Residential Conservation Area (Zone Z2). General residential areas (Zone Z1) are located in the wider environment (refer to Figure 13.3).

The prominent mature plane tree-lined verges of Drumcondra Road Lower are zoned as amenity / open space (Zone Z9). The River Tolka is identified as a Conservation Area (refer to Figure 13.3) and forms part of the city's green / blue network, as illustrated in Figure 14 (Strategic Green Network) of Development Plan. A range of sports grounds and sports facilities, including Tolka Park, lie north of the River Tolka.

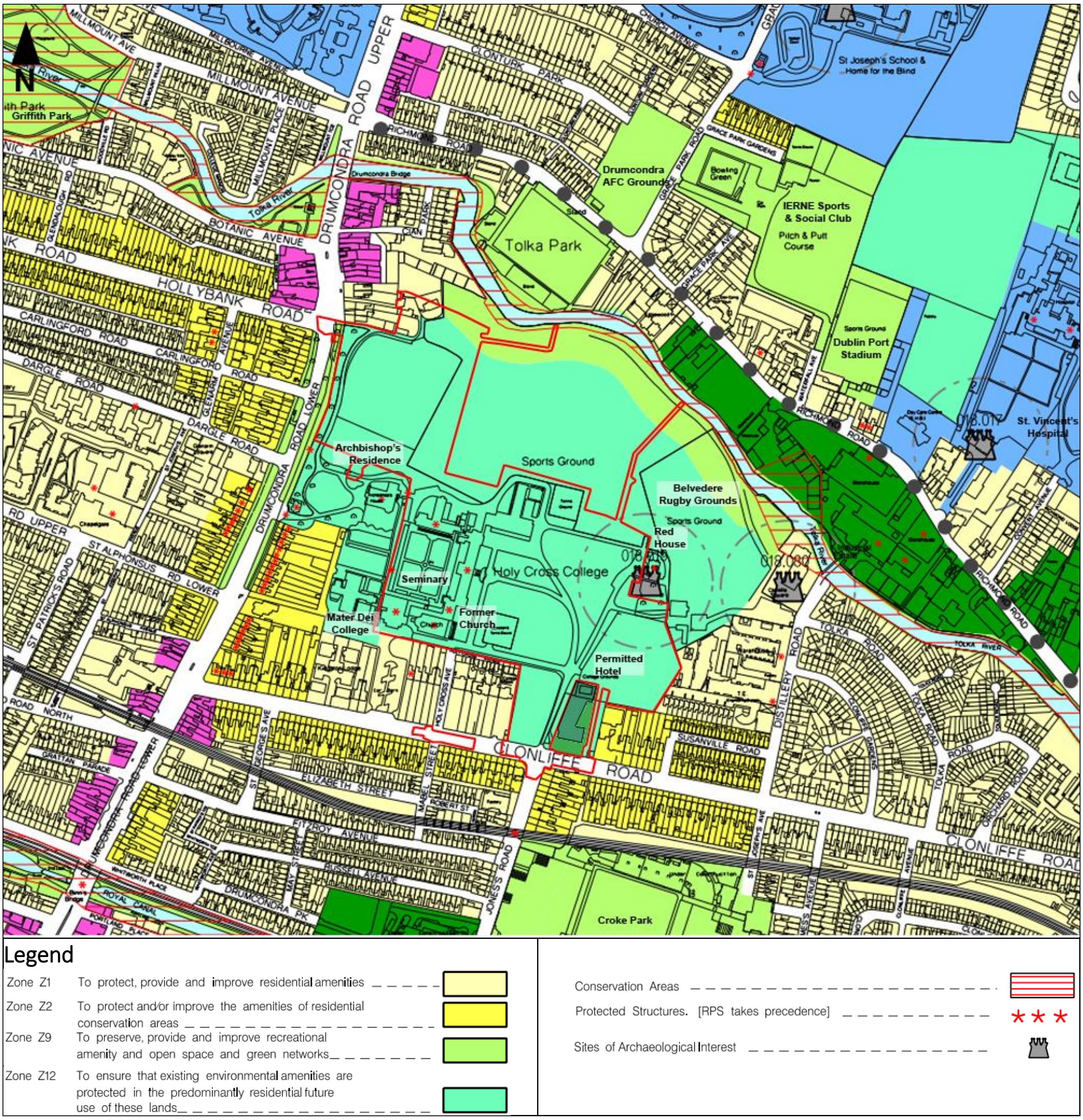
The Site does not fall within the visual context of any of the Key Views and Prospects identified in Figure 4 (Key Views and Prospects) of the Development Plan. Trees on the lands are not identified for protection.

In relation to Zone Z12 lands, the Development Plan identifies specific considerations for development, including the requirement for preparation of a Masterplan. The Development Plan identifies a number of specific requirements arising from the Z12 zoning objective, including the following:

- *"… the preparation and submission of a masterplan setting out a clear vision for the future for the development of the entire land holding. In particular, the masterplan will need to identify the strategy for the provision of the 20% public open space requirements associated with any residential development to ensure a co-ordinated approach to the creation of high-quality new public open space on new lands linked to the green network and/or other lands, where possible;"*

- *"the minimum 20% public open space shall not be split up into sections and shall be comprised of soft landscape suitable for relaxation and children's play, unless the incorporation of existing significant landscape features and the particular recreational or nature conservation requirements of the site and area dictate that the 20% minimum public open space shall be apportioned otherwise;" and*
- *"development at the perimeter of the Z12 sites adjacent to existing residential development shall have regard to the prevailing height of existing residential development and to standards in Chapter 16, Section 16.10 of the Development Plan pertaining to aspect, natural lighting, sunlight, layout and private open space."*

Figure 13.3: Zoning with Site outlined in Red (Extract of Map E of Dublin City Development Plan 2016-2022)



The Development Plan sets out requirements in relation to trees (existing and proposed) in Section 16.3.3. The Plan encourages the retention of existing trees where possible, and states that on larger institutional lands, development should have regard to the existing landscape character and quality. The following criteria shall be taken into account where there are significant trees on Site:

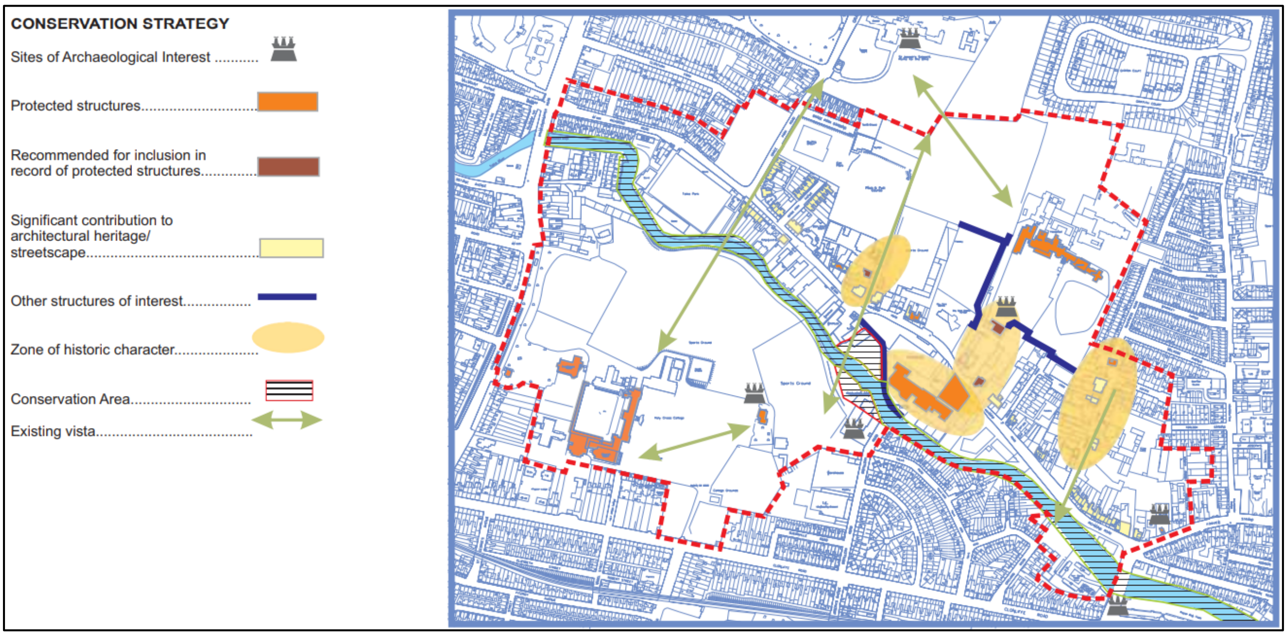
- Habitat /ecological value of the trees and their condition;
- Uniqueness / rarity of species;
- Contribution to any historical setting;
- Significance of the trees in framing or defining views; and
- Visual and amenity contribution to streetscape.

The Plan includes a requirement for arboricultural assessments, arboricultural impact assessments and arboricultural method statements for works in the vicinity of trees, for new developments.

13.3.3.2 Richmond Road Area Action Plan (2007)

The former college lands and Site were included within the 2007 Action Plan prepared for c. 51 ha spanning the River Tolka and Richmond Road. Aspects of conservation and heritage significance were identified on Map 4 and Map 12 of the Plan. These included Protected Structures (2007), zones of historic character and vistas. The Plan identified vistas south along Grace Park Road towards Holy Cross College and between Red House and the College Church (refer to Figure 13.4).

Figure 13.4: Extract from Map 12 of Richmond Road Action Area Plan (2007)



13.3.3.3 Holy Cross College Masterplan (2021)

In accordance with the Z12 zoning requirements, a Masterplan has been prepared for the c. 12 ha of the Holy Cross College lands (refer to Figure 13.5). The layout as set out in the Masterplan and in the associated Site Strategy Document (both submitted under separate cover as part of this application), seeks to address the following key principles:

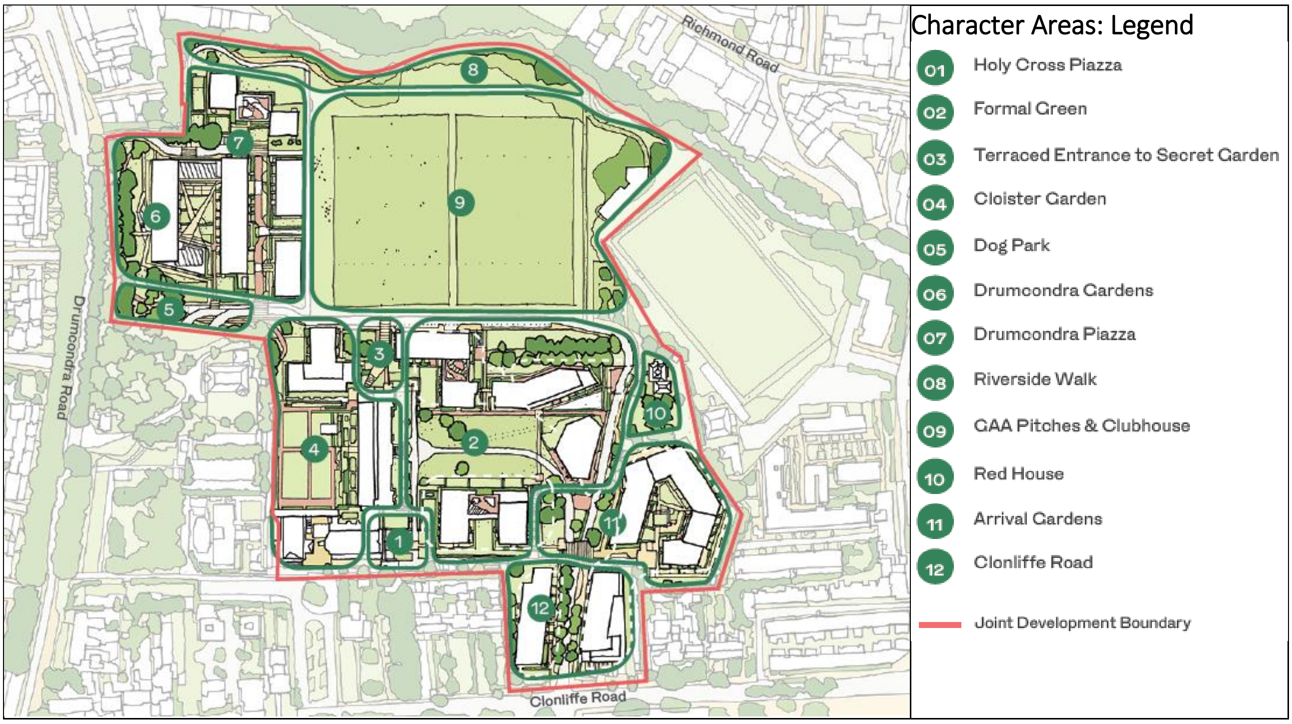
- To enhance and protect the built heritage, historic setting, and strong landscape character of the lands;
- To identify pockets for development within the landscape retaining the character of the lands;
- To deliver the key objectives of the Z12 and Z9 DCC zoning policies safeguarding the future enjoyment of the lands;

- To provide for new urban residential, commercial and recreational development which delivers new homes, employment and places to play and enjoy for new and existing communities;
- To increase the permeability of the site from the Drumcondra Road and Clonliffe Road, integrating with the neighbouring communities;
- To establish clear connections to the City that serve pedestrians, cyclists and vehicles with an emphasis on the sustainable future of the scheme;
- To balance the physical infrastructure required for the residential and recreational development with the mature green aspect of the college lands;
- To establish physical links with neighbouring communities through the delivery of new public realm amenity spaces and recreational uses for surrounding communities; and
- Maintaining historic viewing corridors are a key principle for incorporating the historic setting of the institutional buildings into the proposed Masterplan.

The Masterplan identified three significant views within the college lands, which informed the development of the layout:

- The view of the Holy Cross Church from the entrance avenue;
- The view of the Main Seminary Block from the entrance avenue; and
- The view of the Main Seminary Block from the Red House.

Figure 13.5: Extract from Masterplan for Holy Cross College Lands (2021)



13.3.4 Sensitivity and Significance of the Receiving Environment

A number of landscape (townscape) and visual features are of particular sensitivity and significance. Of particular note are following aspects:

- The established collective historic character of the complex of buildings in its landscape setting;
- The individual architectural quality of – and visual connections between – the key buildings on the Site, including Protected Structures such as the Seminary Building, Holy Cross Church, Red House, as well as in the immediate surrounds of the Site, *e.g.* the Archbishop's House;

- The extent and maturity of tree blocks, tree-lines and individual trees in a parkland setting on the lands;
- The historic character of landscape features such as parklands, quadrangle, walkways, avenues and the boundary wall along Drumcondra Road Lower;
- The open nature of the northern lands and landscape corridor (conservation area) of the River Tolka;
- The presence of residential and other property around and beyond the boundaries of the Site; and
- Potential longer range views across or to the Site from surrounding areas.

In overall terms, the presence of a range of Protected Structures within a building complex and their physical and visual interrelationship in a high-quality parkland setting is of very high sensitivity and significance. Given the partly secluded nature of the Site, the relationship with its wider surrounds and city context is of moderate sensitivity and significance.

13.4 Predicted Impacts of the Proposed Project

13.4.1 Do-Nothing Impact

Should the proposed Project not proceed, the Site would remain as a large area comprising largely of unused buildings and open green areas. Permission has be granted for a hotel up to 7-storeys on a part of the wider Holy Cross College Masterplan lands, and given the context in terms of zoning and the Masterplan, it is envisaged that development of some broadly similar form would eventually occur on these lands. In the context of the national policy of compact growth, no development on the lands may be considered an unsustainable use of the land resource, although as a component of the local green infrastructure network it does contribute to the wider ecosystem.

13.4.2 Characteristics of the Proposed Project

A detailed description of the proposed Project is provided in Chapter 5 (Description of the Proposed Project) and is only repeated herein insofar as it relates to the assessment of impacts on landscape and visual amenity. The proposed Project will include the following characteristics of landscape and visual significance:

- The proposed Project is laid out in a range of distinct character areas as per Figure 13.5;
- Provision of new buildings, stepping from a three to seven-storey perimeter, with a general six-storey shoulder height, addressing the central parkland with an 18-storey tall building (Block D), terminating the eastern end of the parkland opposite the Seminary Building. A 13-storey building (Block A4.3) is located at the northern end of the Site, addressing the River Tolka corridor. A number of eight-storey buildings add variety to height, and act as 'visual markers', framing the northern parkland (refer to Figure 13.6);
- In total, 117 no. trees will be removed. Twenty-five of these are low quality 'Category U' trees that are recommended for removal regardless of development. Therefore, the proposed Project results in the loss of 92 trees that might otherwise have been suitable for retention. This includes four higher quality 'Category A' trees; 36 no. moderate quality 'Category B trees'; and 52 no. lower quality 'Category C' trees.
- The existing secondary entrance off Drumcondra Road Lower will be opened up as a new access, providing a new junction opposite Hollybank Road. The existing entrance off Clonliffe Road will also be widened for enhanced physical and visual connectivity.
- Delivery of c. 25% of connected public open space within the Site, in excess of the 20% required under the Zone Z12 requirements. This includes the woodlands on the western boundary with Drumcondra Road Lower, as well as historic parkland at the core of the Site, and the quadrangle garden west of the Seminary Building. Communal open space is provided in addition to the public open space. Refer to Figure 13.7.

Figure 13.6: Approach to Proposed Building Height (HJL, 2021)

Figure 13.7: Provision of Open Space in Proposed Project (NMP Landscape Architecture, 2021)

13.4.3 Potential Landscape (Townscape) Effects

13.4.3.1 Construction Phase

The duration of the construction phase is anticipated to be somewhere in the region of 36 months (or three years). As detailed in Chapter 5, the proposed Project will be constructed in three phases. The construction process would entail the following:

- Site establishment and perimeter hoarding;
- Set up of construction compound, tree protection measures, internal Site works arrangement;
- Demolition of existing structures, removal of tree and planting, and general site clearance;
- Loss of existing open landscape / visual parkland character;
- General construction activity, including construction traffic, movements and use of cranes;
- Site stripping, excavation and earthworks;
- Site services installations;
- Emergence of new buildings;

- Works to on-site Protected Structures and in vicinity of off-site Protected Structures such as Red House;
- Completion of new buildings, roads, entrances, footpaths, cycleways;
- Provision of exterior public realm, landscape, streetscape and site boundary works, and
- Occupation of the development on a phased basis.

During construction, the Site would be heavily disturbed by the above-listed activities and the incremental growth of the buildings, with direct and indirect visual effects on the surroundings. The magnitude of change to the landscape of the Site and the townscape in the immediate vicinity of the Site would be high, with the effects reducing with increased distance from Site.

Overall, the sensitivity of the landscape and visual character of the Site is high and of the wider townscape is medium. Therefore, in the absence of mitigation, while ***short-term***, the effects of the construction phase on the townscape would be ***very significant*** and ***negative*** on the Site, and ***moderate*** to ***significant*** and ***negative*** in the immediate vicinity of the Site.

13.4.3.2 Operation Phase

The completed proposed Project will give rise to impacts through the establishment of a new residential development comprising 12 blocks, ranging in height from two to 18-storeys, open spaces and associated other elements (as detailed in Chapter 5).

In the absence of mitigation, potential for ***likely significant*** landscape and visual effects during the operational phase arise from:

- The overall change in character from enclosed historic institutional parkland to a developed contemporary residential neighbourhood;
- The change in existing views from within Holy Cross lands and from surrounding areas – especially from the north, east and south of the Site – both during daytime and at night;
- The change in the setting of Red House and the Archbishops House, being Protected Structures; and
- The change in character of the Site as viewed from Clonliffe Road and from areas further south, east and north.

13.5 Mitigation Measures

13.5.1 Construction Phase

13.5.1.1 General

The proposed Project is to be delivered in three phases, which will assist in mitigating the intensity and scale of construction required to deliver the proposed Project. Additionally, the following mitigation measures will be adhered to in relation to the construction phase:

- Construction works will adhere to standard best practice construction site management and to the requirements of the Construction Management Plan (CMP) and Construction Environmental Management Plan (CEMP), submitted in preliminary form (under separate cover) as part of this application, to be finalised by the successful Contractor prior to the commencement of the proposed works.
- Other than where interventions are proposed, existing Site boundaries and associated tree and other plantings will be protected from construction works.
- The immediate setting of the Red House, including all surrounding areas outside of where works are proposed, will be retained and appropriately protected during the construction phase.

- Key areas of proposed open space, including the woodland on the boundary with Drumcondra Road Lower, the central core parkland, the quadrangle west of the Seminary, and the northern open space (including the corridor along the River Tolka), will be protected during the construction phase and will not be used for storage of earthworks or construction materials.

13.5.1.2 Retention of Existing Trees

- Given the importance of the existing trees, a qualified Arborist will be retained for the duration of the construction phase to ensure protection of trees to be retained.
- Trees to be retained will be fenced off and protected in accordance with BS5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations and to the requirements the Arboricultural Report prepared by The Tree File and submitted under separate cover as part of this application.
- Works to and in the vicinity of the root protection area (RPA) of retained trees shall be carried out in accordance with the requirements the Arboricultural Report prepared by The Tree File and submitted under separate cover as part of this application.

13.5.1.3 Hoarding and Screening

In addition to the fencing and protection of retained trees, tree groups and existing boundaries, c. 2.4 m high hoarding will be required for the purposes of screening – particularly on the western, southern and eastern boundaries.

13.5.2 Operational Phase

The proposed Project is the culmination of a detailed design development process, weighing development opportunity of a strategic land resource with retention of key landscape characteristics of the receiving environment and visual sensitivities of the Site and surrounding areas. Therefore, the arrangement, layout and design of the proposed Project is critical to the avoidance and mitigation of adverse landscape and visual impacts.

In particular, landscape and visual mitigation (refer to Figure 13.8) has been considered in:

- Compliance with the requirements of the Z12 land use zoning for the site and wider college lands;
- The retained setting for the Red House and the manner in which the proposed Project respects the setting and identified view corridor to Holy Cross Church;
- The manner in which the setting of the existing retained structures are incorporated into the wider development on the Site;
- Retention of key existing mature trees, tree groups and woodland blocks;
- The arrangement and layout of buildings, heights, and finishes;
- Retention, enhancement and detailing of boundaries;
- Provision of high-quality public open spaces and communal open space;
- Extensive new landscape works, including public realm and new tree and other planting proposals; and
- Maintenance and aftercare of the new landscape.

These considerations are important for the successful integration of the proposed Project into its Site and immediate context. Detailed high-quality landscape proposals are set out in the Landscape Design Statement (NMP Landscape Architects) which accompanies the application under separate cover.

Figure 13.8: Illustrative Landscape Masterplan for Proposed Project

Proposed Illustrative Plan - *Extract from Niall Montgomery & Partner Landscape Report*

13.6 Residual Impacts

13.6.1 Construction Phase

The lands at Holy Cross College have an introverted character enclosed by a framework of boundary trees and woodland blocks, boundary walls, vegetated river corridor, and established residential and mixed use development.

Nevertheless, the construction of the proposed Project, which provides for a phased delivery of a high density scheme with a 13-storey building and an 18-storey tower, would result in significant change and disturbance to the landscape and to the visual characteristics of view within the Site and to and from the lands and existing buildings, including Red House. The removal of buildings and trees, site establishment and development, construction activity and emergence of buildings would all combine to result in significant effects on landscape and visual character.

13.6.1.1 Townscape Effects

In terms of wider townscape, the receiving environment can accommodate the construction of the proposed Project without significant negative effects on key townscape characteristics of surrounding areas. The residual impact of the construction phase on the wider townscape would be ***moderate, negative and short-term***.

13.6.1.2 Visual Amenity

The construction phase will give rise to significant visual effects, particularly within the wider Holy Cross College lands and from immediately adjoining areas to the south, east and north.

The initial disturbance and general activity associated with the construction phase will result in substantial alteration to the existing landscape, giving rise to significant landscape and visual impact for the setting of existing structures, including the Red House, other retained buildings, and those immediately bounding the Site. Given the enclosed nature of the Site, the visual impact from the wider surrounding areas, including Drumcondra Road Lower, will be of lesser significance.

During construction, the Site and immediate environs would be heavily disturbed by construction activities and haulage, and by the incremental growth of the buildings on site and associated use of cranes. In the earlier stages, before buildings reach substantial height above ground, the effects would be largely limited to the immediate environs (i.e. the Site, neighbouring properties and adjoining boundaries with Clonliffe Road / Drumcondra Road Lower).

As the buildings rise to upper floors, and particularly for taller buildings, the visual effects would be more widespread. However, the magnitude of change would range from negligible to high and would vary over time. Therefore, the significance of the effects would also vary – although they would typically be negative during the construction phase. Such temporary, negative visual effects are unavoidable and not unusual in the urban context, where change is continuous.

The assessment of construction phase impacts on visual amenity is as follows:

- The visual impact on the college lands, including the Red House and the Archbishop's House would be ***very significant, negative and short-term***.
- The visual impact on properties along the Site boundary off Clonliffe Road, Susanville Road, and at Corn Mill and Distillery Apartment (i.e. to south and east) would be ***significant, negative and short-term***.
- The visual impact on properties along the Site boundary off Drumcondra Road Lower and Clonliffe Road west of the existing entrance (i.e. to south and west) would be ***significant, negative and short-term***.
- The visual impact on properties off Richmond Road (i.e. to north) would be ***moderate, negative and short-term.***
- The visual impact on Drumcondra Village and areas west of Drumcondra Road Lower (i.e. to west) would be ***slight to moderate, negative and short-term***.
- The visual impact on wider surrounds (i.e. south of Clonliffe Road, east of Distillery Road and north of Richmond Road) would be ***slight, negative and short-term***.

Construction of upper aspects of the proposed Project (e.g. the use of cranes) may also be visible from other locations in the wider city surrounds, including from residential conservation areas (Z2 areas), other Protected Structures, and potentially from architectural conservation areas (ACAs) in surroundings areas. However, other than as noted above, views of such construction works, if visible from these areas, would be minor in nature and viewed in the context of the wider city. They would not detract from, or adversely impact, the key characteristics of sensitivity and value to the properties, including ACA designations.

13.6.2 Operational Phase

The introduction of the proposed Project, which includes a high density scheme with an 18-storey tower, would signify a dramatic change for the existing layout and presentation of the college lands and its key features. The proposal would see the establishment of a new residential community in former college buildings and on former college lands. However, to some degree, this emerging change in the existing landscape / townscape setting of the college lands has already been initiated in the grant of permission for the up to 7-storey hotel on college lands off Clonliffe Road.

The provision of a new residential neighbourhood, with high-quality public open spaces will open up and enliven the Site, while the retained landscape setting around the Red House will appropriately preserve its sensitive characteristics within a new developed context.

Therefore, and notwithstanding the potential for an initial ***significant*** visual impact, in overall terms the proposed Project has the potential for ***significant positive*** landscape and visual impact in the delivery of a new appropriately located, high-quality residential neighbourhood.

13.6.2.1 Townscape Effects

In terms of wider townscape, the receiving environment can accommodate the proposed landscape / townscape change with no negative effects on the key characteristics of surrounding areas. This is due in-part to the enclosed and institutional nature of the college lands and to the manner in which the design responds to the context and policy guidance, and also to the following characteristics:

- The Site is strategically located in proximity to the city centre and to the city village of Drumcondra, a point of transition between the urban area of Dublin and the northern suburbs.
- There is an emerging pattern of higher density clusters at appropriate locations across the city, often interspersed with areas of low density suburban character.
- The former institutional and enclosed nature of the lands, taken together with the retention of key woodlands, trees and buildings indicate that the lands can positively accommodate buildings of the arrangement, nature and height proposed.
- The Holy Cross college lands are institutional in character and introverted, largely closed off from the surrounding townscape by closely spaced buildings and a framework of woodland and trees. The lands are not especially sensitive to change outside of its own boundaries.
- The proposed Project would not be visually prominent from the wider road corridors of Clonliffe Road or Drumcondra Road Lower, although the change in passing the immediate road boundary with the Site would be prominent and significant.
- The primary sensitive area in the receiving environment is the more open lower density residential area to the southeast and east of the site, which will undergo change through the recent permission for an up to 7-storey hotel development on part of the college lands.

The overall assessment of the impact on townscape effects is that the proposed Project is consistent with emerging trends in development within the city and that key characteristics are not adversely altered, therefore, the overall impact on townscape during the operational phase is assessed as being ***moderate, neutral and long-term***.

13.6.2.2 Visual Amenity

The description of impacts on visual amenity has had reference to the series of Photomontages prepared by BSM for the proposed Project (submitted under separate cover as part of this application). In total, photomontages have been prepared from 51 locations, including:

- Within the wider Holy Cross College lands (Views 1 to 6);
- From Clonliffe Road to south and its wider corridor (Views 7 to 14);
- From areas south of Clonliffe Road and vicinity of Royal Canal (Views 15 to 22);
- From Drumcondra Road Lower / Upper to west / northwest (Views 23 to 33);
- From areas west of Drumcondra Road Lower (Views 34 to 42); and
- From areas north / northeast of Richmond Road and east of the site (Views 43 to 51).

Holy Cross College Lands

Photomontages 1 to 3 provide 'as existing' and 'as proposed' views of the parkland front of the Main Seminary as well as of the formal quadrangle to the west of the Main Seminary. The views illustrate the dramatic change that the proposed Project would have on the views of the structures and their setting. These changes would be heightened by the new sense of enclosure created by the proposed buildings, and the major transition from a former largely disused institutional layout to a high-quality active residential community is readily appreciated.

- The visual impact of the operational phase on core college lands and buildings would be ***very significant, negative in the short-term***, and ***neutral / positive in the long-term***.

Photomontage 4 provides an 'as existing' and 'as proposed' view of Red House. The view illustrates the retention of the immediate setting of the house and the framing of the parkland view towards the house created by the proposed Project. The change in the setting of Red House would be heightened, in that at present the property is set back from the other college buildings, whereas the house would be more centrally incorporated in the developed context.

- The visual impact of the operational phase on the Red House would be ***very significant, negative in the short-term***, and ***neutral / positive in the long-term***.

Photomontage 5 provides an 'as existing' and 'as proposed' view of the Archbishop's House. The property is set within a mature garden with surrounding mature trees, many of which are evergreen and which significantly restrict views. The change in the setting of the Archbishop's House would be substantially mitigated by the screening effect of mature trees. Nevertheless, it is appreciated that more open views of the proposed Project would be available from upper floors of the residence.

- The visual impact of the operational phase from the Archbishop's House would be ***significant, negative in the short-term***, and ***neutral in the long-term***.

Photomontages 6A (East) & 6B (West) provide 'as existing' and 'as proposed' views south from the River Tolka corridor over the wider college lands to the core development area. While partly integrated with retained trees and tree-lines, the proposed Project would enclose and frame the retained open landscape. The introduction of the new residential development with the 18-storey tower element would be a dramatic change in the former college / institutional lands.

- The visual impact of the operational phase from the wider open lands within the college would be ***significant, negative in the short-term***, and ***neutral / positive in the long-term***.

Clonliffe Road Corridor

Photomontages 7 to 14 provide 'as existing' and 'as proposed' views of the proposed Project west to east along Clonliffe Road and from Susanville Road (View 14).

The views indicate how the proposed Project would be screened in longer distance views, with very limited view of the upper element of taller D1 block from the road corridor. The proposed Project would be increasingly visible in views approaching the Site boundary with Clonliffe Road, where the proposed Project and changes to the roadside boundary would be openly viewed. It is acknowledged that the proposed Project would also be more openly visible from the rear of properties close to the Site boundary on the north side of Clonliffe Road.

- The visual impact of the operational phase on the Clonliffe Road Corridor and associated properties would be ***moderate to significant, negative in the short-term***, and ***positive in the long-term***.

South of Clonliffe Road Corridor

Photomontages 15 to 17 provide 'as existing' and 'as proposed' views of the proposed Project from increasing distance south along Jones' Road, which is aligned on the entrance to the college lands / proposed Project. The views indicate the dramatic effect that the introduction of the proposed Project would have with the taller D1 building aligned on the axial view north along the road. At proximity, the high-quality of the proposed Project would be readily appreciated, while from further south the taller building element would be a prominent terminus in the streetscape view north with Croke Park to the east (right).

- The visual impact of the operational phase on Jones' Road would be ***significant, positive in the short and long-term***.

Photomontages 18 to 22 provide 'as existing' and 'as proposed' views of the proposed Project from a range of areas south of Jones's Road, including Mountjoy Square and the Royal Canal. The views indicate the proposed Project would either be fully screened or readily integrated within the wider view of the cityscape, even in the limited situation where views of the taller D1 block would be available.

- The visual impact of the operational phase on Jones' Road would be ***not significant, neutral in the short and long-term***.

Drumcondra Road Corridor

Photomontages 23 to 33 provide 'as existing' and 'as proposed' views of the proposed Project south to north along Drumcondra Road Lower, Drumcondra Village and Drumcondra Road Upper.

The views indicate that for the most part, the proposed Project would be either screened or of minimal visibility in views away from the entrance off Drumcondra Road Lower / Drumcondra Village. The opening up of the entrance off Drumcondra Road would change the character of existing views from the junction with Hollybank Road through to Drumcondra Village. The presence of the proposed Project would have some visibility, even through dense vegetation (during winter) though, for the most part, the proposed Project would be screened by woodland, trees and existing development. It is acknowledged that the proposed Project would also be more openly visible from the rear of properties close to the Site boundary on the east side of Drumcondra Road Lower.

- The visual impact of the operational phase on the Drumcondra Road Corridor and associated properties would be ***moderate, negative in the short-term***, and ***positive in the long-term***.

Areas West of Drumcondra Road Lower

Photomontages 34 to 42 provide 'as existing' and 'as proposed' views of the proposed Project from areas west of Drumcondra Road Lower, including Griffith Park (No. 41) and the Botanic Gardens (No. 42). The views indicate the proposed Project would either be fully screened or readily integrated within the wider view of the cityscape, even in the limited situation where views of the taller D1 block would be available. Where it would be visible along axial views (Botanic Avenue – No. 38) the Building D1 would be a visual marker and would not detract from the existing view.

- The visual impact of the operational phase on Jones' Road would be ***not significant, neutral in the short and long-term***.

Wider Areas North and East of the Site

Photomontages 43 to 51 provide 'as existing' and 'as proposed' views of the proposed Project from areas north of Richmond Road and east of the Site, including Grace Park Road (No. 43), Grace Park (No. 45) and Marino Park (No. 48). The views indicate that, for the most part, the proposed Project would be screened or readily integrated within the wider cityscape. However, in some instances the taller buildings would be prominent on the skyline, particularly from Grace Park Road which is aligned south towards the Site.

- The visual impact of the operational phase on wider areas north and east of the Site would be ***moderate, neutral in the short and long-term***.

The proposed Project may also be visible from other locations in the wider city surrounds, including from residential conservation areas (Z2 areas), other Protected Structures, and potentially from architectural conservation areas (ACA) in surroundings areas. Views of upper aspects of the proposed Project, if visible from these areas, would be not significant in extent or magnitude and viewed in the context of the wider city skyline. Such visibility would not detract from, or adversely impact, the key characteristics of sensitivity and value to the properties, including ACA designations. On balance, the effects on visual amenity would be ***neutral or positive*** and the proposed Project can be appropriately integrated in the townscape without significant negative effects, especially after a short-term period to allow for establishment of the high-quality development and new residential community in its setting.

13.7 Monitoring

A project Arborist and Landscape Architect will be retained for the duration of the construction works. Monitoring of retained trees and landscape is an integral aspect of the proposed Project, and includes monitoring of:

- Tree and hedgerow removal, retention and protection;
- Topsoil stripping and storage;
- Disturbance by site works, services, etc.;
- Excavation / alteration of ground levels;
- Landscape build-up; profiling and cultivation;
- Landscape finishing and implementation;
- Proposed planting and grass seeding; and
- Twelve (12) month aftercare of landscape measures.

All works associated with soil stripping and movement, landscape build-up and finishing, and landscape implementation will be approved and monitored by a qualified Landscape Architect.

All works associated with removal, retention and protection of existing trees and tree surgery works will be approved and monitored by a qualified Arborist.

On completion of construction, all landscape areas will be managed under the direction of the Management Company for the overall proposed Project.

13.8 Reinstatement

A significant portion of the Site will be subject to development and, on completion, all landscape areas will be reinstated. The Landscape Design Statement (NMP Landscape Architects) which accompanies the application (under separate cover) includes for provision of a detailed and high-quality hard and soft landscape scheme, which will ensure appropriate reinstatement of the Site.

13.9 Interactions

The landscape and visual assessment has been prepared having regard to interactions between other environmental factors. In particular interactions arise with:

- **Population**: The introduction of a new residential community will have a significant positive effect enlivening the landscape setting of the proposed Project. This is addressed in Chapter 7 (Population & Human Health).
- **Biodiversity**: while some trees and planting will be removed, a significant majority of trees are retained and incorporated and new trees and other planting is proposed. This is addressed in Chapter 8 (Biodiversity).
- **Cultural Heritage – Architectural Heritage**: The wider setting of Protected Structures – the Red House, the Main Seminary Building, the Archbishop's House – and retained built heritage generally, would be dramatically altered, but purposively and positively incorporated and rejuvenated within the proposed Project. This is addressed in Chapter 14 (Cultural Heritage – Archictectural Heritage).

13.10 Cumulative Impacts

The proposed Project is located within a partly enclosed Site, where primary views of the proposed Project are restricted to the Site and its immediate enclosing surrounding lands, properties and streets. In April 2021, permission was granted for a new hotel up to 7 storeys in height on the Holy Cross College lands immediately east of the existing entrance and access avenue off Clonliffe Road (ABP ref. no.: 308179-20).

Photomontages showing the insertion of the new hotel are also included in this application (under separate cover). Given the location of the permitted hotel off Clonliffe Road, potential for cumulative visibility of the hotel together with the proposed Project is limited to areas south and east of the Site – i.e. along Clonliffe Road, Jones's Road, Susanville Road and areas thereof. In these views, the permitted hotel will be viewed as a continuation and intensification of the nature and scale of wider Masterplan development (including the proposed Project) on former institutional lands.

The proposed Project increases the visual extent and scale of development when viewed from Clonliffe Road / Jones's Road (south). However, the cumulative impact with the permitted hotel does not change the significance of landscape / visual impact assessment set out herein. From Susanville Road, views of the proposed Project would be effectively screened by the permitted hotel (refer to Photomontage Figures 1.14.1, 1.14.2 and 1.14.3), thereby reducing the visual impact of the proposed Project on its own.

13.11 Conclusion

The initial disturbance and general activity associated with the construction stage of the proposed Project will result in substantial alteration to the existing landscape, giving rise to significant landscape and visual impact for the setting of existing structures, including the Red House, other retained buildings and for those properties immediately bounding / surrounding the Site.

The introduction of the proposed Project, which provides for a high density scheme with an 18-storey tower, would signify a dramatic change for the existing layout and presentation of the Holy Cross College lands and its key features. This emerging change in the existing landscape / townscape setting of the college lands has already been initiated in the grant of permission for the up to 7-storey hotel on the Masterplan lands, off Clonliffe Road

The provision of a new residential neighbourhood with high-quality public open spaces will open up and enliven the site, while the retained landscape setting around the Red House will appropriately preserve its sensitive characteristics within a new developed context. Therefore, and notwithstanding the potential for an initial significant visual impact, in overall terms the proposed Project is predicted to result in a ***significant***

positive landscape and visual impact in the delivery of a new, appropriately located, high-quality residential neighbourhood.

13.12 References

- EPA (2017). *Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports*.
- Landscape Institute & Institute of Environmental Management and Assessment (2013). *Guidelines for Landscape and Visual Impact Assessment ('GLVIA3').*
- Landscape Institute (2016). *Technical Information Note on Townscape Character Assessment*.
- Department of Housing, Planning and Local Government (2018). *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment*.
- Dublin City Council (2016). *Dublin City Development Plan 2016 – 2022*.
- Dublin City Council (2007). *Richmond Road Area Action Plan*.

14 Cultural Heritage – Architectural Heritage

14.1 Introduction

This Chapter of the EIAR provides an assessment of the built heritage significance of the location of the proposed Project at Clonliffe Road, Drumcondra, Dublin 3; its setting and context; and the built heritage elements within the wider context, including Protected Structures and Residential Conservation Areas. The chapter identifies any special architectural and historic character of the Project Site, and any other features which are of note. An evaluation of the chronology of the Site is also included. The Chapter assesses the impacts of the proposed Project on the built heritage resource in the study area.

Please note that the Project is defined within this report as the proposed re-development of the development site, as described in the accompanying planning and design reports, and drawings submitted by the design team. The Site is defined with reference to the red-line boundary of the development site, as described in Section 14.2.1.

This chapter does not relate to archaeological heritage, which is addressed in Chapter 15 of the EIAR.

This chapter has been prepared by James Slattery, MRIAI, Principal at David Slattery Conservation Architects Ltd. James Slattery completed a BArch in 2001, and a Dip ABRCons in 2008. He is a member of the Royal Institute of the Architects of Ireland.

Relevant experience includes the preparation of the Built Heritage Chapter of the EIAR for the former Bailey Gibson Site, South Circular Road; the DART Underground Project; the Luas Line Extension; the ESB Headquarters on Fitzwilliam Street; Heuston South Quarter; the redevelopment of the Boland's Quay site; and the redevelopment of the RTE Campus. Ongoing work on similar SHD projects include the former Player Wills site on the South Circular Road and the former Tedcastles Site, Dún Laoghaire.

Note that the following appendices have been included in Volume 3 of this EIAR and should be read in conjunction with this Chapter:

- Appendix 14.1 - Historic Maps
- Appendix 14.2 - Historic Drawings
- Appendix 14.3 - Historic Photos
- Appendix 14.4 - Photographic Record - External
- Appendix 14.5 - Photographic Record - Main Seminary Bldg
- Appendix 14.6 - Photographic Record - South Link Building
- Appendix 14.7 - Photographic Record - College Church
- Appendix 14.8 - Photographic Record - Assembly Hall
- Appendix 14.9 - Photographic Record - New Wing
- Appendix 14.10 - Photographic Record - Library Wing
- Appendix 14.11 - Outline Conservation Specification

14.2 Methodology

The cultural and architectural heritage value and significance of the proposed Project Site has been assessed in accordance with the Planning and Development Act 2000 (as amended), the Department of Arts Heritage and the Gaeltacht (DoAHG) *Architectural Heritage Protection: Guidelines for Planners* (2011), and the Dublin City Development Plan (2016 – 2022).

A full evaluation of the chronology of the Project Site and of the building fabric has been carried out in the preparation of this Chapter. This evaluation has been carried out with reference to a number of important resources. These include the following:

- Trinity College Map Library
- National Library of Ireland
- Irish Architectural Archive
- Dictionary of Irish Architects
- Pearse Street Library – Dublin City Archive
- Britain from Above – Online Photographic Collection
- Irish Photo Archive – Online Photographic Collection
- Irish Times Archive
- Dublin Diocesan Archives

The Site was fully evaluated and photographically recorded, externally and internally, in the preparation of this chapter. These photographs are appended in the form of a full keyed photographic record (Appendices 14.4 - 14.10, inclusive).

14.2.1 Study Area

The study area has been defined with reference to the red-line boundary of the application area, the heritage of the wider context of the Site, and with regard to visual impacts on Protected Structures and Architectural Conservation Areas in the wider context, and on key views and landmark buildings within Dublin City, as outlined in the Dublin City Development Plan (2016 – 2022).

14.2.2 Visual Impact Assessment

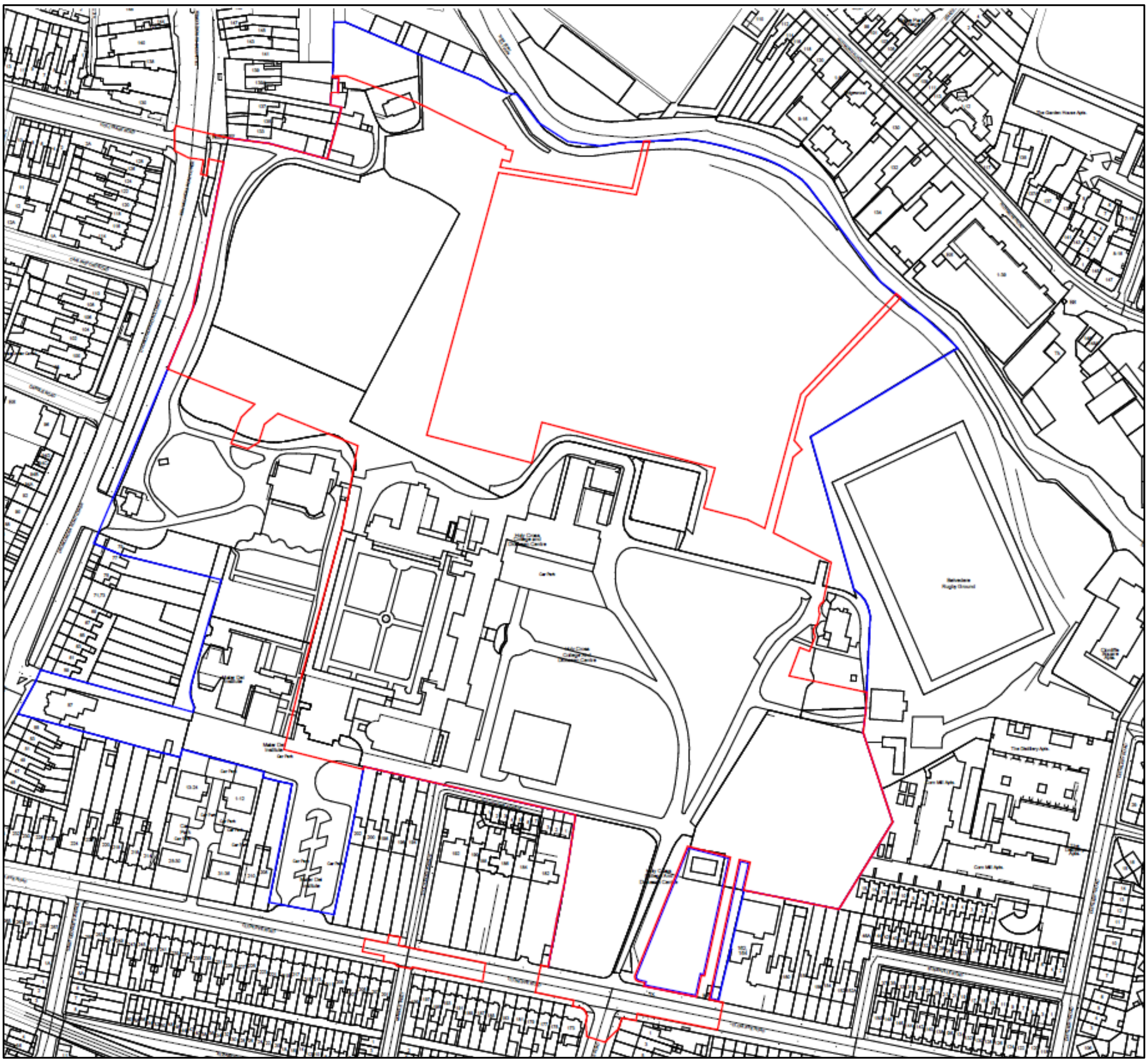
The proposal for the Project Site has been assessed with regard to its potential impact on the cultural and architectural heritage of the Site, and any visual impacts on the architectural character of the surrounding structures and area. The visual impact of the proposed Project on key view corridors and landmark buildings within the wider city, as outlined in the Dublin City Development Plan (2016 – 2022), has also been assessed.

Key viewpoints, prepared by Brady Shipman Martin, have been assessed. The locations of these viewpoints were selected so as to illustrate the impact on the Protected Structures and Residential Conservation Areas within the wider context. Please refer to the Landscape and Visual impact assessment (LVIA) (Chapter 11) for a detailed commentary on the selection of viewpoints.

"An initial desk study was undertaken to establish an understanding of the Site and surroundings, its planning context and to make an initial assessment of the likely visual context i.e. areas from which the Site / proposed development may be seen. Relevant maps, development plans and other published documents were used for this purpose and are referenced at the end of this chapter.

A visual field survey of the Site and surroundings was carried out, examining the nature of the local built environment, considering the contribution that landscape components make to local character, and exploring the potential for views of the Site / proposed development from the surrounding area. A selection of key / representative views have been identified, which support this landscape and visual appraisal and inform preparation of associated Photomontages of the proposed development (Refer to separate Volume). These views were selected from publicly accessible areas, where the Proposed Project is likely to be openly or partly visible both within the site and from surrounding roads, streets, amenities, open spaces and parks."

Figure 14.1: Extract from Site Location Map, prepared by Henry J Lyons Architects



14.2.3 Relevant Legislation and Guidance

This Chapter has been prepared having regard to the following;

- *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment* (Department of Housing, Planning & Local Government, 2018);
- *Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report* (European Commission, 2017);
- *Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports* (EPA, 2017);
- *Draft Advice Notes for Preparing Environmental Impact Assessment Reports* (EPA, 2015);
- *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); and
- *Urban Development and Building Heights: Guidelines for Planning Authorities* (Department of Housing, Planning and Local Government, 2018).

The impact of the proposed Project on the cultural and architectural heritage value of the Site has also been considered with regard to national and international guidelines and conservation charters, including:

- *Architectural Heritage Protection: Guidelines for Planning Authorities* (Department of Arts, Heritage and the Gaeltacht (DoAHG), 2001);
- *Granada Convention for the Protection of the Architectural Heritage of Europe* (Council of Europe, 1985);
- *Venice Charter for the Conservation and Restoration of Monuments and Sites* (ICOMOS, 1964);
- Part IV: Architectural Heritage, Planning and Development Act, 2000;
- *Dublin City Development Plan (2016 – 2022)*[52] (Dublin City Council, 2016); and
- *National Inventory of Architectural Heritage (NIAH) Handbook* (Department of Culture, Heritage and the Gaeltacht, 2017).

The description of likely significant effects included in this Chapter is in accordance with Table 3.3 of the Draft EPA EIAR Guidelines (2017).

14.2.4 Consultation

In accordance with the Opinion from An Bord Pleanála, issued February 2021, the following architectural heritage related Prescribed Bodies have been notified of the lodgement of the application:

- Department of Culture, Heritage and the Gaeltacht
- The Heritage Council
- An Taisce

Extensive pre-application consultation meetings were held between the Design Team and Dublin City Council (DCC) during the design development phase, full details of which are contained in the Planning Statement that accompanies this application under separate cover. Meetings which were attended by representatives of the DCC Architectural Conservation Office were held on the following dates:

- 5th May 2020- Mary Conway (Deputy City Planner), Mary McDonald (Senior Executive Architectural Conservation Officer-Acting)
- 16th June 2020- Mary Conway (Deputy City Planner), Deirdre O'Reilly (Senior Planner), Mary McDonald (Senior Executive Architectural Conservation Officer-Acting)
- 29th June 2020- Mary Conway (Deputy City Planner), Mary McDonald (Senior Executive Architectural Conservation Officer-Acting)
- 14th July 2020- Mary Conway (Deputy City Planner), Mary McDonald (Senior Executive Architectural Conservation Officer-Acting)
- 22nd July 2020- Mary Conway (Deputy City Planner), Deirdre O'Reilly (Senior Planner), Mary McDonald (Senior Executive Architectural Conservation Officer-Acting)
- 4th August 2020- Mary Conway (Deputy City Planner), Mary McDonald (Senior Executive Architectural Conservation Officer-Acting)
- 18th August 2020- Mary Conway (Deputy City Planner), Mary McDonald (Senior Executive Architectural Conservation Officer-Acting)
- 1st September 2020- Mary Conway (Deputy City Planner), Mary McDonald (Executive Architectural Conservation Officer)

[52] Chapters 11, 15 and 16.

- 13th October 2020- Mary Conway (Deputy City Planner), Deirdre O'Reilly (Senior Planner), Mary McDonald (Senior Executive Architectural Conservation Officer-Acting)
- 9th March 2021- Mary Conway (Deputy City Planner), Garrett Hughes (Senior Planner), Audrey Taylor (Executive Planner), Mary McDonald (Senior Executive Architectural Conservation Officer-Acting)

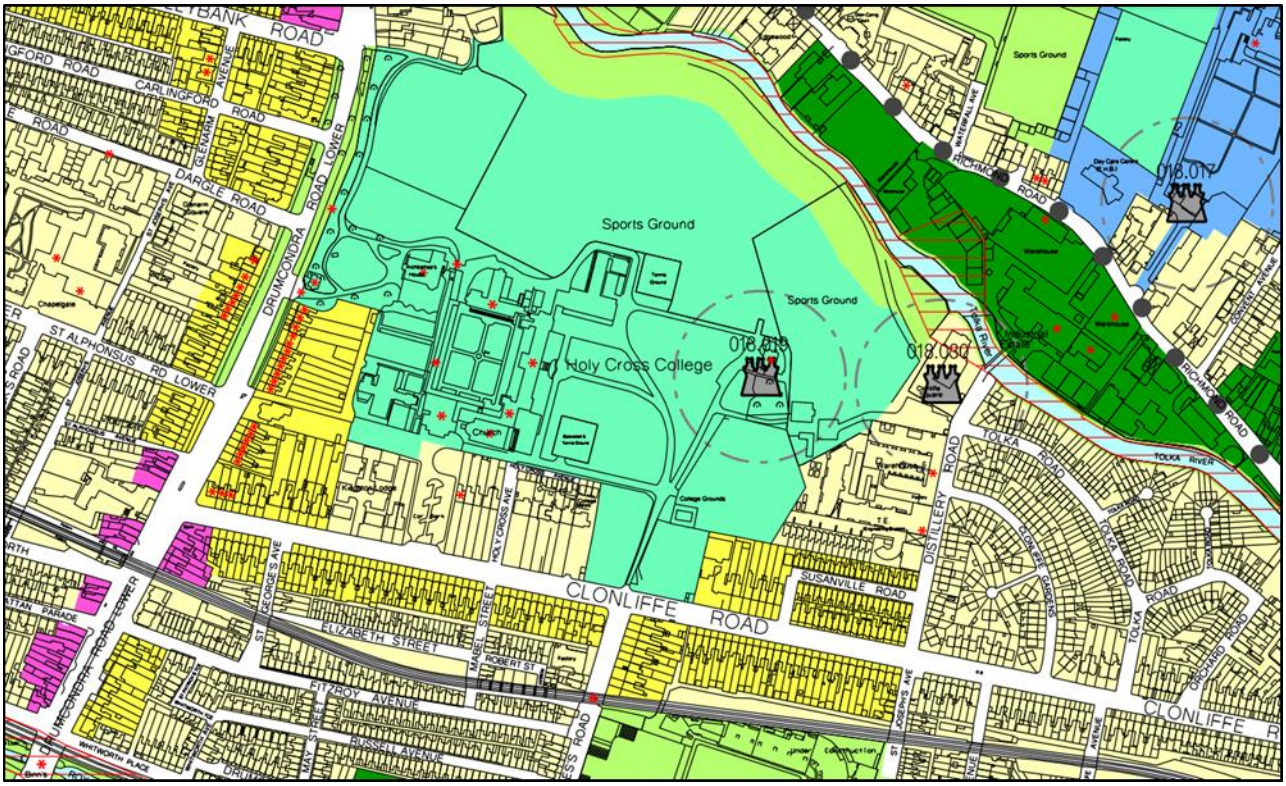
In addition, a Tri Partite Meeting took place with An Bord Pleanala and Dublin City Council on 18th January 2021.

14.3 Baseline Environment

The Project Site is largely comprised of 19th and 20th Century institutional buildings. It should be noted that several of the structures on the Site are included on the DCC Record of Protected Structures (RPS): The Main Block, Holy Cross Church, South Link Building, Ambulatory and Assembly Hall are all listed under RPS Ref. No. 1901. In the wider setting of the site, the Archbishop's House, on Drumcondra Road Lower, is listed under RPS Ref. No. 2361. The Red House is listed under RPS Ref. No. 1902. The Red House is also included on the Record of Monuments and Places, Ref. No. 018-019.

It should be noted that the NIAH Survey for the area has not yet been published.

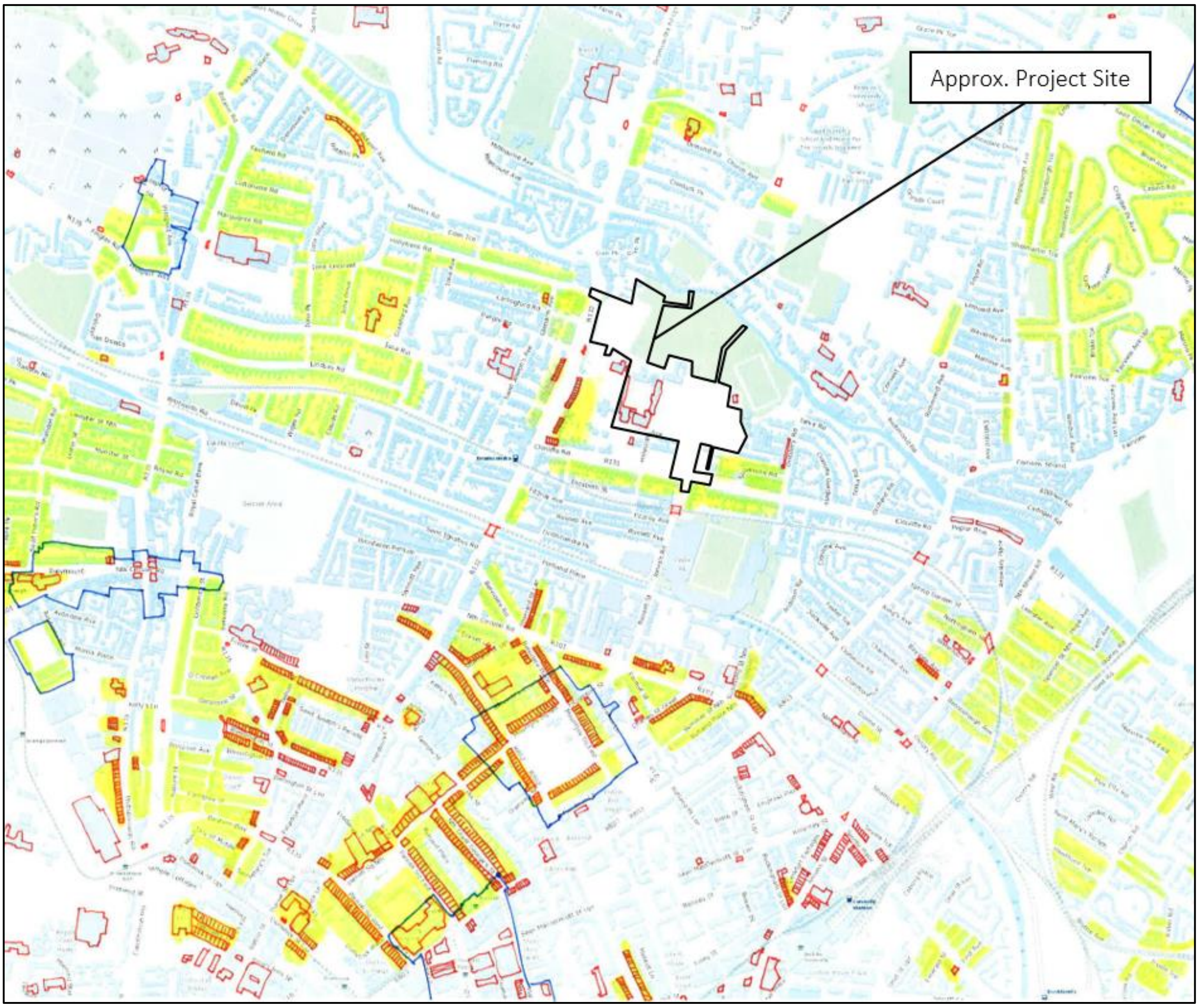
Figure 14.2: Extract from Map E of Dublin City Development Plan (2016 – 2022)



The Project Site is zoned Z12 under the Dublin City Development Plan, with the objective to "*ensure that existing environmental amenities are protected in the predominantly residential future use of these lands*". The northern portion of the site, along the bank of the River Tolka, is zoned Z9, with the objective "*to preserve, provide and improve recreational amenity and open space and green networks*".

A number of the terraced houses along Drumcondra Road Lower and Clonliffe Road adjoining the subject site are Protected Structures and / or are zoned Z2, with the objective to "*protect and/or improve the amenities of residential conservation areas*".

Figure 14.3: Overlay on OSI map of wider context of the proposed Project Site, showing the architectural heritage assets in the surrounding area. Red indicates Protected Structures. Dark blue outline indicates Architectural Conservation Areas. Yellow indicates zone Z2 Residential Conservation Areas.



Protected Structures within the immediate context of the Site include the Archbishop's House (Reg. Ref. 2361), the Red House (Reg. Ref. 1902), the houses along Drumcondra Road (Reg. Refs. 2344 – 2368), the houses along Clonliffe Road (Reg. Refs. 1903 – 1906), the corner tower and walls of the former Goodall's Warehouse (Reg. Ref. 2291), the railway bridge at Jones's Road (Reg. Ref. 884), the former warehouse and associated buildings along Richmond Road (Reg. Ref. 7359).

The proposed Project is not within the boundaries or sightlines of any of the Key Views and Prospects identified in the Dublin City Development Plan (2016 – 2022).

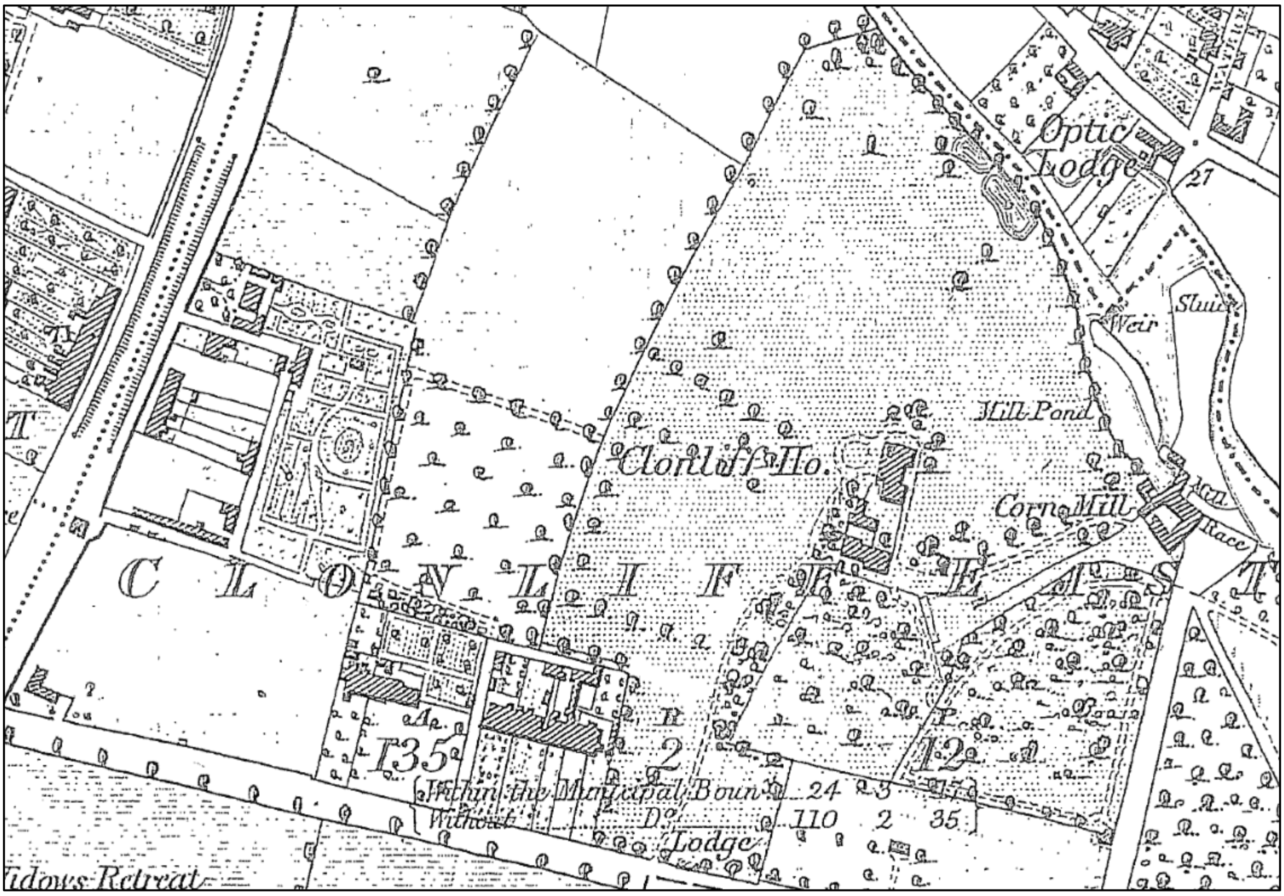
14.3.1 Context

The lands of Holy Cross College, Clonliffe Road, historically formed part of the Grange of Clonliffe, owned by the Cistercian order of St. Mary's Abbey. Following the Dissolution of the Monasteries in 1539, the lands were granted to the Desmonds, and later passed to the Moores of Drogheda. In 1729, the estate was purchased by the Gardiner family. The lands were acquired by Archbishop Paul Cullen from 1858, with the intention to open a diocesan seminary. The seminary was housed within the Red House until the construction of the Main Block

c. 1860. The development of the site continued throughout the late 19th and early-mid 20th Centuries. The site remains in use by the Diocese of Dublin to the present, with the seminary duties suspended c. 2001.

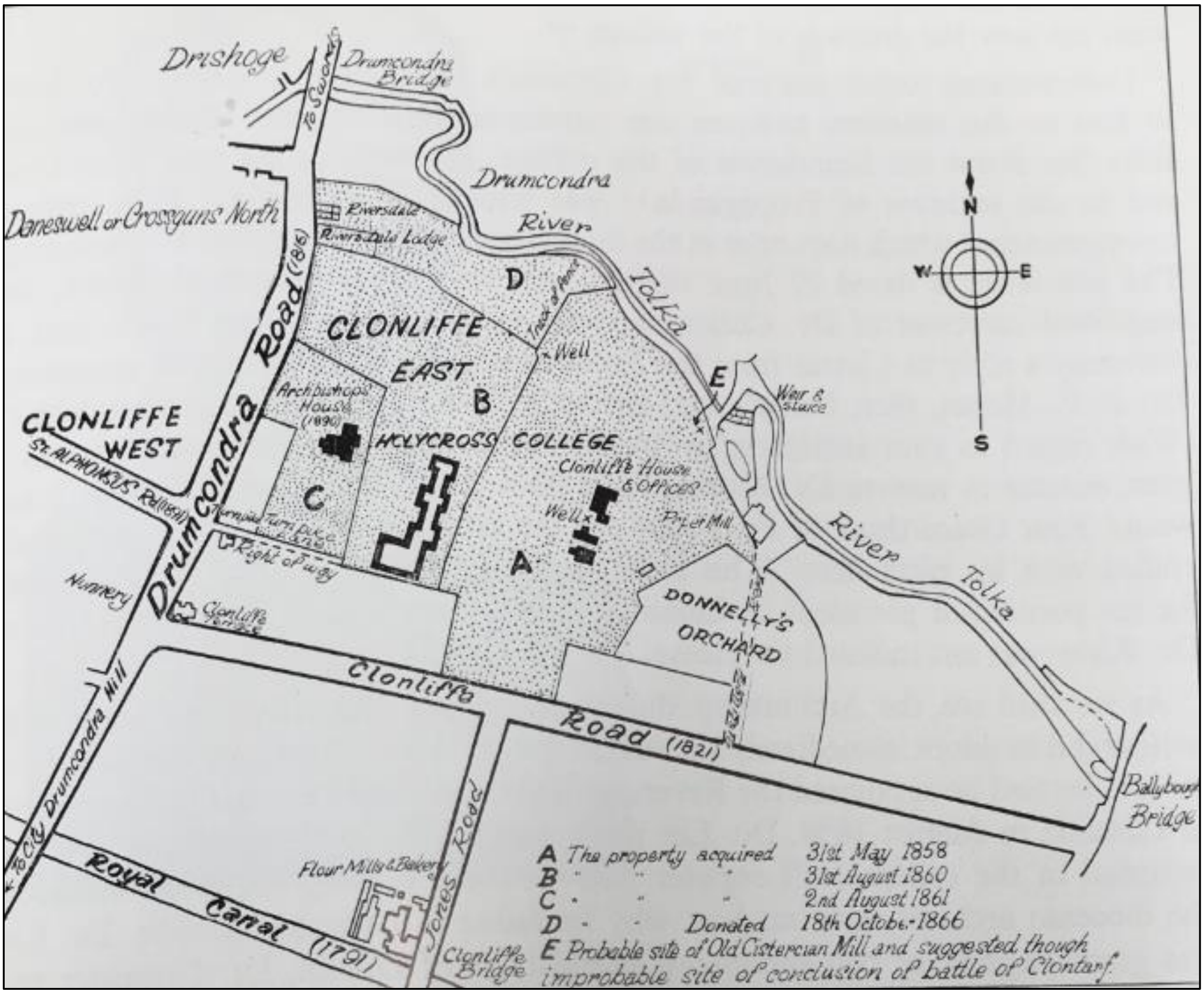
The original curtilage of the Red House, formerly known as Clonliffe House, was defined by the boundaries of the original estate, owned by Frederick Edward Jones. The extent of the lands included in this definition of curtilage can be seen in Figure 14.4, below.

Figure 14.4: Hatching on OS 1837 – 1843 gives an indication of the boundaries of the lands associated with Clonliffe House (now known as the Red House).



Clonliffe House and its lands were purchased by Dr. Cullen in 1858, and the Diocesan College was established in the existing house. The description of the sale notes that there were extensive offices on the grounds, as well as a large garden and pleasure grounds. The 1st Edition OS Map (see Figure 14.4) shows the ancillary office buildings to the south of the house. Throughout the 1860s, Dr. Cullen set about acquiring adjoining lands and properties, so as to enable the expansion of the College. The series of acquisitions is illustrated in the Figure 14.5, below. It is clear from this diagram that the original curtilage of Clonliffe House formed a large part of the College Lands, with later acquisitions located to the west along Drumcondra Road.

Figure 14.5: Map showing the series of acquisitions made in the 1850s and 1860s, resulting in the extensive grounds of Holy Cross College today. From R. Sherry, 'Holy Cross College, Clonliffe, 1859-1959'.



The first addition to the College lands was the lease, in August 1860, of eleven statute acres from the estate of the Earl of Blessington. This was the section lying between the existing land holding and the Drumcondra Road, labelled 'B' on the above map (Figure 14.5). In August 1861, Dr. Cullen purchased a further land holding along the Drumcondra Road from the Landed Estates Court. This section, labelled 'C' on the above map, is the land on which the Archbishop's House now stands. Finally, in October 1866, a further five acres were donated to Dr. Cullen by a Miss Lucy Cahill. This section was to the north of the existing holdings, along the Drumcondra Road, and took in Riversdale House and the present exit from the College Grounds in this area.

With the construction of the main seminary block in the early 1860s, and further additions such as the College Church c. 1873, all located in the western section of the College lands, the focal point of the site shifted away from Clonliffe House.

A relationship between the house and the later College buildings was maintained, and in the 1875 Ordnance Survey map (Figure 14.6), a path linking the two buildings is shown. This path survives to the present, lined with trees. A 1947 aerial photograph of the College shows the line of this path, and the relationship between Clonliffe House and the Main Seminary. This line of trees effectively splits the site into two sections, the northern section in open fields, and the southern section, which contains the buildings, formal gardens and entrance avenue.

Figure 14.6: Extract from the 1875-89 Ordnance Survey Map showing the extents of the college land at this time.

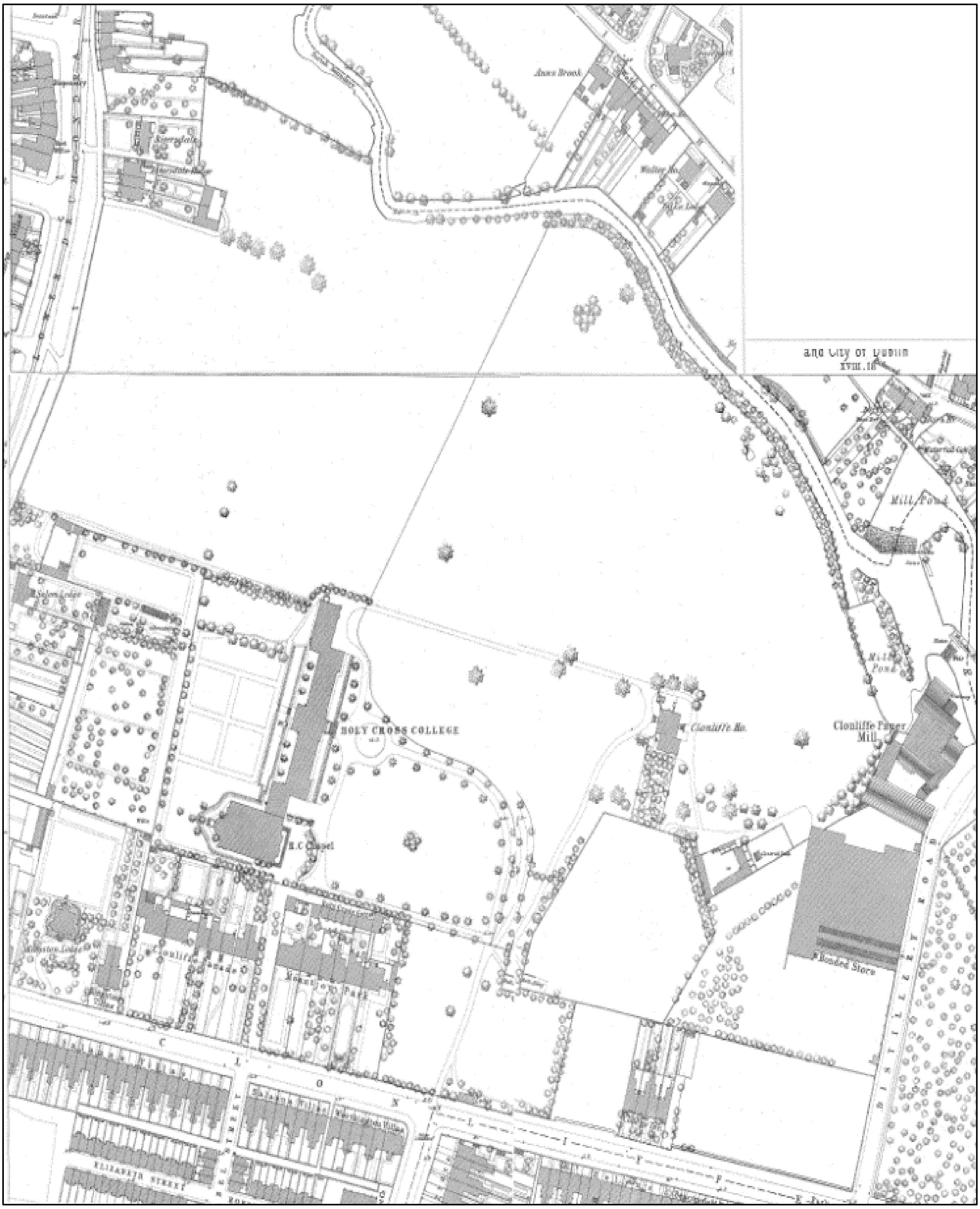
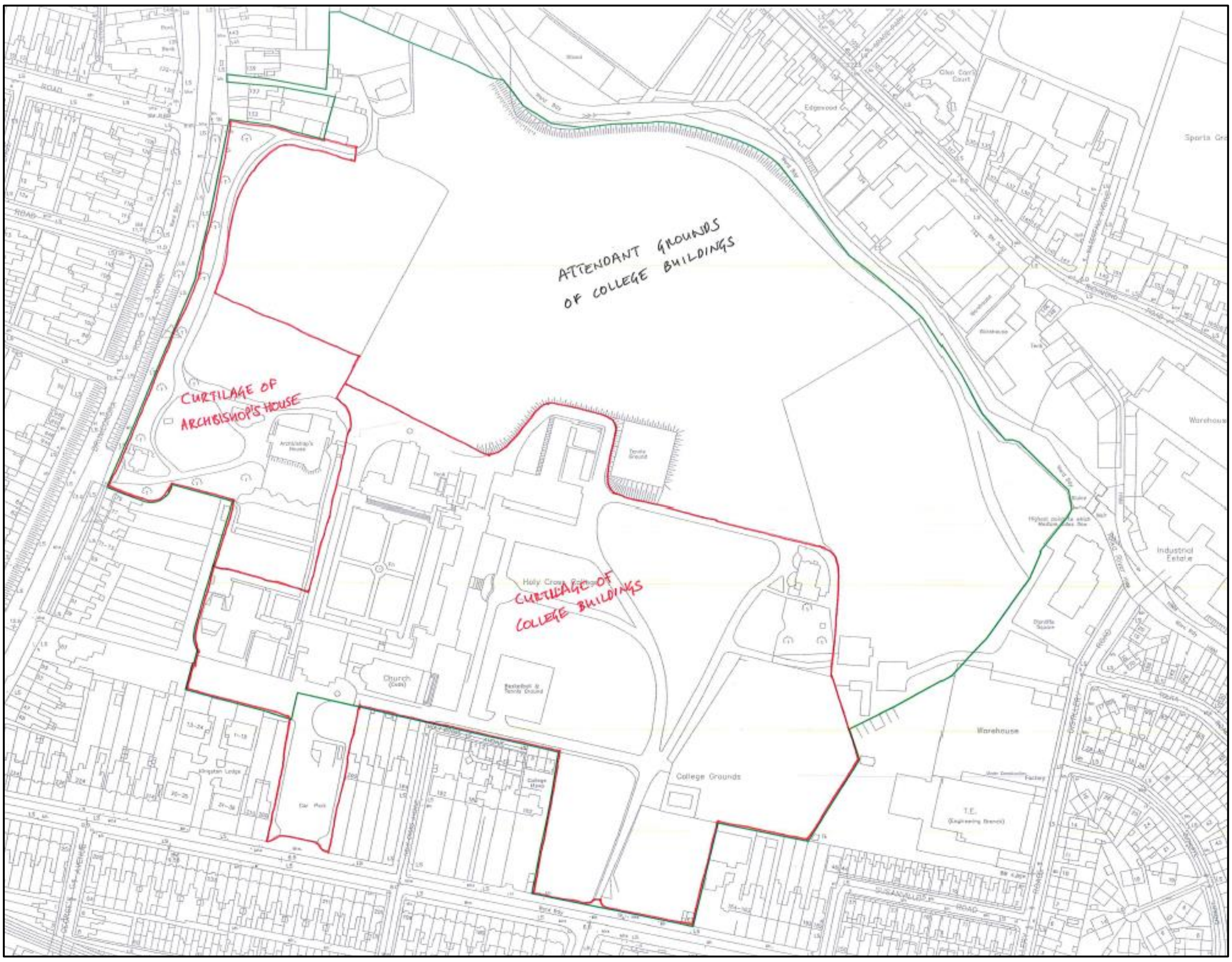


Figure 14.7: 1947 Aerial photograph showing the relationship between the Main Seminary building and the earlier Clonliffe House. BFA XAW009782.

Figure 14.8: Diagram illustrating the curtilage of the Archbishop's House, the curtilage of the College Buildings (including the Red House) and the attendant grounds of the College Buildings.



The Archbishop's House was constructed c. 1889. It sits in its own gardens, and there is a boundary wall between the College and the Archbishop's House. The House and its grounds are considered to be outside of the curtilage of Clonliffe House or the College Buildings, although prior to the construction of the Archbishop's House the lands would have been part of the curtilage of the College buildings.

Figure 14.8 illustrates the extent of the curtilage and the attendant grounds of the existing college. The curtilage of the Archbishop's House, also a Protected Structure, is considered as a separate entity. Later structures such as the Mater Dei Institute to the west of the Assembly Hall are included in the curtilage, despite their modern provenance, due to their role within the functioning of the college.

The ancillary structures to the rear of Clonliffe House are modern structures associated with the existing GAA pitch in this location. They are not part of the functioning of the college, and are separated from Clonliffe House by a modern fence. These buildings are not considered to be within the curtilage of any of the Protected Structures within the college.

The '*Architectural Heritage Protection Guidelines*' define attendant grounds as "*lands outside the curtilage of the structure but which are associated with the structure and are intrinsic to its function, setting and/or appreciation*." It is considered that the northern section of the site, which remains largely in open fields, forms the attendant grounds of the Protected Structures of the College, rather than being part of the curtilage of these structures.

The outline development of the buildings and ancillary structures on Site is shown in Figure 14.9, below. The information in this diagram is based on historic records, mapping and photographs.

Figure 14.9: Diagram showing the fabric chronology of the site.

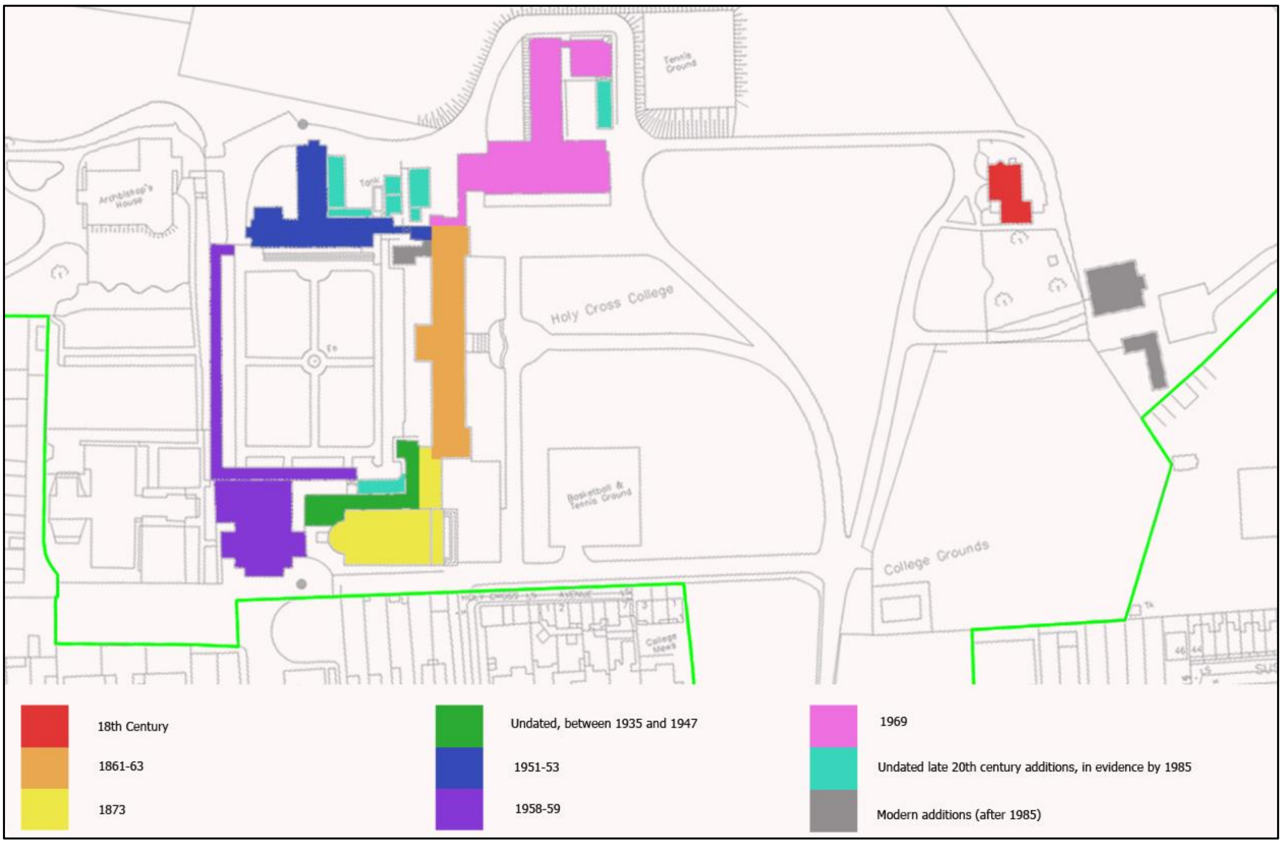


Figure 14.10: Detail fabric chronology of the area to the rear of the South Link Building and College Church.

Red - 1942-44; Blue - 1959; Orange - 1966-67.

Figure 14.11: Detail fabric chronology of the area between the New Wing and the Library Wing.

Red - 1951; Blue - 1955; Orange - 1966-67; Green - 1985-95.

A number of extension and additions to the rear setting of the South Link Building and the College Church have been constructed over the course of the 20th century, including the modern link corridor. The chronology of development of structures in this area is illustrated in Figure 14.10.

Similarly, there have been a number of extensions and additions to the northern end of the Main Seminary Block, between the New Wing and the Library Block, as illustrated in Figure 14.11.

Internally, most of the fittings and features throughout the buildings on site date from the 20th Century, or underwent remodelling and alterations in the 20th century. The interiors of each building will be considered on an individual basis in the following sections.

14.3.2 Outline Historical Development

14.3.2.1 Main Seminary Block

This building is a Protected Structure, DCC RPS Ref. No. 1901.

This building was the first of the College buildings to be constructed. Construction commenced in 1860, to designs by the prominent Irish architect John Bourke, who had recently designed the Mater Misericordiae Hospital in Dublin. An account in the *Builder* in 1861 notes that:

> *"The building will be two hundred and seventy feet in length, four storeys high, - the first, half sunk, will contain culinary offices, stores, refectory and prayer hall. A corridor twelve feet wide will traverse the entire length of the first and second storeys. Opposite the entrance hall are the principle stairs. On either side are the reception rooms with library and study hall. The top two storeys will contain a central corridor traversing the entire length, together with suites of apartments for a staff of professors, private rooms for advanced students, four large sitting rooms, and seventy-two bedrooms for junior students. Massive limestone cornices will surmount the entire building, the style of which will be Italian. It is said that it will not be perfect until there shall be erected in connection with it a great hall and Church, the latter to serve also as a place of worship for the inhabitants of Drumcondra and the surrounding district."*

No record of any internal alterations was found until the College Fire of 1904. The fire broke out in January, 1904, in a reading room library on the ground floor of the main building. Sherry details the extent of damage in his 1959 book *Holy Cross College, Clonliffe, 1859 – 1959*:

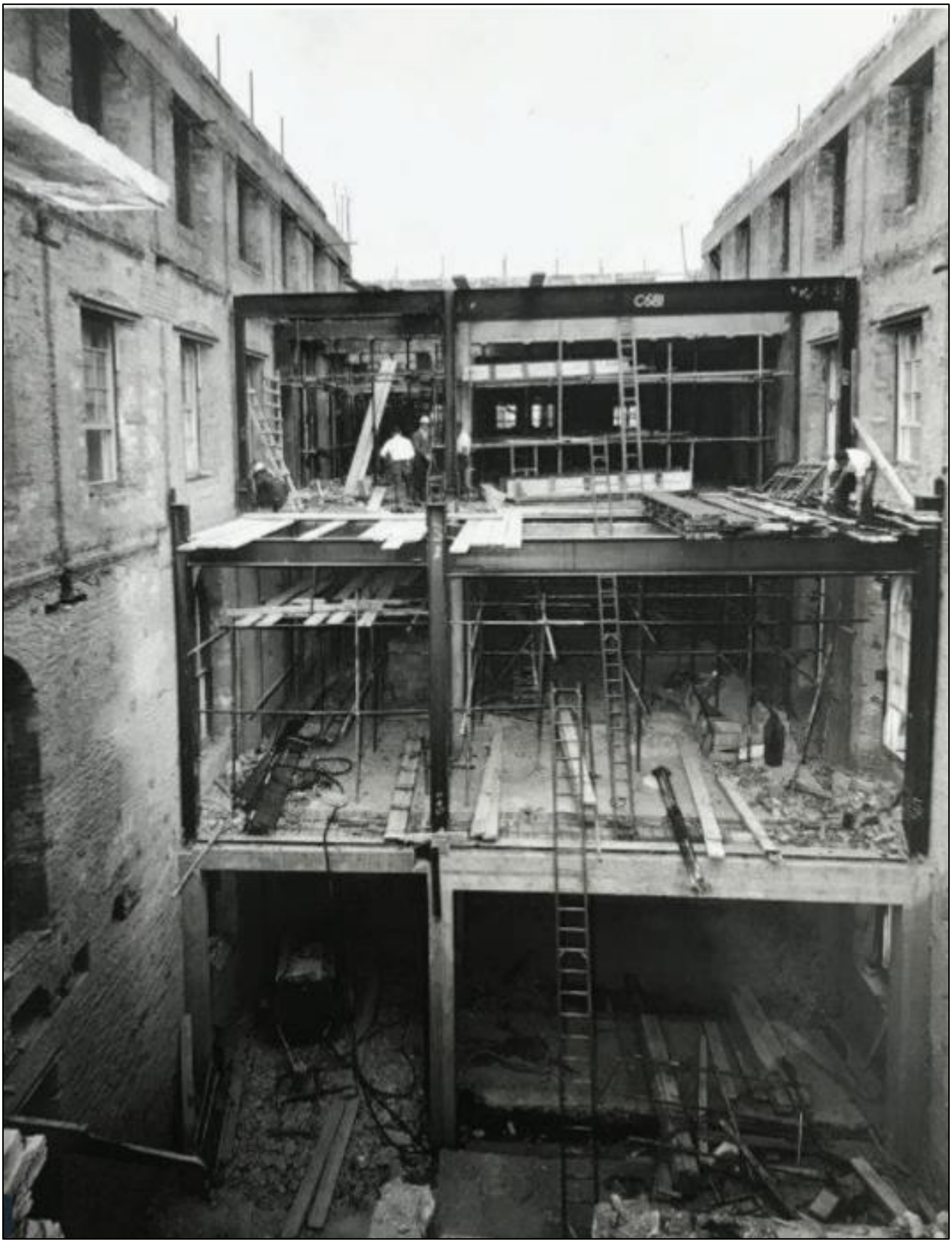
"The fire occurred in what was then a reading room and auxiliary library, now the senior billiard room on the ground floor. The timber and books were ready and ample fuel, and the heat was so intense that the tiles in the corridor outside were warped. Extensive damage was done to the ceiling and floor and the renovation cost £200."

A small fire is also noted in January 1905, in the first division camerata, which is said to have spread to the ceiling of the junior study hall below.

Central heating and electric lighting was installed in 1909.

An inspection of the building in 1956 revealed extensive dry rot and woodworm, and the architect's advice at this time was for the building to be completely reconstructed internally, with all of the timber structure to be replaced with steel and concrete. It was estimated at this time that the works would cost about £200,000. Newspaper articles in the late 1960s refer to the fundraising campaign undertaken by the church to fund this reconstruction, which was carried out c. 1966. In 1973, the Irish Times notes in an article on Bishop Carroll that *"in recent years,* [he] *supervised the reconstruction of the College, and also the construction of the new building for the Mater Dei Institute in Clonliffe".*

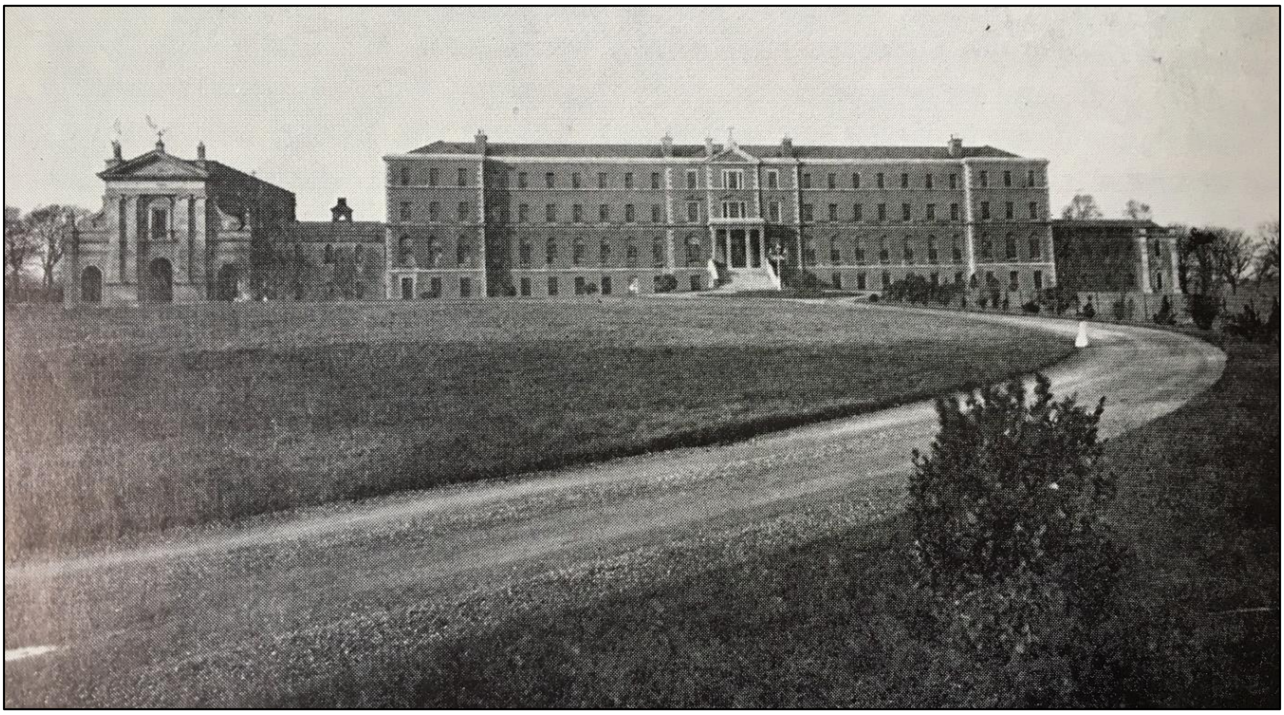
Figure 14.12: Photograph showing the internal reconstruction of the Main Seminary Block in 1966.



14.3.2.2 South Link Building

This building is a Protected Structure, DCC RPS Ref. No. 1901. It appears to have been constructed alongside the Church, and was likely also designed by McCarthy. It connects the new Church into the Main Seminary block.

Figure 14.13: Photograph c. 1909 showing the Main Block, Church, South Link building and Old Library Wing (now demolished)



14.3.2.1 College Church

This building is a Protected Structure, DCC RPS Ref. No. 1901.

The Church at Holy Cross College was designed c. 1872, by renowned 19th century Irish architect J. J. McCarthy, and was modelled on Santa Francesca Romana, in the Roman Forum. The interior of the College Church was initially modelled on the interior of Santa Agata dei Goti, in Rome (Figure 14.14). The models for this church were chosen by request of Cardinal Cullen.

The Church of S. Agata dei Goti was attached to an Irish college for the education of priests in Rome. The Church was partially rebuilt in 1633. The interior was redecorated in the Baroque style, and also has some 19th Century additions. In 1847, the church became the final resting place for Daniel O'Connell's heart.

The construction of the new Church was begun in 1873. Sherry notes that:

> *"Wages per day ranged from 2/8 for an unskilled labourer to 6/- for a tradesman, and the total cost of the Church and library wing exceeded £23,000. The stone was granite from Ballyknockan, Co. Wicklow, and Calp limestone from the quarries at Finglas. The eight paintings in the clerestory, and the Stations of the Cross are the work of the Roman painter Francesco Gagliardi, who was commissioned to decorate the Council Chamber in St. Peter's Basilica for the Vatican Council of 1869-70. The bas-reliefs in the side altars were gifts of Pius IX to Cardinal Cullen. The Church of the Holy Cross and of the Sacred Heart was opened on the feat of the Exaltation of the Holy Cross, 14th September, 1876."*

Figure 14.14: Photo of the interior of S. Agata dei Goti, Rome. Photo from flickr.com.

A description of the original interior of the church at Holy Cross College, from *Holy Cross Clonliffe 1859 – 1959* reads:

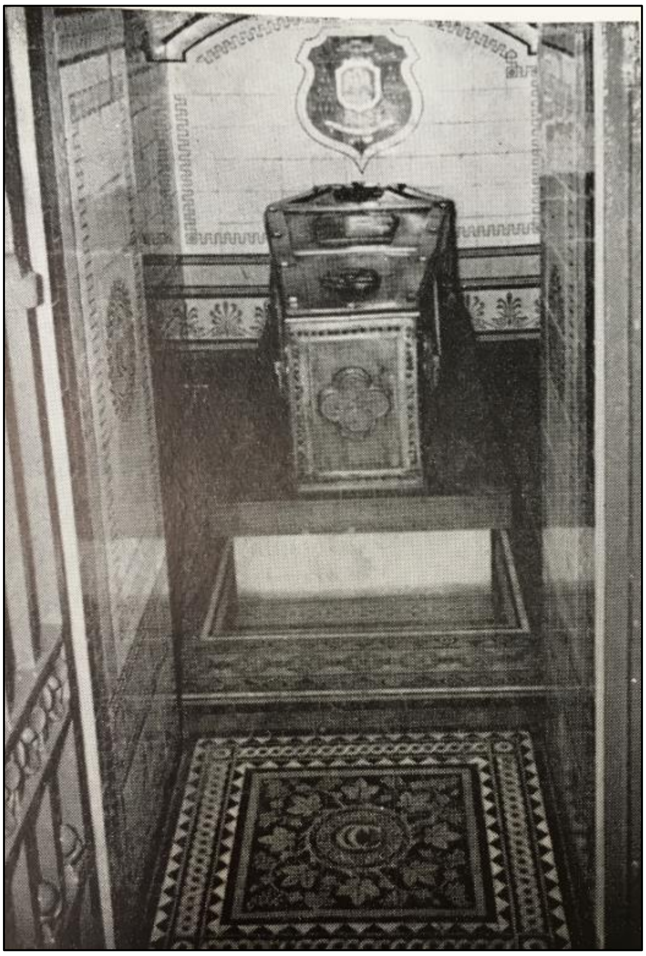
> *"The nave was separated from the aisles by seven bays of semi-circular arches, which were supported on pillars of polished red Jura marble, with Ionic capitals and bases of white Sicilian marble, and sub-plinths of black Galway marble. The entablature was also Ionic. It was hoped later to replace the plain pilasters in the apse and aisles with coloured marbles but this was never carried out. (The semi-circular arches of the side walls of the aisles have lunette windows. The arms of Cardinal Cullen are reproduced in stone above the main entrance of the church on the inside. Higher up on the wall the arms of the Cardinal are carved on wood in high relief. Underneath the arms is a heart surrounded by thorns representing the sacred heart. This was the secondary titular selected for the church, in commemoration of the solemn dedication of Ireland to the sacred heart in 1873, when the building of the Church began.) The Stations of the Cross and the eight paintings around the clerestory were the work of the Roman painter Francesco Gagliardi. Over the arch of the apse there are pictures of St. Peter and St. Andrew with their crosses. The high altar, which has since been replaced, was the work of Luigi Medici, a Roman craftsman. The two side altars were decorated with bas-reliefs, gits of Pius IX to Cardinal Cullen.*
>
> *… the beautiful crucifix, containing a relic of the True Cross, which was given by Pius IX to the Cardinal, and which is now kept in an ornamental reliquary over the altar of the Holy Cross. This crucifix, of exquisite Spanish workmanship, and formerly a gift of Queen Isabella of Spain to the Pope, is one of the most treasured possessions of the college… The confessionals were carved to represent the front*

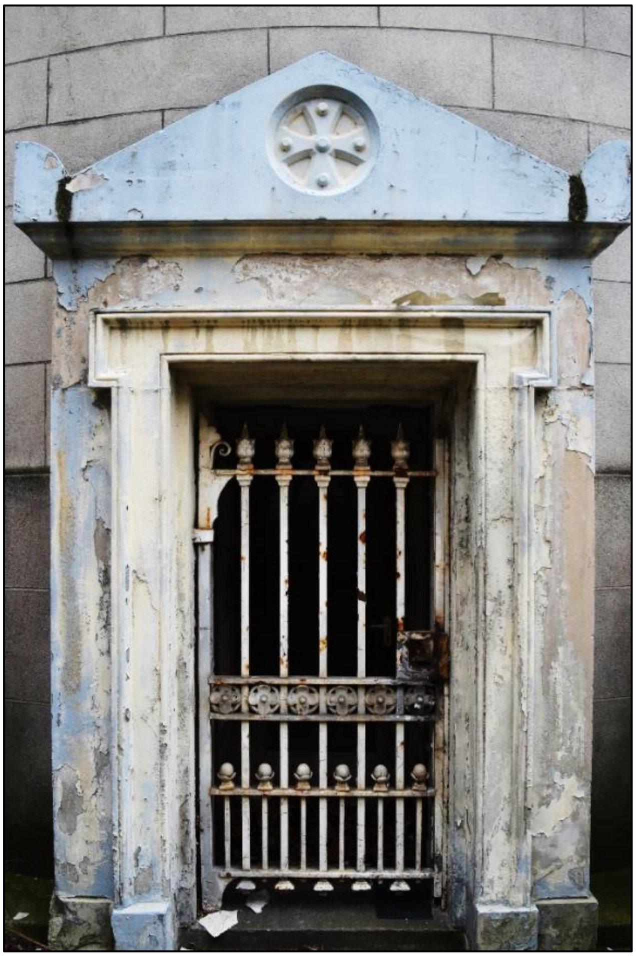
> *of the church in miniature. The organ in the gallery, built by John White of 72 York Street, well-known organ builders in those days, was the gift of Dr. Verdon.*
>
> *In one corner of the vestibule stands a marble statue of Pius IX by Matteini, which Cardinal Cullen bought for the church… The statue of Cardinal Cullen by Thomas Farrell which occupies the other corner of the vestibule was commissioned in 1879 and completed in 1881…"*

Cardinal Cullen died in 1878, and the small vault underneath the apse of the church became his final resting place. The vault was decorated in his honour, with the works paid for by Dr McCabe. The architect for these works is unknown.

A new sacristy was constructed adjacent to the sanctuary in 1942-44. This was a return to the original site for a sacristy as planned by the architect J. J. McCarthy in 1873. The new Sacristy was designed by architects Jones & Kelly. The new sacristy connected into the rear of the sanctuary by a door broken through the apse wall. The new sacristy with its adjoining work rooms and fittings cost just over £3,800.

Figure 14.15: 1959 view of the interior of the tomb of Cardinal Cullen, and current view of the entrance to this tomb.





A 1940 internal photograph from the Irish Press shows the layout of the church at this time (Figure 14.16).

Figure 14.16: 1940 Internal view of the Church, at the lying in state of Archbishop Byrne. Irish Press, February 12th, 1940.

Internal renovations carried out in 1943 are recorded in *Holy Cross College, Clonliffe, 1859 – 1959*:

> *"In 1943 the apse of the church was considerably renovated. The three huge paintings – so clear in the Jubilee photographs of 1909 – were removed. A new chancel floor of Irish white and Connemara green marble was laid. A new altar was built by Messrs CW Harrison; the steps, mensa and tabernacle were white statuary Italian marble and the front of the altar was cipollino quartered. A ciborium of four Connemara-green marble columns with Corinthian-type capitals was erected over the altar; the bases were in black moulded marble. (The ciborium was built around a steel frame costing £250, supplied and fixed by Messrs J and C McGloughlin, Dublin). These changes were completed by the summer of 1944 and cost approximately £2,500."*

A comparison between the 1959 interior view and the existing interior of the church, highlights some alterations (Figure 14.17). These include the loss of the paintings hanging at clerestory and the installation of new fittings, such as the new Chancel screen. A detailed consideration of the surviving features and fittings, is included in Section 14.3.3.3, below.

No historical record of any further alterations to the interiors of the Church has been found in the course of the preparation of this Chapter

Figure 14.17: 1959 view of the interior of the Church (left), showing the mid-20th century alterations, and existing view of the interior of the church (right).

14.3.2.2 Assembly Hall

This building is a Protected Structure, DCC RPS Ref. No. 1901.

Figure 14.18: 1951 Aerial Photograph of the subject site prior to the construction of the Assembly Hall. College History and Centenary Record, NLI 15B1104.

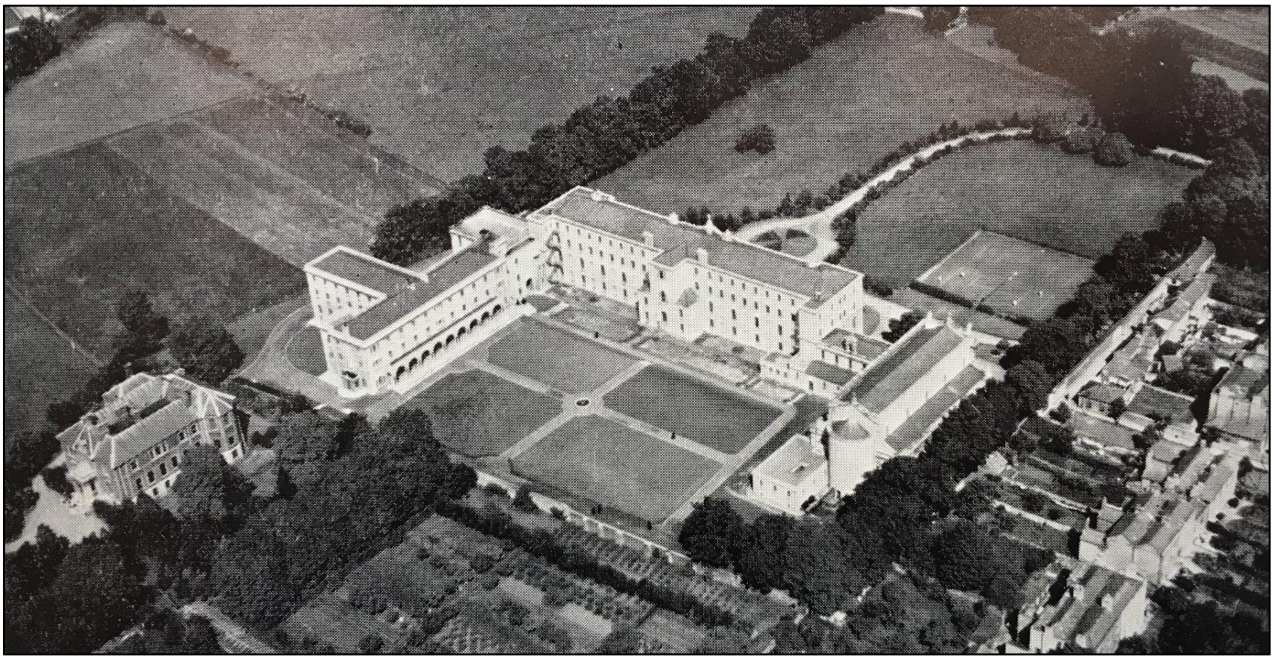
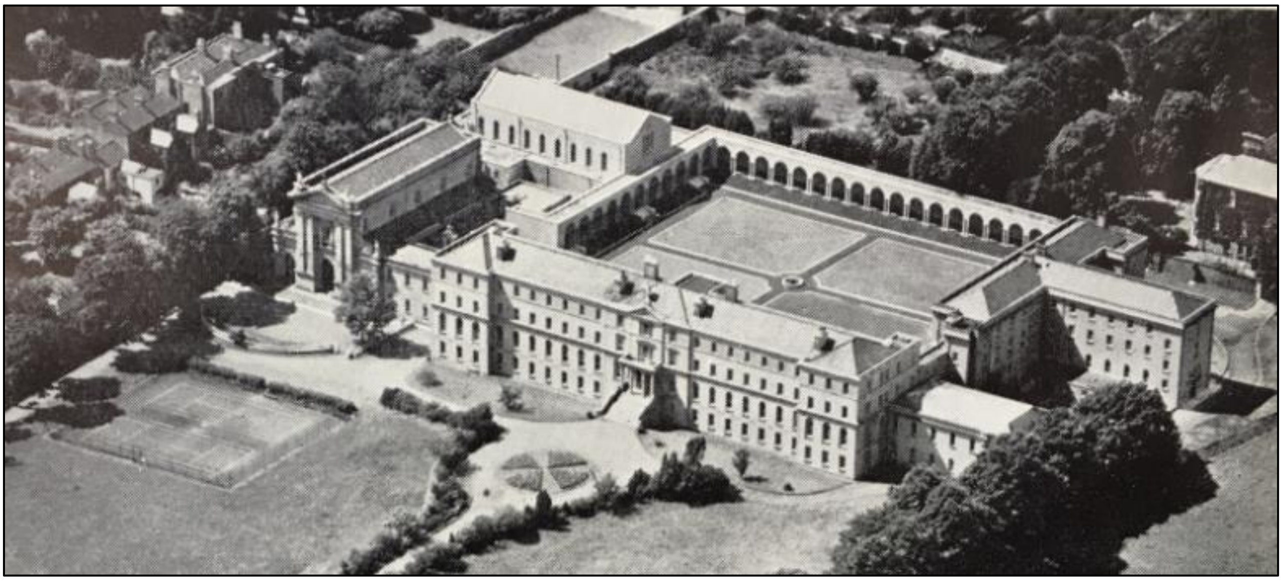


Figure 14.18 shows an aerial view of the Site prior to the construction of the Ambulatory and Assembly Hall. The photograph shows the rear elevation of the Main Seminary block, and the primary elevation of the 'New Wing'. The quadrangle to the rear of the Seminary block is shown in its current form, divided into four quadrants.

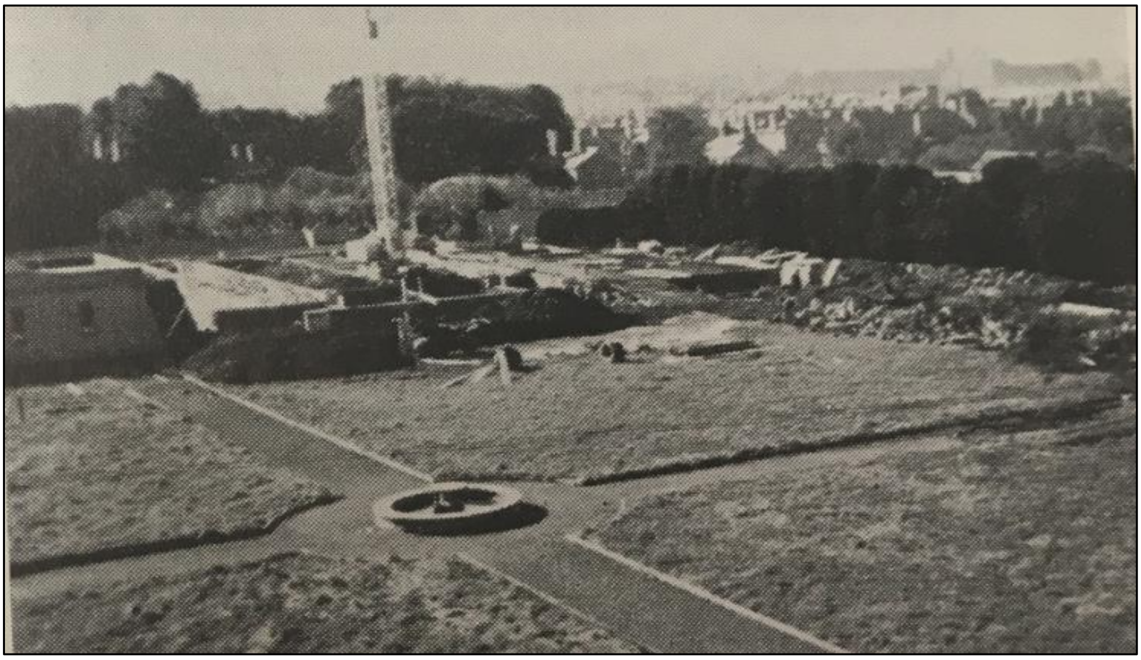
Figure 14.19: 1959 Photograph of site, from College History and Centenary Record, NLI 15B1104.



The Assembly Hall and Ambulatory to the southern and western sides of the quadrangle were constructed from 1958-59, to designs by Jones & Kelly Architects. Prior to this, the college assembly hall had been located in the 'New Wing'. This hall was converted to an oratory following the construction of the new Assembly Hall.

A new ambulatory was constructed at this time to provide shelter to students as they walked from building to building. The L-shaped ambulatory matched the design of the arcade on the southern elevation of the New Wing. This completed the formation of the College Quadrangle.

Figure 14.20: Photograph showing the construction of the new Assembly Hall.



A comparison between the historic internal photograph (Figure 14.21; undated, but appears to be c. 1959), and the existing interior (Figure 14.22) show that extensive alterations have been carried out to the Assembly Hall. The original hall is shown to be a large double-height single-volume space, with side aisles delineated by arcades. There is a simple moulded proscenium to the stage on the northern wall.

Figure 14.21: Historic internal photograph of the Assembly Hall. College History and Centenary Record, NLI 15B1104.

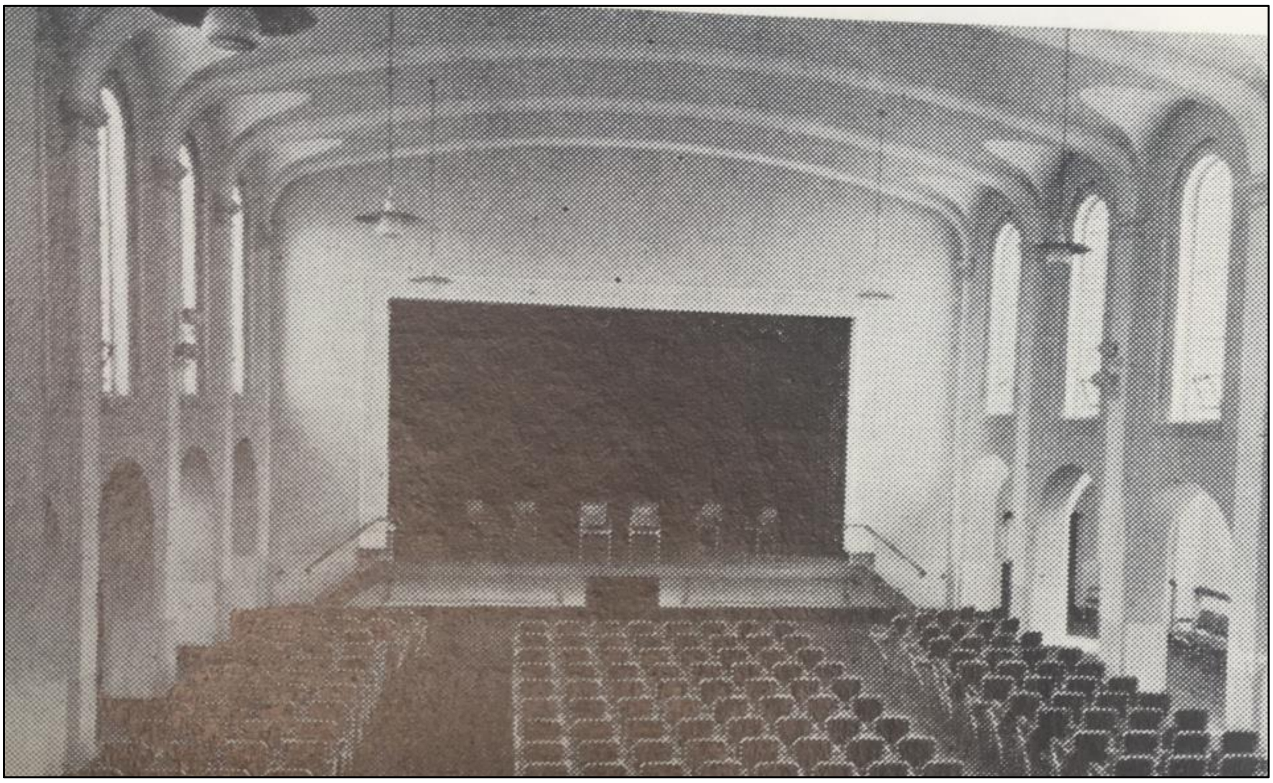


Figure 14.22: Existing internal view of the former Assembly Hall, recently used as a library.

A modern lightweight mezzanine floor has been inserted to the interior of the main space of the Assembly Hall. A new staircase has been constructed against the northern wall of the primary space, interrupting the original proscenium arch. However, it appears that the arch, which is of architectural significance, survives behind this new stair hall (see Figure 14.23).

Figure 14.23: Internal photograph of the modern stairhall showing a surviving section of the original proscenium arch.

14.3.2.3 New Wing

This building is not included on the DCC Record of Protected Structures. The DCC Development Plan Map includes a red asterisk over this building, indicating Protected Structure status, however the building is not included in the description on the Record of Protected Structures. It is believed the red asterisk may refer to the ambulatory at ground floor level of the building.

Figure 14.22 shows an aerial view of the Site prior to the construction of the New Wing. The main Seminary building, the Library wing (since replaced) and the Church are visible in the centre of the image, with the Red House in the top-right, and the Archbishop's House to the left.

Figure 14.24: 1947 Aerial Photograph of Subject Site, facing North-east. BFA XAW009782.

Figure 14.25: 1951 Aerial photograph of the subject site, from College History and Centenary Record, NLI 15B1104.

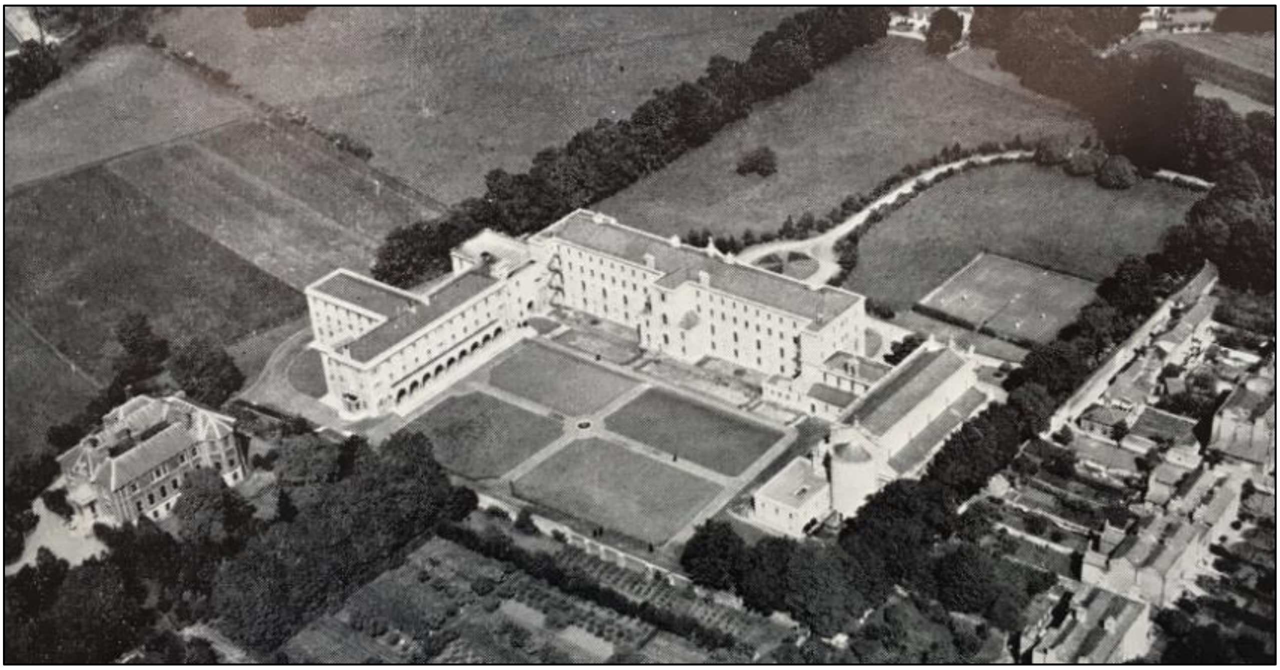


Figure 14.25 shows a similar view as Figure 14.24, with the new Wing now constructed. It is a T-shaped wing, constructed at right-angles to the main Seminary building. Diocesan records show that the architect for the New Wing was Stanislaus Nevin, and that it was constructed at an estimated cost of £80,000 in 1950 – 51. The funds were raised through a broad appeal by the Archbishop and by Monsignor Boylan throughout all the parishes in the diocese.

The need for the New Wing was described by Boylan in his appeal:

> *"The foundation stone of the existing college of Clonliffe was laid in 1860. In that year – 90 years ago – there were 50 parishes and 250 secular priests in the diocese. It seemed likely then that a steady supply of 60 students would, for an indefinite period, amply suffice to provide priests for the diocese; and the college was built to house that number… There are now more than 640,000 Catholic in Dublin diocese – roughly twice as many as in 1860. There are 90 parishes, and nearly 450 secular priests… The college must be enlarged. There must be space for the residential accommodation of over 100 students, and for their devotional and academic exercises."*

The new wing was to have residential accommodation for a further forty students and six professors, as well as an Aula Maxima, diocesan archives and a central heating chamber for the college. The contract was given to Messrs Lawrence Murray & Sons, contractors.

A 1959 description of the building reads:

> *"The new wing, which is T shaped, is connected at two levels with the main building. The structure is basically fire-proof concrete, and the elevation is plastered in cement and granite sand to blend as far as possible with the colour scheme of the main college block. The façade incorporates an ambulatory designed with twin Doric columns with arched head in pure classical style."*

Figure 14.26: Architect's sketch of the New wing, dated 1950. Architect Stanislaus Nevin, from Holy Cross College, Clonliffe 1859-1959. NLI 1B2417.

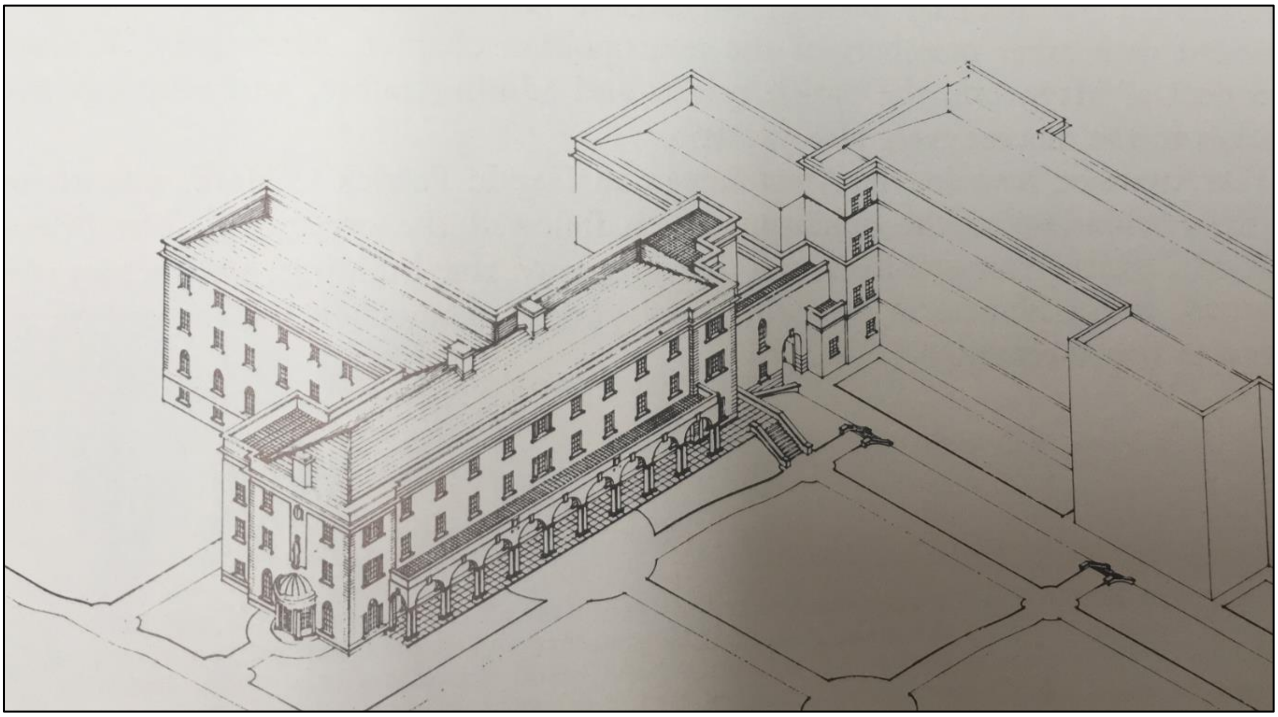
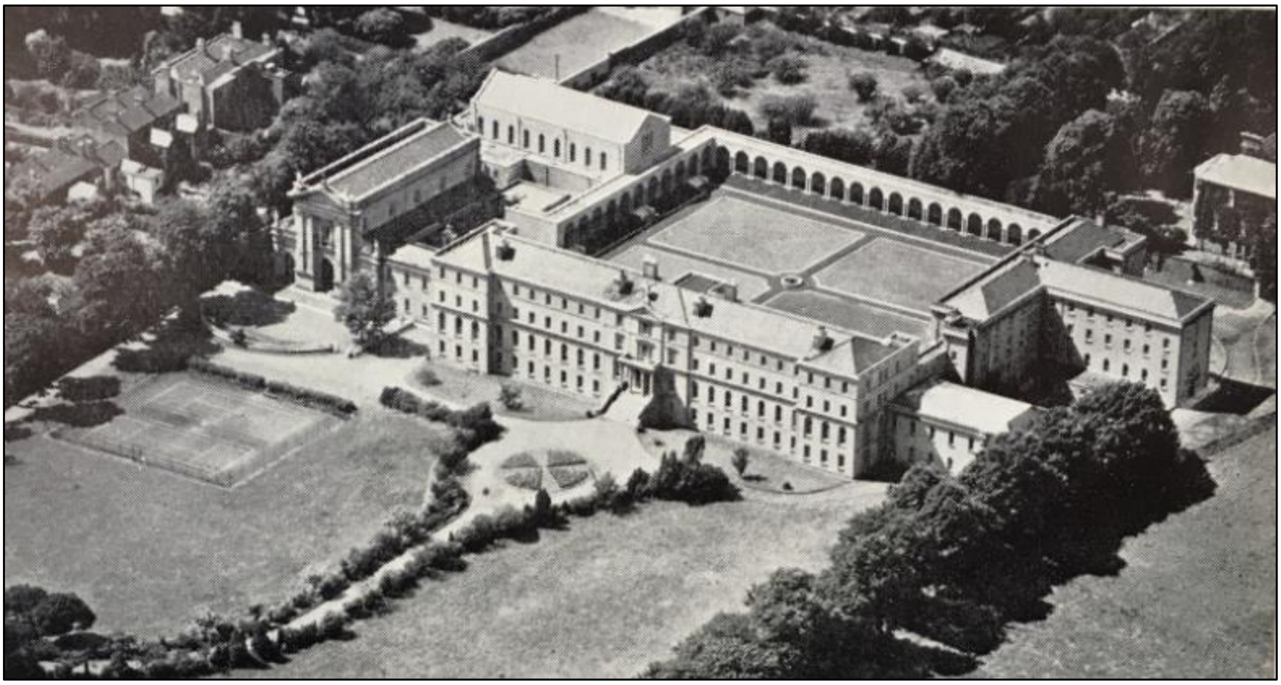
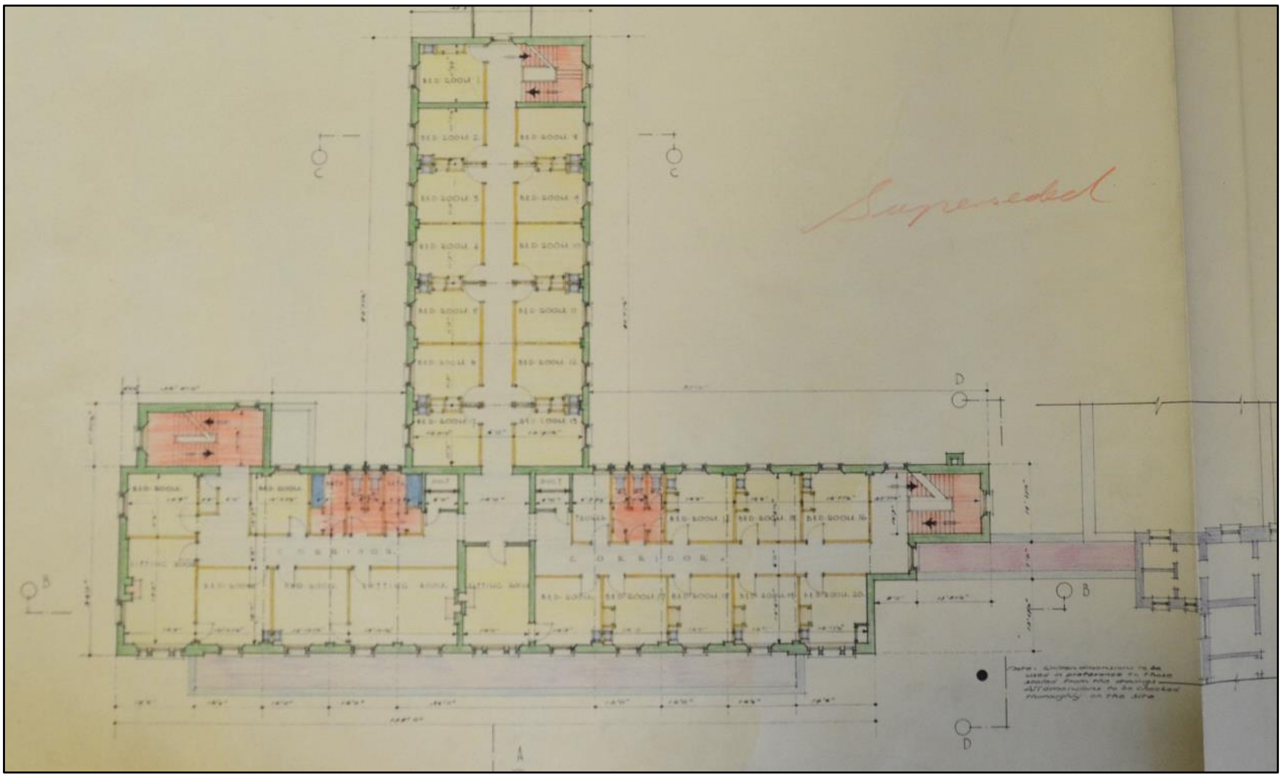


Figure 14.27: 1959 Photograph of site, from College History and Centenary Record, NLI 15B1104.



Sketch plans of the new wing, by Architect Stanislaus Nevin (Figure 14.28), reveal the internal dormitory layout of the building. This layout is largely still extant today, although the rooms now function as offices rather than living quarters. Some internal features of interest survive, including the cast-iron radiators at first and second floor levels. Further detail on the surviving internal features of interest will be provided below.

Figure 14.28: Undated sketch plan showing the internal arrangement of the 'New Wing' at Ground Floor Level, by Architect Stanislaus Nevin. Dublin Diocesan Archives.



In 1958, a new Assembly Hall was constructed at the southern end of the garden behind the Seminary. A new ambulatory was constructed at this time to provide shelter to students as they walked from building to building. The L-shaped ambulatory matched the design of the arcade on the southern elevation of the New Wing. This completed the formation of the College Quadrangle.

Figure 14.29: Undated photograph showing the ambulatory and the New Wing. From Holy Cross College, Clonliffe 1859-1959. NLI 1B2417.

Following the construction of the new Assembly Hall in 1958 – 59, the former Assembly Hall within the New Wing became superfluous. In 1960 Stanislaus Nevin, architect, converted the assembly hall into a new oratory. A plaque erected at the entrance to the Oratory reads:

> *"Pray for all those who established this Oratory in the Centenary Year 1960*
> *Architect Stanislaus Nevin*
> *Woodworker Thomas Doody"*

A contemporary description of the oratory reads:

> *"The walls were faced in 'raised and fielded' panels of Japanese oak. Mr Nevin designed a new altar, to be hand carved in oak with a centre piece in black Australian walnut, and a tabernacle in oak with a sycamore dome. The sanctuary lamp is the Centenary year gift of the students. The predella and baldacchino are also Japanese oak. The Stations of the Cross are plain crosses in hornbeam tipped with gold leaf. The Archbishop presented a statue of Our Lady and the Divine Child for the new oratory. It had been carved in limewood by an artist in Oberammergau. The statue had been given to Dr. McQuaid 'as a token of respect and gratitude by the Fathers of the Irish Province of the Society of Jesus…'."*

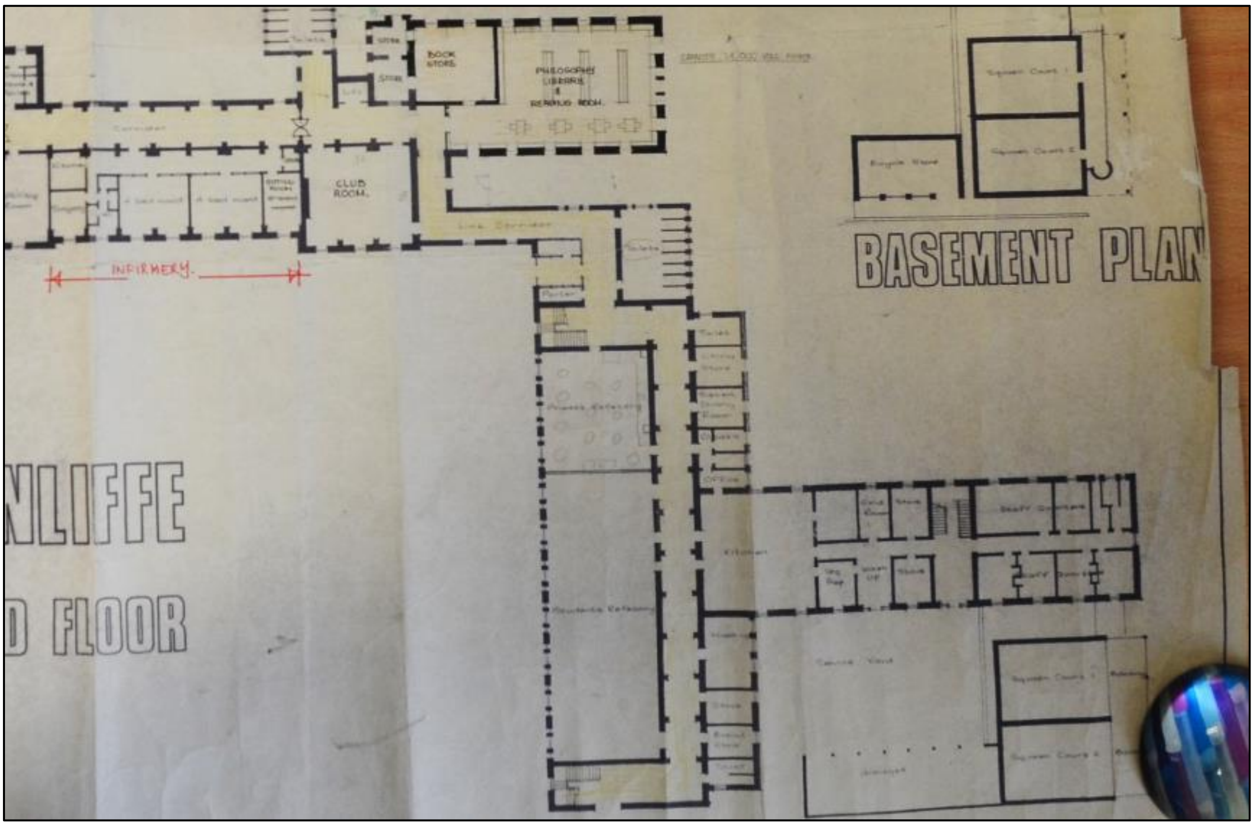
Figure 14.30: Undated photograph showing the new oratory, located in the location of the former Assembly Hall in the New Wing. From Holy Cross College, Clonliffe 1859-1959. NLI 1B2417.

This oratory remains extant in the subject building today and retains many of the original 1960s fittings, including the walnut panelling and the pews. Some of the objects in the room are not visible in the above mid-20th century photograph of the original oratory, but are of artistic interest nonetheless. Further detail on this will be provided in the descriptions below.

Figure 14.31: Existing view of the 1960 Oratory on Ground Floor Level of the 'New Wing'.

14.3.2.4 Library Wing

Figure 14.32: 1969 Drawing by Nevin & Nolan Architects showing the ground floor layout of the 'Library Wing'.



This building is not included on the DCC Record of Protected Structures.

The Library Wing is a later addition to the college complex, constructed c. 1966 to designs by Nevin and Nolan Architects. A 1969 drawing by Nevin & Nolan shows that the ground floor level contained refectory and kitchens, and associated stores rooms. No details or written record relating to the construction of this wing were found during the preparation of this report. The wing is referred to within the college as the 1966 Wing.

Figure 14.33: Undated aerial photograph of the campus, showing the completed 'Library Wing'. The campus largely retains this form today, with some alterations to the landscaping, including planting and growth of trees, and the loss of the tennis courts to the front.

14.3.2.5 Ambulatory

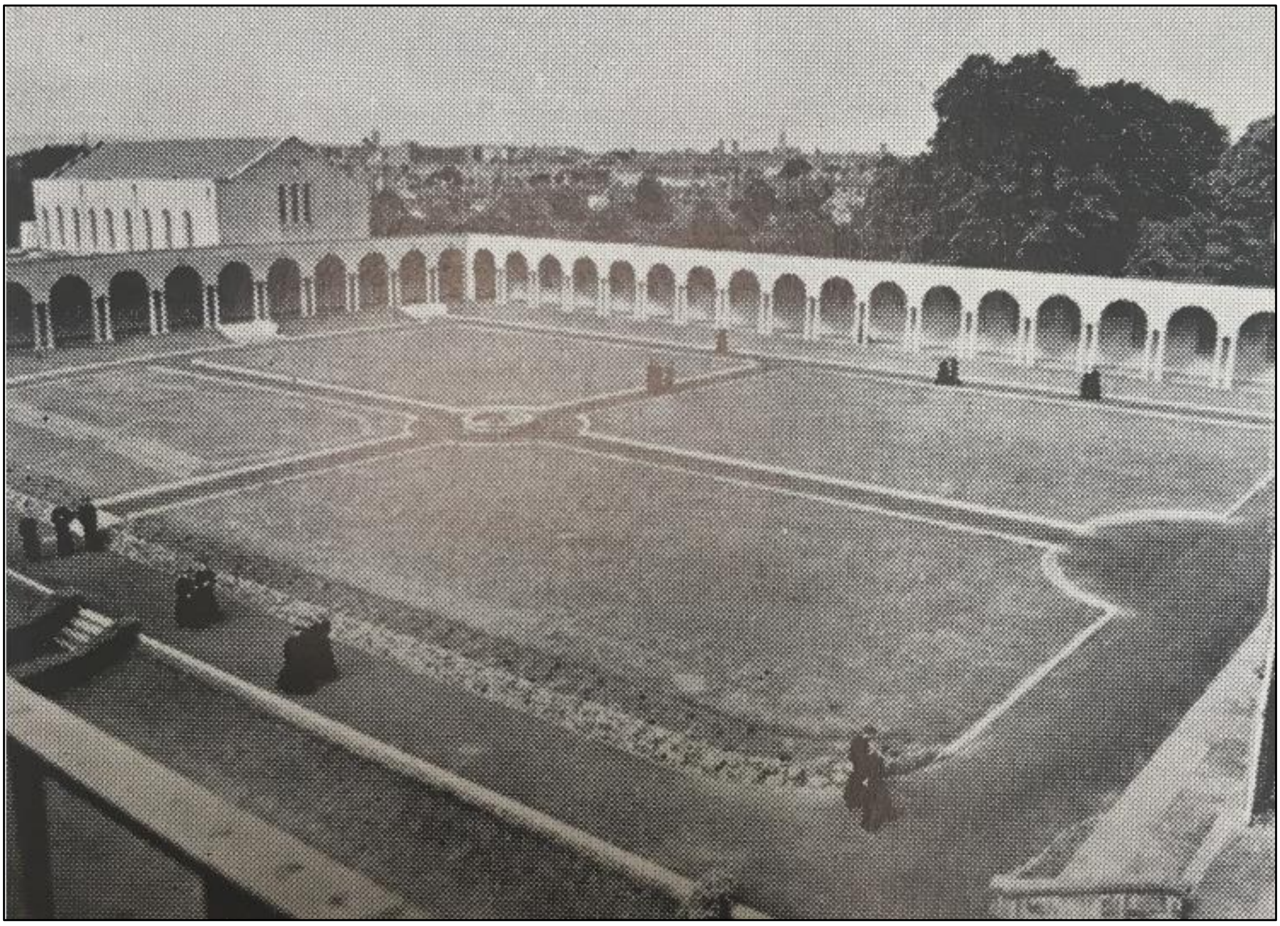
This building is a Protected Structure, DCC RPS Ref. No. 1901.

The ambulatory was constructed alongside the construction of the Assembly Hall, in 1958-59, by Jones & Kelly Architects. The ambulatory was constructed to provide shelter to students as they walked from building to building. The L-shaped ambulatory matched the design of the arcade on the southern elevation of the New Wing. This completed the formation of the College Quadrangle.

The formal gardens within the quadrangle pre-date the construction of the ambulatory itself, and appear to have been laid out c. 1953, following the construction of the New Wing.

Figure 14.34: Photograph pre-dating the laying out of the formal gardens to the rear of the Main Seminary Block, showing the area in use as a football pitch.

Figure 14.35: Historic photograph showing the Ambulatory, Assembly Hall and formal gardens in the quadrangle.



14.3.2.6 Entrance from Clonliffe Road

This gate is the main entrance to the subject site. The gate and entrance avenue appear to have been in this location from the early 19th Century; however, the boundary walls and gate piers in this area are late-20th Century replacements. The new gates appears to have been constructed at some point between 1953 and 1985, and the original gate lodge in this area was demolished at a later date. The existing gates cannot be considered to be of any particular significance.

Figure 14.36: Existing View of the Entrance Gates from Clonliffe Road.

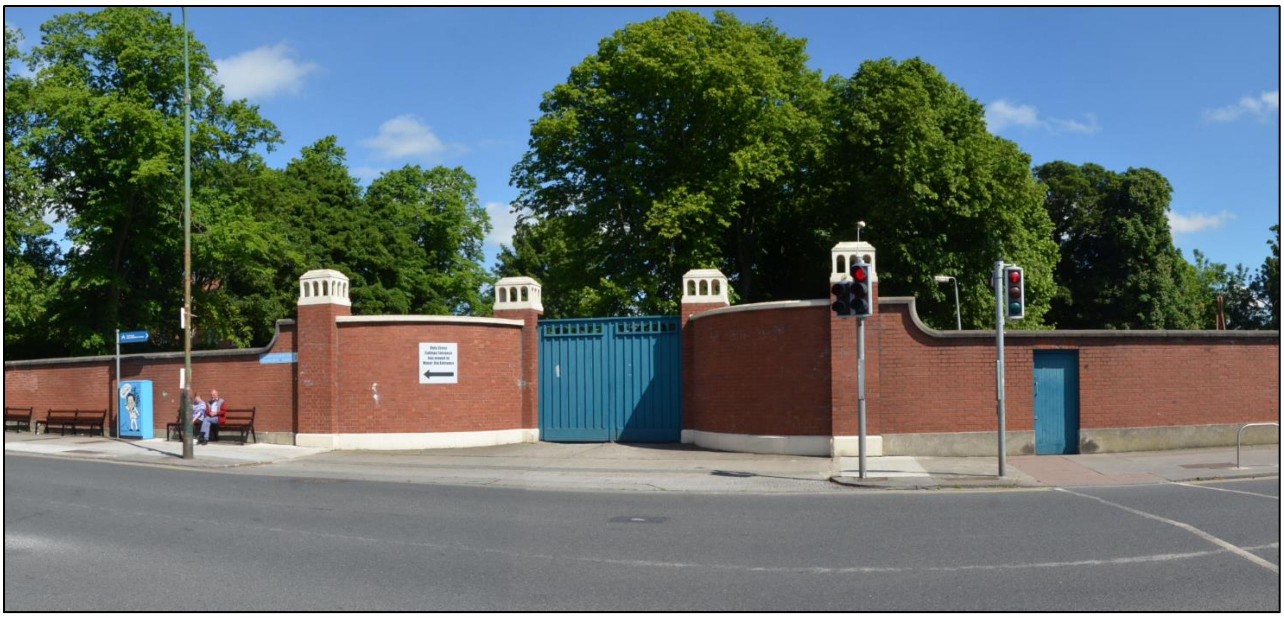


Figure 14.37: 1953 Aerial photograph showing the earlier form of the entrance from Clonliffe Road, with the original gate lodge to the immediate north of the boundary wall.

14.3.2.7 Entrance from Drumcondra Road

This gate is to the north-western boundary of the subject site. The gate piers and boundary walls pre-date the Archbishop's House, and the gates appear to have originally led to the mews buildings to the rear of Nos. 133 and 135 Drumcondra Road Lower. The gates are visible on historic maps from the 1865-68 edition of the Ordnance Survey. By the time of the 1907-11 OS Map a path branches off from these gates to lead to the Archbishop's House. This boundary wall is a Protected Structure included under the listing for the Archbishop's House, Reg. Ref. 2361.

Figure 14.38: View showing Nos. 133 and 135 Drumcondra Road Lower, with the subject gateway to the right.

14.3.2.8 Entrance via Archbishop's House Lands

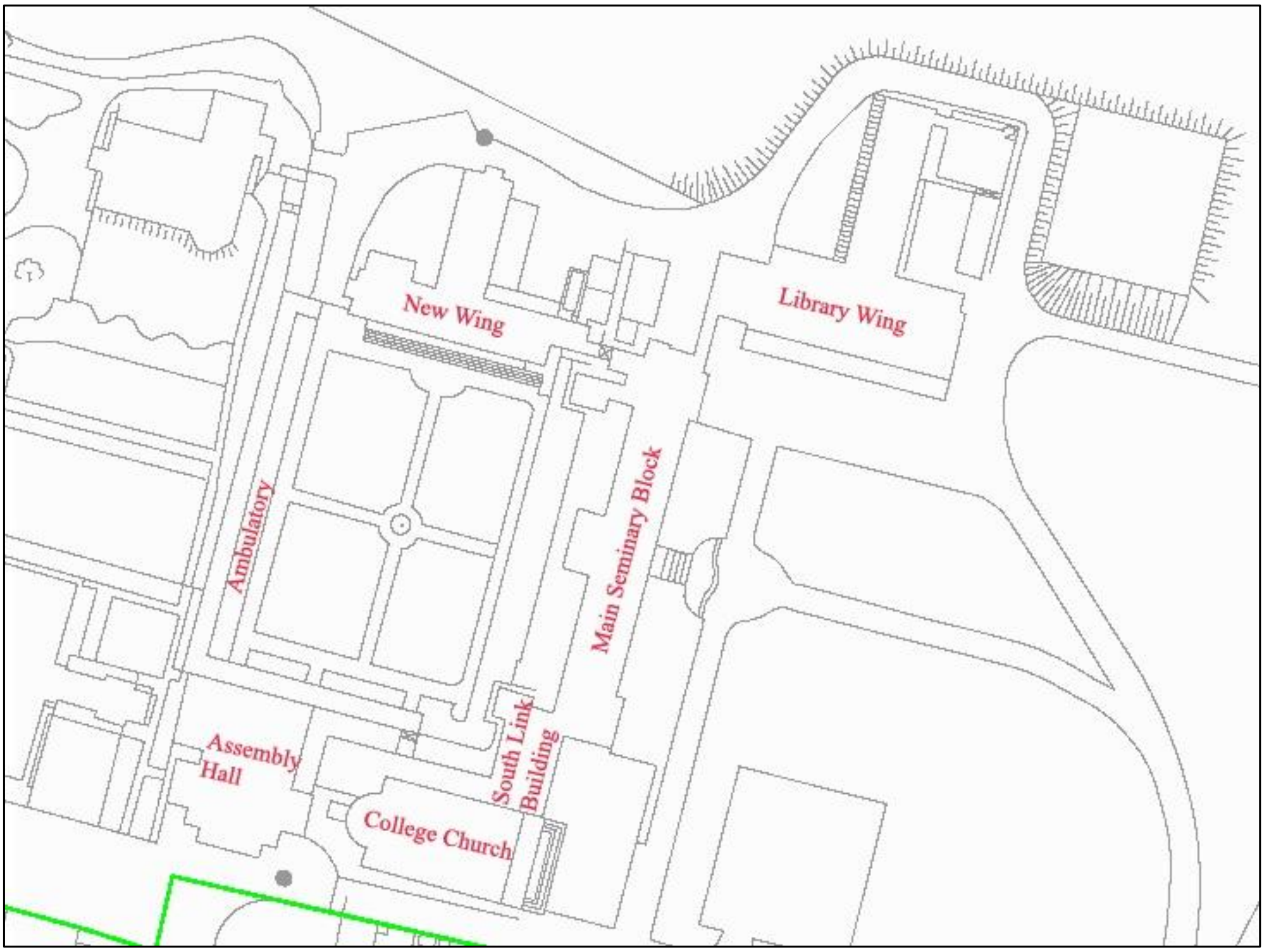
This is a modern gateway providing direct access to the lands of Holy Cross College from the adjoining property, the Archbishop's House. The walls and gates in this area are modern intervention and are not considered to be of any significance.

Figure 14.39: Gateway between Archbishop's House and Holy Cross College

14.3.3 Character

The proposed Project Site is comprised of seven buildings, as illustrated in Figure 14.40, below.

Figure 14.40: Overlay on Existing Site Plan, identifying the subject buildings.



A full internal and external photographic record is appended (Appendices 14.4 – 14.10), which should be read alongside this section.

14.3.3.1 Main Seminary Block

Description – Exterior

The subject building is a multi-bay three-storey-over-raised-basement rendered 19th Century building. The central and end bays of the front façade project forward from the building line. There is a central flight of steps to the main entrance, which has a projecting single-storey granite porch. There is a central return to the rear elevation, and modern rear toilet block extensions to the northern and southern ends of the elevation. There is a pitched slate roof and rendered chimney stacks at roof level.

Description – Interior

The interiors of this building are considered to be of minimal architectural, historic or other significance, due to the extensive internal remodelling undertaken in the mid/late 20th Century. Features such as the brick arches at the circulation corridors at basement and ground floor Levels appear to date from this time. It appears that all windows in this building are modern replacement timber sash windows. The significance of these windows lies in their contribution to the external appearance and historic architectural character of the Main Seminary Block only. Features such as the decorative insignia in the floor at upper levels appear to date from the late-20th Century, and are considered to be of minimal artistic interest.

Figure 14.41: View of the late 20th century brick arches at Ground Floor Level of the Main Seminary Block.

Figure 14.42: Detail view of the decorative crest in the floor of the upper floor.

Detailed descriptions of the interiors have been carried out on a Room-by-Room basis and are laid out in the following tables. A full photographic survey has been carried out and appended in the form of a photographic record (Appendices 14.4 – 14.10). This Photographic Record should be read alongside this section.

Table 14-1: Rooms in Main Seminary Block – Basement Level

Room No.	Description
B.01	This room is the southern stair hall at basement level. There are modern brick arches to the north and the south, containing glazed double doors. There is a timber door to Room B.03 on the eastern wall.
B.02	This room is the main circulation corridor at basement level. It is located along the western side of the building, with windows overlooking the quadrangle to the rear. There are modern brick arches at regular intervals along the corridor.
B.03	There are three windows on the eastern wall and two windows on the southern wall of this room. There are downstand beams on the ceiling of the room. There are two doors on the western wall of the room. There is a modern suspended ceiling to the room.
B.04	There are four windows on the eastern wall of this room. There are downstand beams on the ceiling of the room. There are two doors on the western wall of the room. There is a modern suspended ceiling to the room.
B.05	There are three windows on the eastern wall of this room. There are downstand beams on the ceiling of the room. There is a door on the western wall of the room. There is a modern suspended ceiling to the room.
B.06	There are modern clerestory windows on the northern wall of this room. There is a single window on the eastern wall. This room contains plant machinery.
B.07	This room is located in the central return to the rear of the building. There is a window on the western wall.
B.08	This room is the central stairhall at basement level. There is a central lift core. There are modern brick arches with timber double-doors to the north and south.
B.09	This room is a modern kitchenette area. There is a window on the eastern wall. There is a modern suspended ceiling to this room.
B.10	This room is the northern section of the main circulation corridor. There are modern brick arches at regular intervals. There are timber windows along the western wall.
B.11	There are modern partition walls subdividing this space. There is a six-over-six timber sash window on the eastern wall.
B.12	This room has been subdivided in modern times. There is a modern window on the eastern wall.
B.13	This room is a modern circulation space formed by lightweight partition walls, with glazed panels in the eastern wall. There is a modern suspended ceiling.
B.14	This room is the southern end of the modern circulation corridor formed by lightweight partition walls.
B.15	This room is a modern WC. There is a six-over-six timber sash window on the eastern wall.
B.16	There are two windows on the eastern wall of this room. The western wall of the room is a modern lightweight glazed partition.
B.17	There are two windows on the eastern wall of this room. The western wall of the room is a modern lightweight glazed partition.
B.18	There are three windows on the eastern wall of this room. There is a carved timber mantelpiece in the chimney breast on the southern wall.
B.19	There is a window on the eastern wall of this room. The western wall of the room is a modern lightweight glazed partition.

Table 14-2: Rooms in Main Seminary Block – Ground Floor Level

Room No.	Description
G.01	This room is the half-landing of the staircase between ground and first floor levels. There are three windows on the western wall. The central window is a round-headed sash window.
G.02	This room is the main entrance hall to the Seminary Block. There is a modern suspended ceiling to this room. There are timber double doors on the eastern wall, within an arched ope, with a fanlight. There is a modern timber and glazed security booth in the north-western corner of the room.
G.03	There are six round-headed sash windows on the eastern wall. The room has a modern suspended ceiling.
G.04	This room is the southern section of the main circulation corridor at ground floor level. There are modern brick arches along the corridor, at regular intervals. There are windows on the western wall.
G.04A	This room is a modern WC. There is a six-over-six sash window on the western wall.
G.05	The western wall of this room is a modern lightweight partition wall with clerestory windows. There is a modern suspended ceiling to this room. There is a round-headed timber sash window on the eastern wall.
G.06	This room is a narrow circulation space within the original footprint of Room G.05. The eastern wall of the room is a modern lightweight partition wall. There is a suspended ceiling to this room.
G.07	There is a modern suspended ceiling to this room. There is a round-headed timber sash window on the eastern wall. The western wall of this room is a modern lightweight partition wall.
G.08	This room is the stair hall at Ground Floor level. There are brick arches with timber double doors to the north and south. There is a modern lift core in the centre of the staircase.
G.09	This room is a modern security booth, with modern timber and glazed screens.
G.10	This room is the northern section of the main circulation corridor at ground floor level. There are modern brick arches along the corridor, at regular intervals. There are windows on the western wall.
G.11	There are seven round-headed sash windows on the eastern wall of this room. There is a suspended ceiling to this room.
G.12	There are two windows on the eastern wall of this room. There is a chimney-breast on the southern wall. There is a modern suspended ceiling to this room.
G.13	This room is the northern secondary stairhall at ground floor level. There are modern brick arches to the north and south.
G.13A	This room is the link corridor between the Main Seminary Building, the New Wing, and the Library Wing. There are windows on the northern and eastern walls. There is an arched ope on the western wall. There is a bell on the southern wall of the room.
G.14	There are three windows on the eastern wall, and two windows on the southern wall. There is a modern suspended ceiling to this room.
G.15	This room is the southern secondary stairhall. There is brick arch on the northern wall, with timber and glazed double doors. There is a door, with fanlight, to the South Link on the southern wall.
G.16	This room is the half-landing between basement and ground floor level, in the southern stairhall. There is a window on the northern wall.
G.17	This room is the modern WC block to the rear of the southern sections of the Main Seminary Block.

Table 14-3: Rooms in Main Seminary Block – First Floor Level

Room No.	Description
F.01	This room is the northern secondary stair hall at first floor level. There is a decorative insignia in the floor. There are two windows on the northern wall.

Room No.	Description
F.02	This room is the lobby area to the corridor to New Wing. There is a window on the northern wall and double doors on the western wall.
F.03	This room is the central circulation corridor. There is a modern suspended ceiling.
F.04	There is a window on the western wall. There is a modern suspended ceiling.
F.05	There is a window on the eastern wall. There is a modern suspended ceiling.
F.06	There is a window on the eastern wall. There is a modern suspended ceiling.
F.07	There is a window on the western wall. There is a modern suspended ceiling.
F.08	There is a window on the eastern wall. There is a modern suspended ceiling.
F.09	There is a window on the western wall. There is a modern suspended ceiling.
F.10	There is a window on the eastern wall. There is a modern suspended ceiling.
F.11	There is a window on the western wall. There is a modern suspended ceiling.
F.12	There is a window on the eastern wall. There is a modern suspended ceiling.
F.13	There is a window on the western wall. There is a modern suspended ceiling.
F.14	There is a window on the western wall. There is a modern suspended ceiling.
F.15	There is a window on the eastern wall. There is a modern suspended ceiling.
F.16	This room is the modern lobby area between the northern section of the circulation corridor and the central stair hall at First Floor Level.
F.17	There is a window on the western wall. There is a modern suspended ceiling.
F.18	The eastern wall of this room is a modern lightweight partition wall. There is a window on the western wall. There is a modern suspended ceiling to the room.
F.19	This room is formed by modern lightweight partition walls.
F.20	This room is formed by modern lightweight partition walls. This room is a modern WC.
F.21	This room is formed by modern lightweight partition walls. The room is a modern lobby area to Rooms F.20, F.22 and F.24.
F.22	This room has a window on the eastern wall. There is a modern suspended ceiling.
F.23	There is a window on the eastern wall. There is a modern suspended ceiling.
F.24	There are windows and a pair of double doors on the eastern wall, leading to the balcony over the main entrance. There is a chimney breast on the southern wall of the room. There is a modern suspended ceiling to this room.
F.25	This room is a modern lobby area to Rooms F.24, F.26 and F.27. The room is formed by modern partition walls.
F.26	There are two windows on the eastern wall. There are modern partition walls in the north-western corner of the room. There is a modern suspended ceiling.
F.27	This room is the stairhall at First Floor level. There is a decorative insignia in the floor.
F.28	There is a window on the western wall of this room. There is a modern suspended ceiling.
F.29	There is a window on the western wall of this room. There is a modern suspended ceiling.
F.30	There is a window on the eastern wall of this room. There is a modern suspended ceiling.
F.31	There is a window on the western wall of this room. There is a modern suspended ceiling.
F.32	This room is the southern section of the central corridor at First Floor Level. There is a modern suspended ceiling.
F.33	There is a window on the western wall of this room. There is a modern suspended ceiling.
F.34	There is a window on the eastern wall of this room. There is a modern suspended ceiling.
F.35	There is a window on the eastern wall of this room. There is a modern suspended ceiling.
F.36	There is a window on the western wall of this room. There is a modern suspended ceiling.

Room No.	Description
F.37	This room is an amalgamation of two rooms. There are two windows on the eastern wall of this room. There is a modern suspended ceiling.
F.38	There is a window on the western wall of this room. There is a modern suspended ceiling.
F.39	There is a window on the western wall of this room. There is a modern suspended ceiling.
F.40	There is a window on the western wall of this room. There is a modern suspended ceiling.
F.41	There is a window on the western wall of this room. There is a modern suspended ceiling.
F.42	This room is a modern lobby area to Rooms F.43, F.44 ad F.45.
F.43	There are two windows on the eastern wall. There is a chimney breast on the northern wall. The southern wall is a modern lightweight partition wall.
F.44	The northern and western walls of this room are modern lightweight partition walls. There is a window on the eastern wall.
F.45	This room is formed by modern lightweight partition walls. There is a window on the southern wall.
F.46	This room is the southern stairhall at First Floor Level. There are two windows on the southern wall.
F.47	This room is the half-landing between Ground and First Floor Level. There is a window on the northern wall.
F.48	This room is the modern toilet block addition to the rear of the Main Seminary Block.

Table 14-4: Rooms in Main Seminary Block – Second Floor Level

Room No.	Description
S.01	This room is the half-landing between First and Second Floor Levels at the southern stairhall. There is a window on the northern wall.
S.02	This room is the southern toilet block addition to the rear of the Main Seminary Block.
S.03	This room is the half-landing between First and Second Floor Levels at the northern stairhall. There is a window on the southern wall.
S.04	This room is the northern toilet block addition to the rear of the Main Seminary Block.
S.05	This room is the southern stairhall at Second Floor Level. There are three windows on the southern wall.
S.06	There is a window on the western wall of this room. There is a modern suspended ceiling.
S.07	This room is the southern section of the central circulation corridor at Second Floor Level. There is a modern suspended ceiling.
S.08	There is a window on the western wall of this room. There is a modern suspended ceiling.
S.09	There is a window on the western wall of this room. There is a modern suspended ceiling.
S.10	This room is a modern lobby area to Rooms S.11 and S.12.
S.11	There are two windows on the eastern wall of the room. There is a mantelpiece on the northern wall. There is a modern suspended ceiling. The southern wall of the room is a modern lightweight partition wall.
S.12	There is a window on the eastern wall. The northern and western walls of the room are modern lightweight partition walls. There is a modern suspended ceiling.
S.13	There is a window on the eastern wall of this room. There is a modern suspended ceiling.
S.14	There is a window on the western wall of this room. There is a modern suspended ceiling.
S.15	There is a window on the eastern wall of this room. There is a modern suspended ceiling.
S.16	There is a window on the eastern wall of this room. There is a modern suspended ceiling.
S.17	This room is the amalgamation of four rooms. There are four windows on the western wall of this room. There is a modern suspended ceiling.
S.18	This room is the amalgamation of two rooms. There are two windows on the eastern wall of this room. There is a modern suspended ceiling.

Room No.	Description
S.19	There is a window on the eastern wall of this room. There is a modern suspended ceiling.
S.20	There is a window on the western wall of this room. There is a modern suspended ceiling.
S.21	There is a window on the western wall of this room. There is a modern suspended ceiling.
S.22	This room is a lobby area to the central stairhall.
S.23	There is a window on the eastern wall of this room. There is a modern suspended ceiling.
S.24	There is a window on the eastern wall of this room. There is a modern suspended ceiling. There is a lobby in the north-western corner of the room.
S.25	This room is a modern lobby area to Room S.24. It is formed by modern lightweight partition walls. There is a modern suspended ceiling.
S.26	There is a chimneybreast in the southern wall of this room. There is a tri-partite window on the eastern wall. There is a modern suspended ceiling.
S.27	This room is a modern lobby area to Rooms S.26, S.28 and S.29. It is formed with modern lightweight partition walls. There is a modern suspended ceiling.
S.28	There is a window on the eastern wall. The western wall is a modern lightweight partition wall. There is a modern suspended ceiling.
S.29	This room is a modern WC, formed by modern lightweight partition walls.
S.30	This room is the central stairhall at Second Floor Level. There is a decorative insignia in the floor.
S.31	This room is the narrow flight of steps ascending from Room S.30.
S.32	There is a window on the western wall. There is a modern suspended ceiling.
S.33	This room is a lobby area to the central stairhall.
S.34	There is a window on the eastern wall of this room. There is a modern suspended ceiling.
S.35	This room is the northern section of the central corridor at Second Floor Level.
S.36	There is a window on the western wall of this room. There is a modern suspended ceiling.
S.37	There is a window on the eastern wall of this room. There is a modern suspended ceiling.
S.38	There is a window on the eastern wall of this room. There is a modern suspended ceiling.
S.39	There is a window on the western wall of this room. There is a modern suspended ceiling.
S.40	There is a window on the western wall of this room. There is a modern suspended ceiling.
S.41	There is a window on the western wall of this room. There is a modern suspended ceiling.
S.42	There is a window on the eastern wall of this room. There is a modern suspended ceiling.
S.43	There is a window on the eastern wall of this room. There is a modern suspended ceiling.
S.44	There is a window on the eastern wall of this room. There is a modern suspended ceiling.
S.45	There is a window on the western wall of this room. There is a modern suspended ceiling.
S.46	There is a window on the eastern wall of this room. There is a modern suspended ceiling.
S.47	There is a window on the western wall of this room. There is a modern suspended ceiling.
S.48	This room is the northern stairhall at Second Floor Level. There is a decorative insignia in the floor. There are two windows on the northern wall.
S.49	This room is the lobby area to the link corridor to the New Wing. There is a window on the northern wall.

14.3.3.2 South Link Building

Description – Exterior

This building is a two-storey five-bay rendered structure. There is a pitched slate roof and a central stone bell-tower at ridge level on the roof. There is a modern doorway at ground floor level. A modern link corridor to the College Church has been constructed against the rear of the South Link Building.

Description – Interior

Internal features of interest in this building include the original timber sash windows, decorative plasterwork at Room F.01, and the organ from the College Church.

Detailed descriptions of the interiors have been carried out on a Room-by-Room basis and are laid out in the following tables. A full photographic survey has been carried out and appended in the form of a photographic record (Appendices 14.4 – 14.10). This Photographic Record should be read alongside this section.

Table 14-5: Rooms in South Link Building – All Levels

Room No.	Description
Ground Floor	
G.01	There is a modern door on the eastern wall, with a round-headed timber window above. There is a basket-handle-headed arch on the western wall.
G.02	There are three round-headed timber sash windows on the eastern wall. There is a simple moulded cornice to this room. There is a modern partition wall to the southern end of the room.
G.03	This room is formed by modern partition walls. There is around-headed timber sash window on the eastern wall.
G.04	This room is a modern staircase, enclosed by modern lightweight partition walls.
First Floor	
F.01	There are four round-headed timber sash windows on both the eastern and western windows. There is a panelled timber door on the southern wall, with moulded surrounds. There is a simple moulded plaster cornice to this room. The organ from the Church has been relocated to the northern wall of the room.
F.02	This room contains a modern timber staircase. There are round-headed timber sash windows on the eastern and western walls.

14.3.3.3 College Church

Description - Exterior

The subject building is a multiple-bay rendered structure in the Italianate style. The front façade is a two-storey three-bay rendered elevation, with square Ionic pilasters. The design unifies the nave and side aisles of the building into a single façade, with single storey outer bays linked to the taller central bay by volutes. The central bay is surmounted by a dentillated trianglar pediment and statuary of saints. There are three round-headed arches at ground floor level, providing access to the recessed entrance porch. There is a window in the central bay at first floor level, with round-headed pediment.

Description - Interior

A brief description of the interior of the subject building, outlining the extent or surviving original material, and any features which are of significance, is provided below.

The Church is in the Italianate style, and was modelled on the Church of S. Francesca Romana externally, and the Church of S. Agata dei Goti internally, as detailed in Section 14.3.2, above.

The interior of the Church is comprised of a nave, terminating in an apse, with side aisles terminating in side chapels. There are seven bays of semi-circular arches resting on red Jura marble pillars separating the nave and the side aisles. The pillars have Ionic capitals and are surmounted by an Ionic entablature, which continues around the nave, sanctuary, and apse. The clerestory walls, rising above this entablature, contain five six-over-six timber sash windows on either side. There is an organ gallery on the western wall of the church, over the entrance vestibule. The floor of the nave is laid with encaustic tiles, with a raised marble floor to the chancel. The ceiling of the nave is wood panelled and painted in gold and red.

The outer walls of the side aisles are divided into bays by projecting pilasters, corresponding with the bays of the nave. There is a Diocletian window in each of these bays. The ceilings of the side aisles are groin vaulted. There are marble side altars in the apse terminating each side aisle, gifted by the Pope.

A number of the original fittings and features have been lost due to the interventions and alterations carried out over the years. The significance of the remaining fitting and fixtures will be assessed below.

Figure 14.43 shows several pieces of Church furniture which are no longer extant in the Church today. These include the carved timber pews, the pulpit, and prie-dieu. The light fittings visible in the side aisle in this photograph have been replaced with modern pendant lights. The framed paintings representing the Stations of the Cross survive today, as does the marble flooring to the chancel area. An organ is also visible to the rear of the photograph. This organ is now located in the upper floor of the Southern Link Building, which connects the seminary to the Church.

Figure 14.43: Photograph of the Centenary Sermon, 1959, showing the interior of the Church.

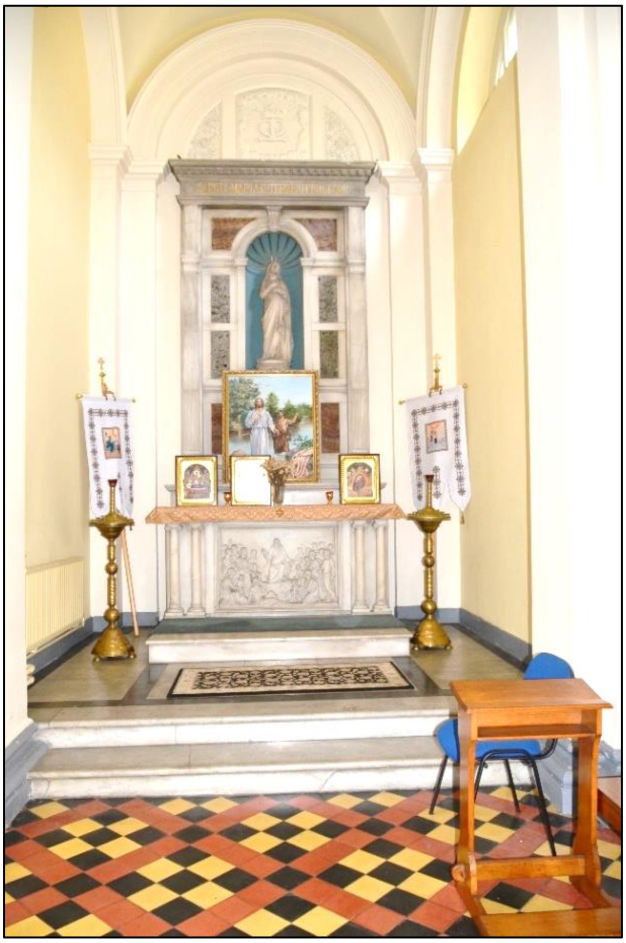
The secondary organ, now located in the Southern Link Building (Figure 14.44), has been moved from its previous location in the southern side aisle of the Church. The organ cannot be considered to contribute to the character of the Church today. It is nonetheless considered to be a significant piece, and will be salvaged for re-use by the Church.

The encaustic tile flooring of the building (Figure 14.45) is an original feature, and contributes significantly to the character of the space. The tiles are considered to be a significant element of the building and will be retained in situ. The cast-iron radiators, visible in Figure 14.45, are non-original and their removal will have a positive impact on the character of the interior.

Figure 14.44: View of the organ, now located in the Southern Link Building.

Figure 14.45: Photographs showing the encaustic tile flooring.

Figure 14.46: Views of the two side altars.



The marble side altars (Figure 14.46) contain marble altarpieces, which are recorded as being gifts from Pope Pius IX to Cardinal Cullen at the time of construction of the Church. The artist responsible for these altars is not known. These are significant features of the Church, as they are among the few surviving original fittings. They are considered to be of artistic significance and will be retained in situ.

Figure 14.47: Carved timber lectern (left) and panelled timber chancel screen (right).

The carved timber lectern (Figure 14.47) may date from the 1943 alterations, or may be an earlier fitting. No reference to this piece was found in the preparation of this Chapter. The piece is of some artistic significance but is not considered to make any considerable contribution to the character of the Church interior. The removal of this piece by the Church, for re-use elsewhere, is considered to be an acceptable intervention.

The timber chancel screen (Figure 14.47) is not visible in the 1959 internal photograph of the Church and appears to be a later intervention. It is considered that the chancel screen has a negative impact on the character and quality of the space, and its removal will have a positive impact on the character of the interior. The screen is not considered to be of architectural, historic, or other significance in and of itself.

The Connemara and Galway marble ciborium (Figure 14.48) dates from the 1943 alterations to the apse. It appears that the Church did not originally have a ciborium, however this is a feature at the S. Agata dei Goti altar, and therfore the existing ciborium is in keeping with the original design intent and historic architectural character of the Church. It is considered that the ciborium contributes to the architectural character of the interior, and it will be retained in situ.

The original marble altar (Figure 14.48) was replaced in 1943. It appears, from comparison with a 1959 photograph, that the existing marble altar may be a later replacement, or has been altered from its 1943 appearance. The altar is therefore a non-original feature of the Church. It is not considered to make a significant contribution to the character of the Church. The removal of the altar by the Church, for re-use elsewhere, is considered to be an appropriate internvention.

The tabernacle (Figure 14.48) also appears to date from 1943, although it was previously located on the altar rather than on the pillar it now stands on. This is visible in the 1959 internal photograph. The tabernacle and its podium are non-original features of the Church, and are not considered to make a significant contribution to the character of the Church. The removal of the tabernacle and podium by the Church, for re-use elsewhere, is considered to be an appropriate internvention.

Figure 14.48: Marble ciborium, altar and tabernacle.

Figure 14.49: Coat of arms above the entrance door, organ in gallery, and central painted glass window to the organ gallery.

The coat of arms above the entrance door (Figure 14.49) are recorded as being of the Cullen family, for Archbishop Cullen. The Latin script '*Ponit Animam Pro Amicis'* translates to "*For those I love I sacrifice".* There was previously a second Cullen coat of arms, carved in timber, at the organ gallery. This is no longer extant today. This coat of arms is considered to be of artistic interest, and to contribute to the architectural character of the interior of the Church. The coat of arms will be retained in situ.

The organ, located in the gallery at the western end of the Church (Figure 14.49), is in two parts. The organ is an original feature of the Church and was built by John White of 72 York Street. The organ was gifted to the College by Dr. Verdon. The organ and its gallery are significant architectural features of the Church. The organ is of architectural, artistic and historic significance and will be retained in situ.

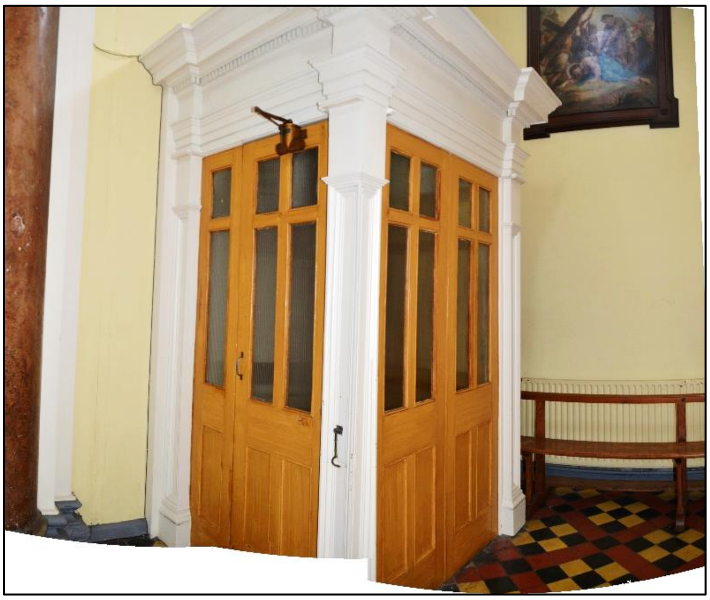
The window between the two parts of the organ in the raised organ gallery is a painted glass window showing a central crucifix and decorative borders around the edges (Figure 14.49). This window is considered to be of artistic interest, and to contribute to the architectural character of the interior of the Church. The window will be retained in situ.

The decorative carved and painted timber panelled ceiling to the nave of the Church is an original feature (Figure 14.50). The artist or craftsman responsible for the work is not known. The ceiling is of architectural and artistic significance and contributes significantly to the character of the interior. There will be no alterations to the ceiling.

It appears that the timber entrance porches to the side aisles may be original features (Figure 14.51). They make minimal contribution to the architectural character of the building, and their removal is considered to be an acceptable intervention.

Figure 14.50: View of the panelled timber ceiling to the nave of the Church.

Figure 14.51: Internal timber entrance porch (left) and timber confessional box (right).



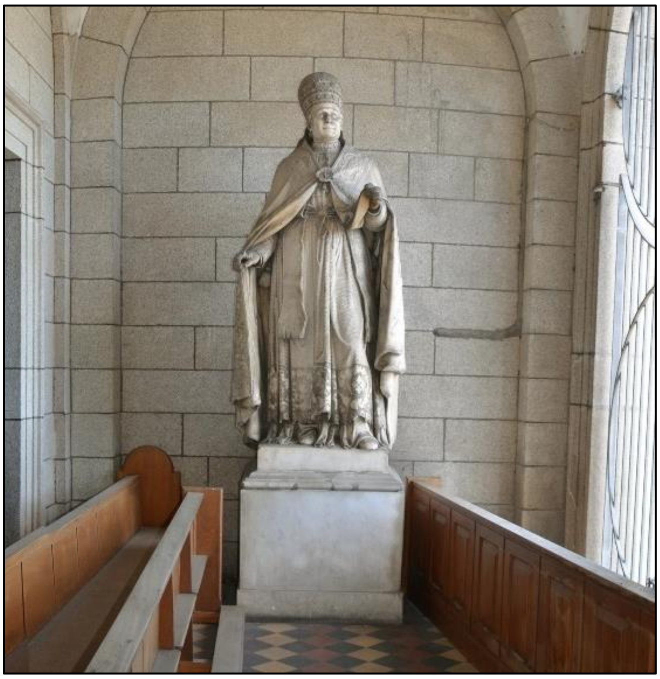
It appears that the confessional boxes (Figure 14.51) are original features of the building, as it is recorded that they were carved to represent the front of the church in miniature. The confessionals are therefore tied to the specific context of this Church, and will be retained and re-used within the Church.

The pews in the Church today (Figure 14.52) appear to be later replacements, and do not match the pews visible in a 1959 photograph. The pews are not original and are not of any architectural, historic, artistic, or other significance in and of themselves. The pews do not contribute to the architectural character of the space, and their removal is considered to be an acceptable intervention.

There are two statues housed within the entrance vestibule on the western end of the Church (Figure 14.53). To the left, there is a statue of Cardinal Cullen, by Thomas Cullen. This statue was completed in 1881. To the right, there is a marble statue of Pope Pius IX, by Matteini, which is recorded as previously having been located in the hall of the college. The statue was exhibited at the Dublin Exhibition in 1865, and purchased by Cardinal Cullen. The statues are of artistic significance and contribute to the architectural character of the vestibule. They will be retained in situ.

Figure 14.52: Photograph of the existing timber pews in the Church.

Figure 14.53: Photographs of the two statues within the entrance vestibule of the Church – Cardinal Cullen by Thomas Cullen (left) and Pope Pius IX by Matteini (right).



The red Jura marble pillars with black Galway marble bases, the Ionic entablature, and the pilasters and plasterwork to the side aisles and the western wall, are original features (Figure 14.54). These features contribute significantly to the architectural character of the interior of the Church and are of architectural significance. This includes the arch to the apse, and arches to apse at both side aisles. All of these features are integral to the architectural character and quality of the space, and will not be altered.

The Stations of the Cross paintings are original fittings to the Church (Figure 14.55). They were painted by Francesco Gagliardi, who was also responsible for the paintings originally hung at clerestory level. The clerestory paintings are no longer extant within the building. These paintings are of artistic significance. They are not considered to contribute considerably to the character of the interior. The removal of these Stations of the Cross paintings by the Church, for re-use elsewhere, is considered to be an appropriate internvention.

The two paintings over the arch of the apse are of St. Peter and St. Andrew (Figure 14.55). The artists of these works is not known. These paintings contribute to the architectural character of the interior of the Church and will be retained in situ.

Figure 14.54: View of the Jura marble arcade between the nave and the side aisle, the Ionic entablature, clerestory, and pilaster arcade within the side aisles.

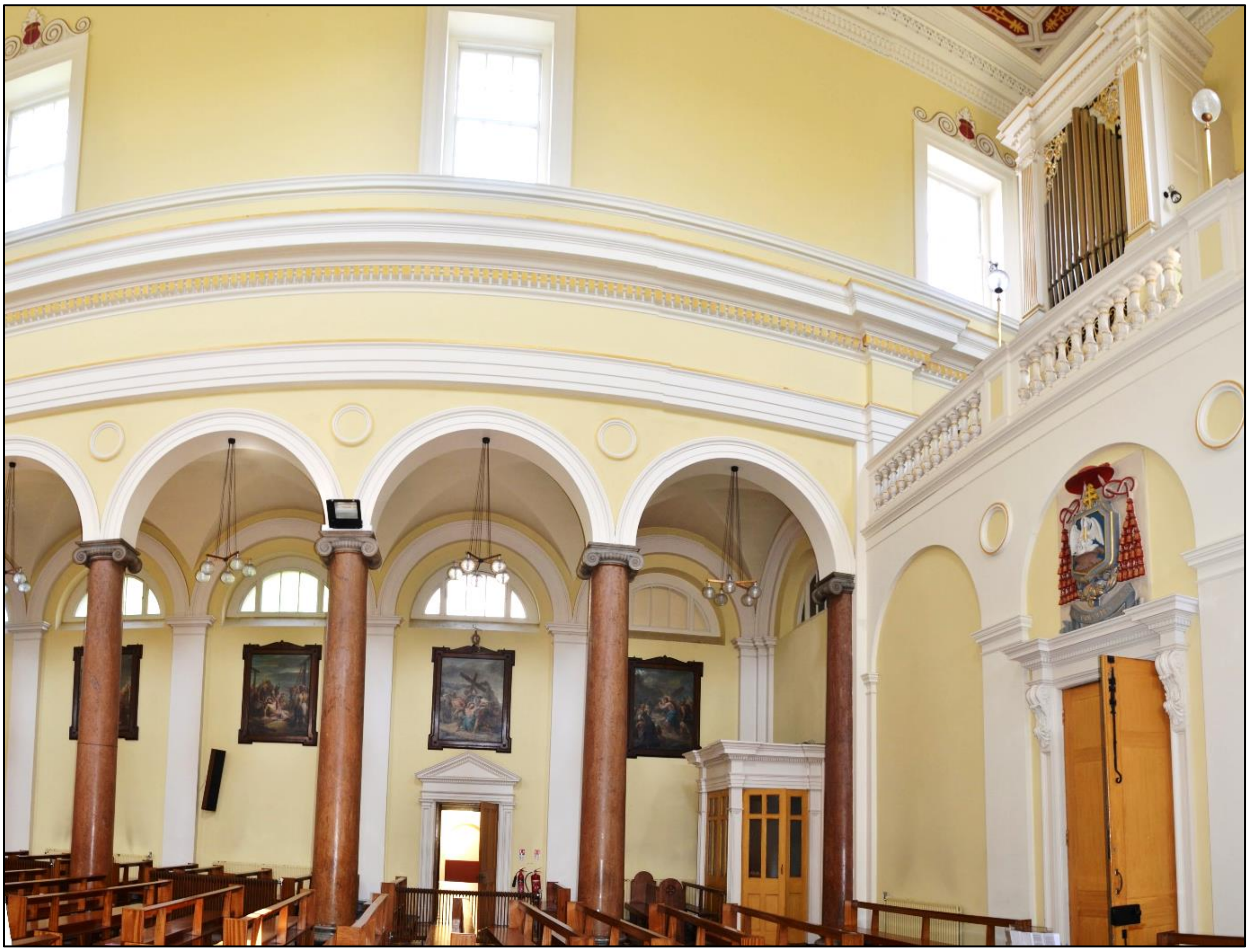


Figure 14.55: View of the Stations of the Cross painting and the painting to the arch of the apse.

The safe within the mid-20th Century sacristy bears a plaque, inscribed '*Presented by the Students 1909'* (Figure 14.56). This was the year of the celebration of the college Jubilee. The safe is therefore of some historic significance. It should be salvaged for re-use within the site.

The carved timber architrave and pediment to the doors on the northern wall of the side aisles (Figure 14.56) are of architectural interest and contribute to the character of the Church. They will be retained in situ.

Figure 14.56: View of a safe within the Sacristy (left), and carved timber architrave to the door linking the Church with the Seminary (right).

14.3.3.4 Assembly Hall

Description – Exterior

The subject building is a two-storey multi-bay rendered structure with side aisles and a pitched roof. The primary entrance faces south towards Clonliffe Road, and there is a secondary smaller entrance facing north into the College Quadrangle.

Description - Interior

A brief description of the interior of the subject building, outlining the extent or surviving original material, and any features which are of significance, is provided below.

The interior of the building is largely comprised of a large open-plan double-height space with a first floor mezzanine. There are ancillary rooms to the front and rear of this main space.

The main space is double-height, with a modern mezzanine level (Figure 14.57). There are side aisles at ground floor level, separated from the main space by an arcade of columns. There are roof-lights to the side aisles. There are tall round-headed multi-pane windows with coloured glass sections to the main space at mezzanine level. These windows are of architectural interest and contribute to the character of the space.

There is a staircase to the front (southern) section of the building, with a multi-pane sash window to match those in the main space (Figure 14.58). There are smaller round-headed windows to the front façade at first floor level, with central opening sections.

Figure 14.57: View of the mezzanine level showing the original multi-pane windows.

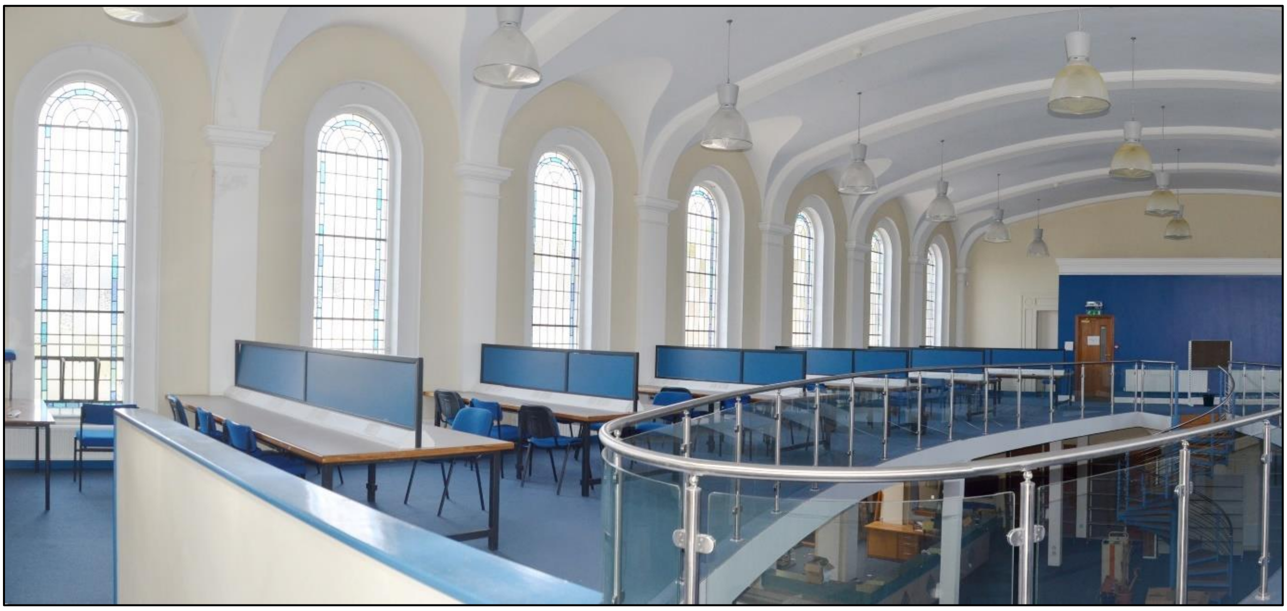
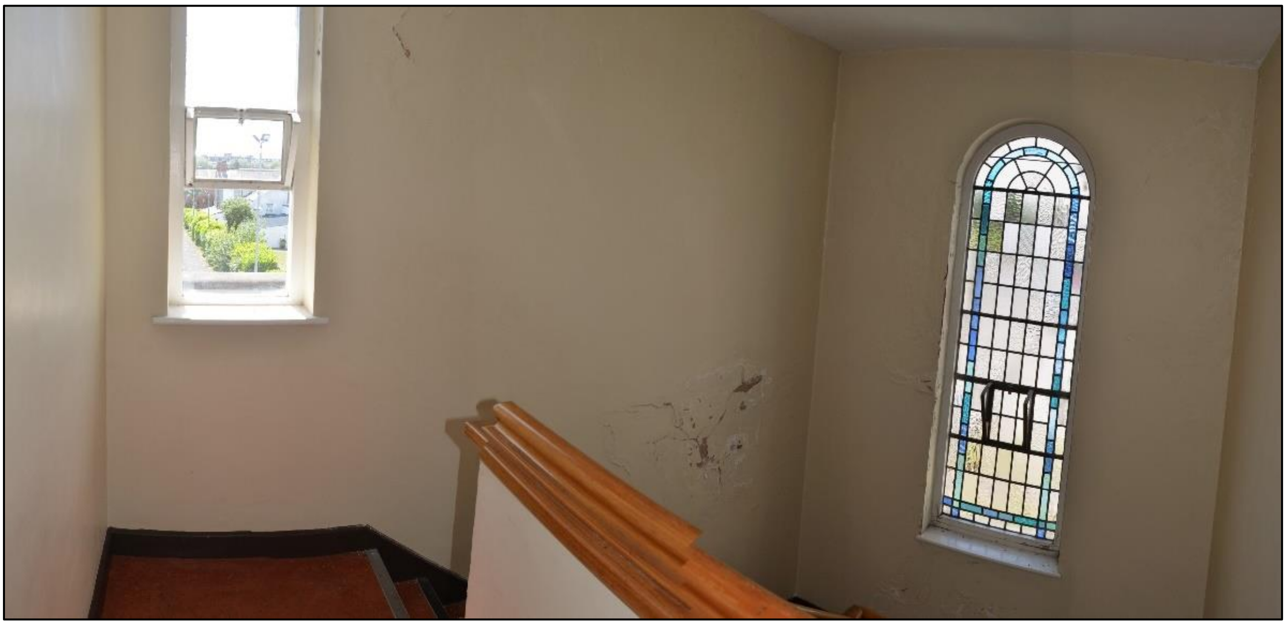


Figure 14.58: Front stair hall to the building.



The former stage area is now in use as archival storage (Figure 14.59). This area is a double-height space with exposed timber roof structure. The windows to this space match those in the main space of the building.

The interior of the Assembly Hall today is largely modern, and is not considered to be of any particular architectural or other significance. The date for these modern interventions is not known.

Figure 14.59: Room to the rear of the building, formerly where the stage was located.

Detailed descriptions of the interiors have been carried out on a Room-by-Room basis and are laid out in the following tables. A full photographic survey has been carried out and appended in the form of a photographic record (Appendices 14.4 – 14.10). This Photographic Record should be read alongside this section.

Table 14-6: Rooms in Assembly Hall – All Levels

Room No.	Description
Basement	
B.01	This room is the circulation corridor at basement level. There are no features of architectural interest.
B.02	This room is a basement storage area. The ceiling is supported by steel beams and columns.
Ground Floor	
G.01	There is a round-headed window in an arched ope on the southern wall of this room. There is a modern timber window in an arched ope on the northern wall of the room. The entrance to this room is via a modern timber door in an arched ope on the eastern wall of this room.
G.02	This room is the large central space of the Assembly Hall. There is a modern mezzanine level to this room, with a central void. There are modern columns supporting the mezzanine level. The room is now in use as a library, with modern shelving.
G.03	This room is the western side aisle to the central space of the Assembly Hall. There are circular roof-lights to this space. There are arches at regular intervals along this aisle.
G.04	This room is the eastern side aisle to the central space of the Assembly Hall. There are circular roof-lights to this space. There are arches at regular intervals along this aisle.
G.05	There is a round-headed timber window in an arched ope on the southern wall. There is a modern timber window in an arched ope on the northern wall. There is a modern timber door in an arched ope on the western wall.
G.06	There are two timber doors on the northern wall, and two timber doors with glazed inset panels on the southern wall. There is a staircase at the western end of the room.
G.07	There are two round-headed leaded windows on the southern wall of this room.
G.08	This room is the stairhall at the western end of Room G.06. There is a round-headed leaded window on the western wall.
G.09	This room is at the northern end of Room G.02. There is a modern reception desk and a modern spiral staircase to mezzanine level in this room.
G.10	This room is a modern lobby area to the main space at Ground Floor Level. There are double timber doors with glazed panels on the northern wall.
G.11	This room is a modern stairhall constructed against the northern wall of the original Room G.02. The decorative proscenium of the original stage is visible on the northern wall of this room. The stage has been blocked up with a modern lightweight partition.
G.12	This room is a secondary entrance corridor from the Ambulatory. There are modern timber double doors on the northern wall, and timber doors with leaded glass inserts on the southern wall. There is a parquet timber floor to this room and circular roof-lights.
G.13	There are three round-headed windows on the southern wall.
G.14	This room is a modern corridor. There are no features of architectural interest.
G.15	This room is a modern WC with two cubicles. The room is formed by modern partition walls. There are two round-headed windows on the western wall.
G.16	There are three round-headed windows on the western wall.
G.17	There are three round-headed windows on the western wall.
G.18	This room is the former stage area of the Assembly Hall. The timber beams of this roof are exposed here. There are round-headed windows on the eastern and western walls of the room, and a tri-partite Venetian window on the northern wall. The room has modern archival storage.
First Floor	
F.01	This room is the stairhall at first floor level. There is a round-headed leaded window on the southern wall. There is a round-headed leaded window with coloured border on the western wall.
F.02	There are five round-headed windows on the southern wall. There is a pair of modern double doors on the northern wall.
F.03	There is a round-headed leaded window on the southern wall. There is a round-headed leaded window with coloured border on the eastern wall.

Room No.	Description
F.04	This room is the mezzanine level to Room G.02. There are seven round-headed leaded windows on the western and eastern walls. There are modern partition walls enclosing the modern staircase (Room G.11) to the northern end of the room.

14.3.3.5 New Wing

Description - Exterior

The subject building is a three-storey multi-bay T-shaped block, sand and cement rendered. There is an arcade on the southern elevation to the quadrangle. There are tri-partite windows in the central and end bays of the southern elevation. The building has a pitched and hipped slate roof. There is a projecting entrance porch to the wing on the western elevation. A modern extension has been constructed to the northern elevation of the building, which now functions as a staircase and secondary entrance into the wing.

Description - Interior

The typical internal layout of accommodation within the New Wing is illustrated in Figure 14.60. The layout is a straightforward double-hung central corridor with staircases at the ends of each wing. This layout appears to remain largely extant at First and Second Floor Levels, with the original bedrooms now in use as offices. It appears that this area ofthe building was sparsely decorated and there are no surviving decorative features of architectural, artistic or other interest. A number of the rooms at first and second floor levels retain the original cast-iron radiators (Figure 14.61), which are considered to be of some interest and worth salvaging.

Figure 14.60: Survey Drawing, Jones & Kelly Architects. In Dublin Diocesan Archives.

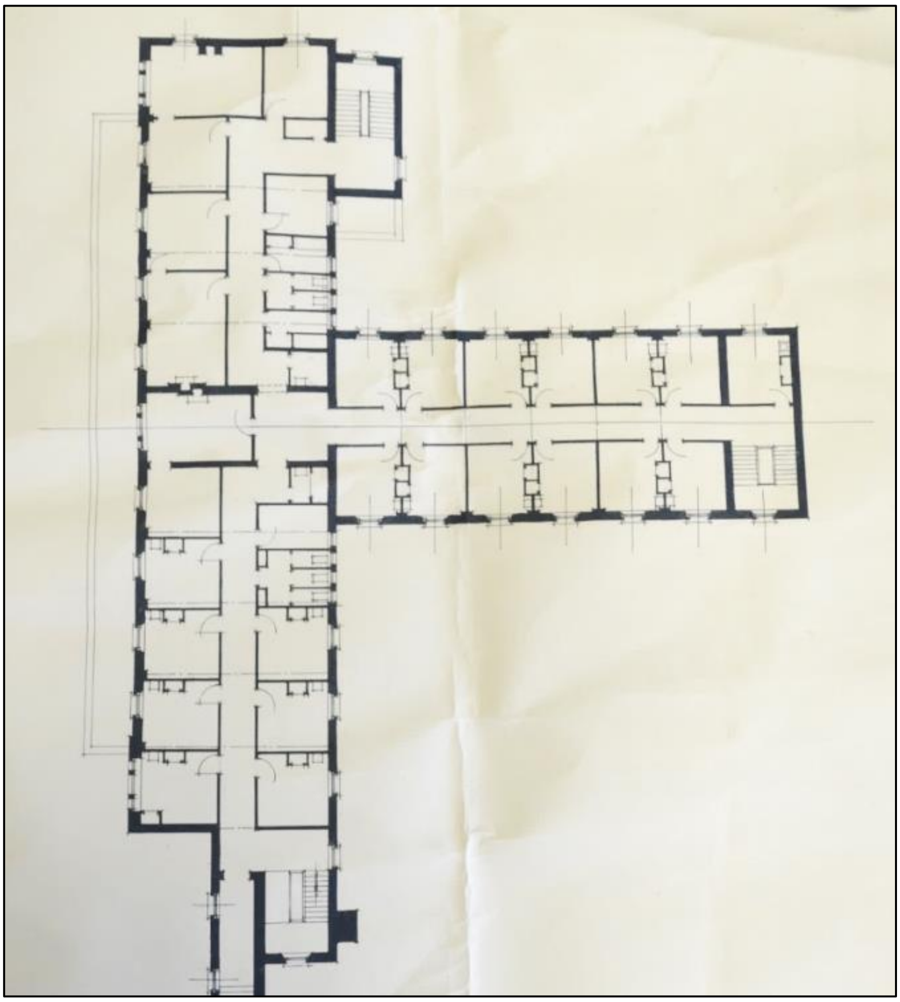
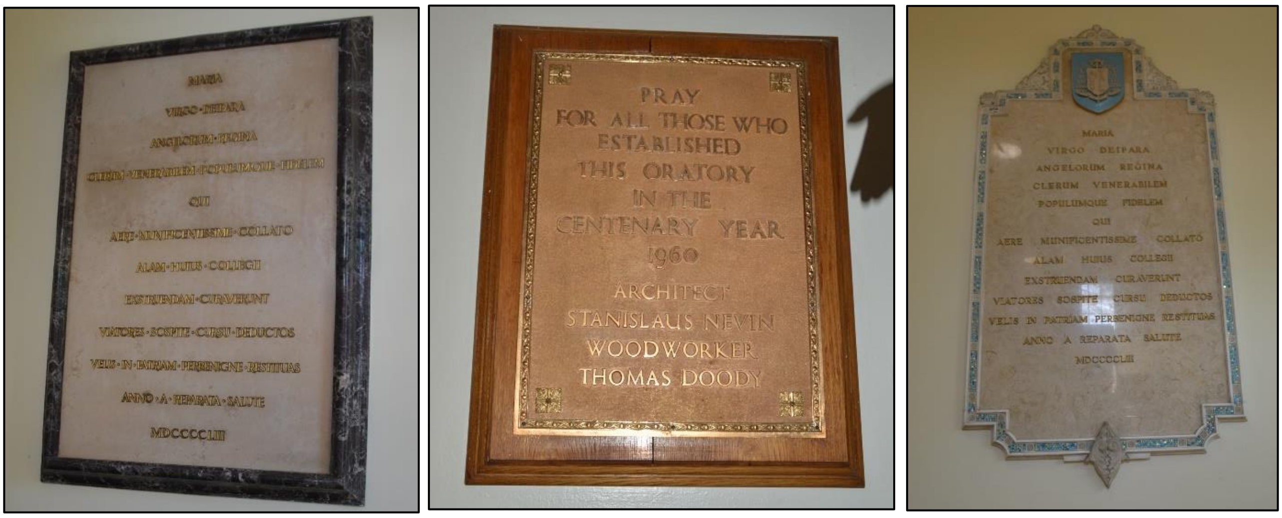


Figure 14.61: Photo showing a surviving cast-iron radiator within the New Wing. There are several surviving examples of this type of radiator throughout first and second floor levels.

Other fixtures within this wing which are considered to be of some artistic interest include the plaques at the main stair hall and at the entrance to the Oratory (Figure 14.62).

Figure 14.62: View of the stone plaques in the main stair hall and the timber and bronze plaque at the entrance to the Oratory.



Architectural features such as the timber sash windows are not considered to be of any particular interest due to their relative modernity and lack of any particular artistic interest. It is considered that the windows are of some significance in their contribution to the character of the external appearance of the building, and in particular the southern elevation to the Quadrangle.

Detailed descriptions of the interiors have been carried out on a Room-by-Room basis and are laid out in the following tables. A full photographic survey has been carried out and appended in the form of a photographic record (Appendices 14.4 – 14.10). This Photographic Record should be read alongside this section.

Table 14-7: Rooms in New Wing – Ground Floor Level

Room No.	Description
G.01	This room is the link corridor between the Main Seminary Block and the New Wing. There are two round-headed timber sash windows on the southern wall.
G.02	This room is the primary stairhall at ground floor level of the New Wing. The stairs are located to the eastern end of the room. There is a six-over-six timber sash window at half-landing level on the eastern wall. There are two pairs of double doors, one on the northern wall and one on the southern wall. There are leaded side-lights and over-lights to both pairs of double doors. There is a stone plaque with a Latin inscription on the western wall. There is a modern internal window to Room G.15 on the southern wall.
G.03	This room is a central circulation corridor at ground floor level. There are no features of architectural interest.
G.04	This room is the lobby area to the oratory at Ground Floor Level. There is an arched ope to the western wall. There are timber double doors with leaded glass panels on the northern wall. There is a cornice and decorative corbels to the ope to the oratory. A bronze panel on the western wall commemorates the construction of the oratory.
G.05	This room is the Oratory at ground floor level (Figure 14.63). The room was originally an Aula Maxima for the college. The oratory was constructed in c. 1960, following the construction of the Assembly Hall on campus. The room appears to retain many of its original features and fittings. This includes, the walnut panelling, the timber pews, the statue of the Virgin Mary and Diving Child, the crucifix and the sanctuary lamp. These features are considered to be of artistic interest, with the panelling being of architectural interest also. The architect for the Oratory was Stanislaus Nevin, and the woodwork within the Oratory was

Room No.	Description
	carried out by Thomas Doody. The windows in the room are round-headed leaded glass sash windows, which appear to match the windows in the Assembly Hall.
G.06	This room is a central circulation corridor at the western end of the New Wing. There are three modern internal timber windows on the southern wall.
G.07	This room is a modern WC. There are two cubicles in the north-western corner of the room. There are three windows on the northern wall.
G.08	There are three round-headed timber sash windows on the southern wall of the room and three modern internal windows on the northern wall.
G.09	This room is the corridor at the western end of the room. There are no features of architectural interest.
G.10	This room is the secondary stairhall at the western end of Ground Floor Level. There is a pair of double doors on the northern wall, with leaded glass panels and over-light. There is a timber sash window on the northern wall of the stairhall, and another at the half-landing level on the western wall.
G.11	There is a round-headed window on the southern wall of the room.
G.12	This room is a modern WC. There are two cubicles in the north-eastern corner of the room. There are three windows on the northern wall. There are modern timber internal clerestory windows on the southern wall.
G.13	There are three sash windows on the northern wall of this room.
G.14	There are two windows on the southern wall of the room.
G.15	There is a tripartite Venetian window on the southern wall of the room.

Figure 14.63: Views of the original Sanctuary Lamp and walnut panelling in the Oratory. These are considered to be of artistic and architectural interest.

Table 14-8: Rooms in New Wing – First Floor Level

Room No.	Description
F.01	This room is the primary stairhall at first floor level of the New Wing. The stairs are located to the eastern end of the room. There is a six-over-six timber sash window at half-landing level on the eastern wall. There is a stone plaque with a Latin inscription on the western wall. There is an arched ope to Room F.02 on the eastern wall. There is a six-over-six timber sash window on the northern wall.
F.02	This room is the link corridor between the Main Seminary Block and the New Wing at First Floor Level. There are two six-over-six timber sash windows on the southern wall and one six-over-six timber sash window on the northern wall.
F.03	This room is the eastern section of the central circulation corridor at First Floor Level.
F.04	There is a tripartite Venetian window on the southern wall of this room.
F.05	There is a six-over-six timber sash window on the northern wall.
F.06	There is a six-over-six timber sash window on the southern wall.
F.07	There is a six-over-six timber sash window on the northern wall.
F.08	There is a six-over-six timber sash window on the southern wall.
F.09	There is a six-over-six timber sash window on the northern wall.
F.10	There are modern partition walls creating cubicles in this room. There are two windows on the northern wall.
F.11	There is a six-over-six timber sash window on the southern wall.
F.12	There are modern partition walls creating cubicles in this room. There are two windows on the northern wall.
F.13	There is a six-over-six timber sash window on the southern wall.
F.14	This room is the western end of Room F.03. There is an arched ope on the western wall of the room.
F.14A	This room is located to the north of Room F.14. It is a small storage space with services.
F15	There is a tripartite Venetian window on the southern wall, and a modern door ope on the eastern wall.
F.16	This room is the central lobby area at First Floor level. There is an arched ope on the eastern wall.
F.17	This room is the eastern end of Room F.18.
F.17A	This room is a small storage and service area to the north of Room F.17.
F18	This room is the western section of the central circulation corridor at First Floor Level.
F.19	There is a window on the northern wall of this room.
F.20	There are modern lightweight partition walls forming two cubicles in this room. There are two windows on the northern wall.
F.21	There are two six-over-six timber sash windows on the southern wall.
F.22	There are modern lightweight partitions subdividing this room. There is a window on the northern wall.
F.23	There is a six-over-six timber sash window on the southern wall.
F.24	There is a six-over-six timber sash window on the northern wall.
F.25	This room is the hall at the western end of Room F.18.
F.26	There is a tripartite Venetian window on the southern wall, and a six-over-six timber sash window on the western wall. There is a chimneybreast with a modern fireplace on the western wall.
F.27	There is a six-over-six timber sash window on the western wall. There is a modern fireplace on the northern wall.
F.28	This room is the secondary stairhall at the western end of the room. There is a six-over-six timber sash window on the northern wall, and a six-over-six timber sash window at half-landing level on the western wall.
F.29	This room is the central circulation corridor in the northern section of the building.
F.30	There is a six-over-six timber sash window on the eastern wall of the room.
F.31	There is a six-over-six timber sash window on the western wall of the room.
F.32	There is a six-over-six timber sash window on the eastern wall of the room.
F.33	There is a six-over-six timber sash window on the western wall of the room.
F.34	There is a six-over-six timber sash window on the western wall of the room.
F.35	There is a six-over-six timber sash window on the eastern wall of the room.

Room No.	Description
F.36	There is a six-over-six timber sash window on the eastern wall of the room.
F.37	There is a six-over-six timber sash window on the western wall of the room.
F.38	There is a six-over-six timber sash window on the western wall of this room.
F.39	There is a six-over-six timber sash window on the eastern wall of this room.
F.40	This room is the lobby area between Rooms F.40 and F.41.
F.41	This room is the northern stairhall at first floor level. There is a modern glazed extension to the northern wall, containing an elevator and a small lobby area.
F.42	There is a six-over-six timber sash window on the western wall of the room.
F.43	There is a six-over-six timber sash window on the western wall of the room.

Table 14-9: Rooms in New Wing – Second Floor Level

Room No.	Description
S.01	This room is the western section of the central circulation at Second Floor Level.
S.02	There is a window on the northern wall of the room.
S.03	There are two six-over-six timber sash windows on the southern wall of the room.
S.04	There are lightweight modern partitions forming two cubicles in this room. There are two windows on the northern wall.
S.05	There are modern lightweight partition walls subdividing this room. There is a window on the northern wall.
S.06	There is a six-over-six timber sash window on the southern wall of the room.
S.07	There is a six-over-six window on the northern wall of the room.
S.08	This room is the hall at the western end of Room S.01.
S.09	There is a six-over-six timber sash window on the southern wall.
S.10	There is a six-over-six timber sash window on the western wall, and a tripartite Venetian window on the southern wall. There is a chimney breast with a modern fireplace on the western wall.
S.11	There is a six-over-six timber sash window on the western wall of the room.
S.12	This room is the secondary stairhall to the western end of the New Wing. There is a six-over-six timber sash window on the northern wall, and a six-over-six timber sash window on the half-landing between First and Second floor. There is a modern door with glazed panels and side-lights on the southern wall.
S.13	This room is the eastern end of Room S.01.
S.13A	This room is a small storage and service space.
S.14	This room is the central hall at Second Floor Level. There are arched opes on the eastern and western walls, and a square ope on the northern wall.
S.15	There is a six-over-six timber sash window on the western wall of the room.
S.16	There is a six-over-six timber sash window on the western wall of the room.
S.17	There is a six-over-six timber sash window on the eastern wall of the room.
S.18	There is a six-over-six timber sash window on the eastern wall of the room.
S.19	There is a six-over-six timber sash window on the western wall of the room.
S.20	There is a six-over-six timber sash window on the eastern wall of the room.
S.21	There are two six-over-six timber sash windows on the eastern wall of the room.
S.22	There is a six-over-six timber sash window on the western wall of the room.
S.23	There is a six-over-six timber sash window on the western wall of the room.
S.24	There is a six-over-six timber sash window on the eastern wall of the room.
S.25	There is a six-over-six timber sash window on the western wall of the room.
S.26	This room is the secondary stairhall to the northern end of the New Wing. There is a glazed extension to the north, housing an elevator and small lobby area. There is a six-over-six timber sash window at half-landing level on the eastern wall.
S.26A	This room is the lobby area to the elevator in the glazed extension at the northern end of the building.
S.27	This room is the western end of Room S.28, the central circulation corridor at Second Floor Level.
S.27A	This room is a small storage and service space to the north of Room S.27.

Room No.	Description
S.28	This room is the eastern section of the central circulation corridor at Second Floor Level.
S.29	There is a six-over-six timber sash window on the southern wall.
S.30	There are modern lightweight partition walls forming toilet cubicles in the north-eastern corner of the room. There are two windows on the northern wall.
S.31	There is a six-over-six timber sash window on the southern wall of the room.
S.32	There are modern lightweight partition walls subdividing the room into two cubicles. There are two windows on the northern wall.
S.33	There is a six-over-six timber sash window on the northern wall of the room.
S.34	There is a six-over-six timber sash window on the southern wall of the room.
S.35	There is a six-over-six timber sash window on the northern wall of the room.
S.36	There is a six-over-six timber sash window on the southern wall of the room.
S.37	There is a six-over-six timber sash window on the northern wall of the room.
S.38	There is a tripartite Venetian window on the southern wall of the room.
S.39	This room is the eastern stairhall at Second Floor Level. There is a six-over-six timber sash window on the northern wall of the room. There is a six-over-six timber sash window at half-landing level on the eastern wall.
S.40	This room is the link corridor between the Main Seminary Block and the New Wing. There are two six-over-six timber sash windows on the southern wall, and a six-over-six timber sash window on the northern wall.

14.3.3.6 Library Wing

Description – Exterior

The subject building is a four-storey multi-bay T-shaped block, sand and cement rendered, dating from the 1960s. The building has a pitched and hipped slate roof. There are Venetian windows at ground floor level, with round-headed windows at first floor level.

Description – Interior

This building dates from c. 1969 and is not considered to be of any particular architectural significance. The interiors have little or no architectural or decorative features of interest and are not considered to be of any particular architectural significance.

Detailed descriptions of the interiors have been carried out on a Room-by-Room basis and are laid out in the following tables. A full photographic survey has been carried out and appended in the form of a photographic record (Appendices 14.4 – 14.10). This Photographic Record should be read alongside this section.

Table 14-10: Rooms in Library Wing – Ground Floor Level

Room No.	Description
G.01	This room is the modern entrance hall at Ground Floor Level. The link corridor to the Main Seminary Block is to the south-west of the room. There is a modern entrance porch to the southern wall. There is a tripartite Venetian window on the western wall of the room. There is an arch on the eastern wall, containing modern double doors.
G.02	This room is the primary stairhall at Ground Floor Level. There is an arched ope on the northern wall, containing a modern pair of double doors with fan-light and side-lights. There is an arch on the western wall of the room. The staircase is to the southern end of the room. There is a round-headed window at half-landing level on the southern wall.
G.03	This room is the main circulation corridor at ground floor level. There are modern roof-lights to the ceiling. There are arches at regular intervals along the corridor.
G.04	There are two six-over-six timber sash windows on the southern wall.

Room No.	Description
G.05	There are three timber Venetian windows on the southern wall of the room. There is a timber mantelpiece on the eastern wall. There are two downstand beams to the ceiling.
G.06	There is a round-headed timber sash window on the western wall of the room. There are modern lightweight partition walls subdividing the room. There is a round-headed timber sash window on the northern wall of the room.
G.07	There is a round-headed timber sash window on the northern wall of the room.
G.08	There is a round-headed timber sash window on the northern wall of the room.
G.09	There are two round-headed timber sash windows on the northern wall of the room. Modern lightweight partitions subdivide the room.
G.10	There is a round-headed timber sash window on the northern wall.
G.11	There are seven timber Venetian windows on the southern wall of the room. There are downstand beams to the ceiling of the room. Modern lightweight partition walls along the northern wall of the room form two board rooms.
G.12	This room is formed by modern lightweight partition walls. There is a modern suspended ceiling.
G.13	This room is formed by modern lightweight partition walls. There is a modern suspended ceiling.
G.14	This room is the central section of the circulation corridor. There are door opes to the north and south. There are arched opes with double doors and fanlights to the east and west.
G.15	This room is a lobby area to Room G.18.
G.16	There are four round-headed timber sash windows on the northern wall of the room.
G.17	This room is formed by modern partition walls. There are no features of architectural interest.
G.18	This room is a modern storage area. There are two windows on the eastern wall of the room. There are modern glazed partition walls to the north.
G.19	This room is formed by modern lightweight glazed partition walls. There are two round-headed timber sash windows on the western wall.
G.20	This room is a modern circulation corridor between the modern glazed partition walls to the east and west.
G.21	This room is a secondary entrance hall. There are timber double doors on the eastern wall, with leaded glass side-lights and over-light.
G.22	This room is a central circulation corridor. There are no features of architectural interest.
G.23	This room is a secondary stair hall. There are modern external timber double doors on the eastern wall of the room. There are modern stairs to the western end of the room, with a round-headed timber sash window on the western wall at half-landing level. There is a narrow flight of steps leading to basement level.
G.24	This room is the central circulation corridor to the northern section of the northern wing of the building. There is a round-headed timber sash window on the northern wall.
G.25	There is a round-headed timber sash window on the eastern wall of the room.
G.26	There is a round-headed timber sash window on the western wall of the room.
G.27	The original room has been subdivided by modern partition walls. There is a timber sash window on the western wall.
G.28	The original room has been subdivided by modern partition walls. There is a timber sash window on the western wall.
G.29	This room is the eastern section of the central circulation corridor. There are roof-lights to the ceiling and arches at regular intervals along the corridor. There is an arched ope on the southern wall with glazed screen and double doors.
G.30	There is a round-headed timber sash window on the northern wall.
G.31	There are modern partition walls subdividing this room. There is a round-headed timber sash window on the northern wall, and a sash window on the eastern wall of the room.
G.32	This room is the secondary stairhall at the eastern end of the building. There are double doors on the eastern wall. There is a round-headed timber sash window on the southern wall at half-landing level.

Table 14-11: Rooms in Library Wing – First Floor Level

Room No.	Description
F.01	This room is the link corridor between Main Seminary Block and the Library Wing. There are two windows on the eastern wall and three windows on the western wall.
F.02	This room is a modern extension to the northern end of the Main Seminary Block. There is a window on the northern wall of the room.
F.03	This room is the northern section of the link corridor between the Main Seminary Block and the Library Wing.
F.04	This room is a small WC. There is a six-over-six timber sash window on the northern wall.
F.05	There is a six-over-six timber sash window on the southern wall of the room.
F.06	There are modern partition walls subdividing this room. There is a six-over-six timber sash window on the northern wall.
F.07	This room is the primary stairhall at First Floor Level. There are round-headed timber sash windows at half-landing levels on the southern wall.
F.08	There is a round-headed timber sash window on the southern wall.
F.09	There is a round-headed timber sash window on the northern wall of the room.
F.10	There is a lightweight partition wall to the western side of the room. There is a round-headed timber sash window on the southern wall.
F.11	There is a round-headed timber sash window on the southern wall.
F.12	This room is in the northern wing of the building. It is the reading room of the Diocesan archives. There are three round-headed timber sash windows on both the eastern and western walls. There are downstand beams running across the ceiling.
F.13	The four windows on both the eastern and western walls of the room have been blocked up by metal roller shutters.
F.14	This room is a small storage area at the junction between the northern wing and the main wing of the building.
F.15	This room is a small storage area at the junction between the northern wing and the main wing of the building.
F.16	This room is the junction of the corridor and the northern wing. There are modern lightweight partition walls to the east.
F.17	This room is formed by modern lightweight partition walls which form a lobby area within the corridor.
F.18	There is a round-headed timber sash window on the southern wall of the room.
F.19	This room is formed by modern lightweight partition walls subdividing the original room.
F.20	This room has been subdivided by modern lightweight partition walls. There is a round-headed timber sash window on the northern wall.
F.21	This room has been subdivided by modern lightweight partition walls. There is a modern clerestory window on the northern wall of the room.
F.22	There is a round-headed timber sash window on the southern wall of the room.
F.23	There is a round-headed timber sash window on the northern wall of the room.
F.24	There is a round-headed timber sash window on the southern wall of the room.
F.25	There are two round-headed timber sash window on the southern wall of the room.
F.26	There is a round-headed timber sash window on the northern wall of the room.
F.27	This room is the western section of the central circulation corridor at First Floor Level.
F.28	There are modern lightweight partition walls subdividing this room. There are two round-headed timber sash windows on the northern wall of the room.
F.29	There is a round-headed timber sash window on the southern wall of the room.
F.30	There is a round-headed timber sash window on the northern wall of the room.
F.31	There is a round-headed timber sash window on the northern wall of the room.
F.32	There is a round-headed timber sash window on the northern wall of the room.

Table 14-12: Rooms in Library Wing – Second Floor Level

Room No.	Description
S.01	This room is the primary stairhall at Second Floor Level. There are round-headed timber sash windows on the southern wall at half-landing level.
S.02	There is a large central ope on the subdividing wall in the centre of this room. There are two six-over-six timber sash windows on the northern wall of the room.
S.03	There is a six-over-six timber sash window on the southern wall of the room.
S.04	This room is the western section of the central circulation corridor at Second Floor Level.
S.05	There are two six-over-six timber sash windows on the southern wall of the room.
S.06	This room has been subdivided by modern lightweight partition walls.
S.07	There is a large central ope on the subdividing wall in the centre of this room. There are two six-over-six timber sash windows on the southern wall of the room.
S.08	This room is the junction between the central circulation corridor and the northern wing of the building.
S.09	This room is a small room at the junction between the northern wing and the main body of the building.
S.10	This room is the central circulation corridor to the northern wing of the building.
S.11	There is a six-over-six timber sash window on the western wall of the room.
S.12	There is a six-over-six timber sash window on the eastern wall of the room.
S.13	There is a six-over-six timber sash window on the western wall of the room.
S.14	There is a six-over-six timber sash window on the eastern wall of the room.
S.15	There is a six-over-six timber sash window on the western wall of the room.
S.16	There is a six-over-six timber sash window on the eastern wall of the room.
S.17	There is a six-over-six timber sash window on the western wall of the room.
S.18	There is a six-over-six timber sash window on the eastern wall of the room.
S.19	There is a six-over-six timber sash window on the eastern wall of the room.
S.20	There is a six-over-six timber sash window on the western wall of the room.
S.21	This room is the northern section of Room S.10. There is a pair of modern double doors on the northern wall.
S.22	There is a six-over-six timber sash window of the western wall of the room.
S.23	There is a six-over-six timber sash window of the eastern wall of the room.
S.24	There is a large central ope on the subdividing wall in the centre of this room. There are two six-over-six timber sash windows on the eastern wall of the room.
S.25	There is a six-over-six timber sash window on the western wall of the room.
S.26	This room is the stairhall to the secondary staircase at the northern end of the building. There is a six-over-six timber sash window on the northern wall.
S.27	There is a large central ope on the subdividing wall in the centre of this room. There are two six-over-six timber sash windows on the southern wall of the room.
S.28	This room is the eastern section of the main circulation corridor in the main section of the building.
S.29	There is a six-over-six timber sash window on the southern wall of the room.
S.30	There are two six-over-six timber sash timber sash windows on the northern wall of the room.
S.31	There is a six-over-six timber sash window on the northern wall of the room.
S.32	There is a six-over-six timber sash window on the southern wall of the room.
S.33	There is a six-over-six timber sash window on the northern wall of the room.
S.34	This room is the secondary stairhall at the eastern end of the building. There is a six-over-six timber sash window on the eastern wall of the room.

Table 14-13: Rooms in Library Wing – Third Floor Level

Room No.	Description
T.01	This room is the secondary stairhall at the eastern end of the building. There is a six-over-six timber sash window on the eastern wall of the room.
T.02	There is a six-over-six timber sash window on the northern wall of the room.
T.03	There is a six-over-six timber sash window on the southern wall of the room.
T.04	There is a six-over-six timber sash window on the northern wall of the room.
T.05	There are two six-over-six timber sash windows on the northern wall of the room.
T.06	There is a six-over-six timber sash window on the southern wall of the room.
T.07	There is a six-over-six timber sash window on the northern wall of the room.
T.08	There is a six-over-six timber sash window on the southern wall of the room.
T.09	This room is the junction between the central circulation corridor and the northern wing of the building.
T.10	This room is the central circulation corridor to the northern wing of the building.
T.11	There is a six-over-six timber sash window on the southern wall of the room.
T.12	There is a six-over-six timber sash window on the southern wall of the room.
T.13	This room is subdivided by modern lightweight partitions. There is a modern clerestory window on the northern wall.
T.14	There are two six-over-six timber sash windows on the northern wall of the room.
T.15	This room is the western section of the main circulation corridor at Third Floor Level. There is a pair of double doors on the western end of the room.
T.16	This room is a small room at the junction of the main section of the building and the northern wing.
T.17	There is a six-over-six timber sash window on the southern wall of the room.
T.18	There is a large central ope on the subdividing wall in the centre of this room. There are two six-over-six timber sash windows on the eastern wall of the room.
T.19	There is a six-over-six timber sash window on the western wall of the room.
T.20	There is a large central ope on the subdividing wall in the centre of this room. There are two six-over-six timber sash windows on the eastern wall of the room.
T.21	There is a six-over-six timber sash window on the western wall of the room.
T.22	There is a six-over-six timber sash window on the western wall of the room.
T.23	There is a six-over-six timber sash window on the eastern wall of the room.
T.24	This room is the northern stairhall at Third Floor Level. There is a six-over-six timber sash window on the northern wall of the room.
T.25	There is a large central ope on the subdividing wall in the centre of this room. There are two six-over-six timber sash windows on the eastern wall of the room.
T.26	There is a six-over-six timber sash window on the western wall of the room.
T.27	There is a six-over-six timber sash window on the northern wall of the room.
T.28	There is a six-over-six timber sash window on the western wall of the room.
T.29	There is a six-over-six timber sash window on the northern wall of the room.
T.30	There are two six-over-six timber sash windows on the southern wall of the room.
T.31	There is a six-over-six timber sash window on the southern wall of the room.
T.32	Access to this room was not available during the preparation of this report.
T.33	There is a six-over-six timber sash window on the northern wall of the room.
T.34	This room is the primary stairhall at Third Floor Level. There is a six-over-six timber sash window on the western wall.

14.3.3.7 Ambulatory

The subject structure is an L-shaped multi-bay open arcade with pairs of columns supporting round-headed arches. The structures is cement rendered. Arched niches within the arcade contain mosaic panels. There are render keystones to the arches, and roundels between the arches.

14.3.4 Significance

The primary significance of the buildings on site is based on the ensemble, and on the contribution of the buildings to the character of the site. Individually, the buildings are of varying degrees of significance. Later buildings are not considered to add to the significance of the ensemble, and are not considered to be significant in their own right.

14.3.4.1 Architectural Significance

The architectural significance of the Site is largely based in the ensemble of buildings and the creation of formal spaces between the buildings. Individually, the College Church, South Link Building and the Main Seminary Block are of primary architectural significance. Views towards the main facades of these buildings from the entrance avenue and from the Red House are of significance. Internally, the main Seminary Block is not considered to be particularly significant. The interior of the Church is considered to be of architectural significance.

The Assembly Hall, Ambulatory, and New Wing are also of significance, with particular regard to their role, alongside the Main Seminary Block, in forming the formal quadrangle to the rear of the Seminary. The primary feature of significance in the New Wing is the ambulatory on the southern elevation.

A more detailed assessment of the significance of the structures on Site follows below. The architectural significance of the New Wing and the Library Wing (not Protected Structures) is assessed in line with the criteria in the *Architectural Heritage Protection Guidelines for Planning Authorities* (DoAHG, 2011):

- *A generally agreed exemplar of good quality architectural design;*
- *The work of a known and distinguished architect, engineer, designer or craftsman;*
- *An exemplar of a building type, plan-form, style or styles of any period but also the harmonious interrelationship of differing styles within one structure;*
- *A structure which makes a positive contribution to its setting, such as a streetscape or a group of structures in an urban area, or the landscape in a rural area;*
- *A structure with an interior that is well designed, rich in decoration, complex or spatially pleasing.*

Main Seminary Block

This structure is listed on the DCC Record of Protected Structures.

The front façade is of primary significance and remains largely unaltered from its original form. The façade is of architectural significance in and of itself, and also in its contribution to the character of the setting of the college lands.

The rear façade is of considerably lesser significance than the front façade. The addition of rear toilet blocks and other later alterations have changed the form and appearance of the rear façade from its original form. Furthermore, the area to the rear of the block was formerly informal playing grounds rather than the formal quadrangle and garden extant today. The rear setting of the block was transformed by the construction of the New Wing and Ambulatory. The original rear façade of the Block was not designed with the intention for it to be viewed, and has less decorative detail than the front façade.

The interior of the Block has been transformed in modern times, with localised reconstruction following a fire in the early 20th Century and a later 20th Century wholesale reconstruction of the interior. The interior as it exists today appears to be almost entirely a late 20th Century reconstruction, and is not considered to be of any particular interest.

South Link Building

This structure is listed on the DCC Record of Protected Structures.

The front façade of the block was designed alongside the College Church and intended to form both a physical and a visual link between the Main Seminary Block and the new Church. The façade faces onto the front setting of the college and contributes to the character of the group of buildings.

The rear façade is largely invisible and blocked up by later interventions. As with the Seminary Block above, this structure predates the creation of the formal gardens in the rear quadrangle, and the rear façade is of lesser significance than the front façade.

The interior has been significantly altered at ground floor level. Some features of interest survive at first floor level, as outlined in Section 14.3.3.2, above. The interiors of the building cannot be considered to be of any considerable architectural significance.

College Church

This structure is listed on the DCC Record of Protected Structures.

The front façade is of primary architectural significance, facing onto the front setting of the College and aligned with the facades of the Main Seminary Block and South Link building. The front façade is of high architectural quality and has a distinctive and strong character.

The rear façade of the Church is of lesser architectural significance than the front façade. This significance has been further detracted from by the mid-20th Century construction of the Assembly Hall in the immediate setting of the rear façade. The entrance to the vault for Cardinal Cullen’s tomb is located at the rear façade of the Church, and is considered to be of architectural significance.

The side facades of the structure are of lesser architectural significance, with minimal decorative features and windows at high level only. The northern side elevation has been impacted by the construction of the 20th Century Church Corridor and other later interventions in this area. The southern side elevation is considered to be of slightly greater significance than the northern elevation, due to its largely unaltered form and its greater visual prominence on the approaches to the College via Holy Cross Avenue and the existing Mater Dei entrance.

The interior of the Church is of architectural and artistic significance. Later additions, as detailed in Section 14.3.3.3, above, are generally of less significance than the original features.

Assembly Hall

This structure is listed on the DCC Record of Protected Structures.

The front façade faces south towards the entrance to the Mater Dei campus and has no relationship with the front setting of Holy Cross College. The significance of this façade is as a standalone piece rather than as part of a group with the other college buildings.

The rear façade is partially obscured by the adjoining Ambulatory and thus appears to be at a remove from the formal garden in the rear quadrangle. The central Venetian window at high level on the rear façade is in keeping with the architectural language and character of the return on the rear elevation of the Main Seminary Block.

The interior of the building has been transformed by the conversion of the space to a library function. The proscenium arch survives largely intact.

New Wing

The subject building is a 1950s residential block within the college. It was designed by Architect Stanislaus Nevin. It cannot be considered to be of sufficient architectural quality and interest to be of any particular architectural significance in and of itself.

Internally, there are minimal fittings and features of interest. Some of the fittings in the 1960 Oratory on ground floor level are considered to be of artistic and / or architectural interest, as detailed in Section 14.3.3.5. On the upper levels of the building, original features such as the cast-iron radiators are considered to be of interest. In general, with the exception of the Oratory, the interiors of the building cannot be considered to be of any particular interest.

Some architectural significance can be ascribed to the building on the basis of its part in forming the central College quadrangle, and the contribution it makes to the character of the quadrangle. The architectural language of the arcade on the southern elevation of the building was replicated in the later ambulatory, and together these features frame the quadrangle to the rear of the main Seminary block and contribute to the architectural character of the quadrangle.

The architectural significance of the subject building has been assessed using the criteria in the *Architectural Heritage Protection Guidelines for Planning Authorities* (DoAHG, 2011):

- The building cannot be considered to be a generally agreed exemplar of good quality architectural design;
- The building is the work of a relatively unknown and undistinguished architect;
- The building does not provide an exemplar of a building type, plan-form, style or styles of any period but also the harmonious interrelationship of differing styles within one structure;
- The arcade on the southern elevation of the building contributes to the character of the quadrangle to the rear of the Main Seminary Block, and is considered to form part of a group with the Ambulatory (a Protected Structure;
- The Oratory at Ground Floor Level has some features which are considered to be of minor architectural interest.

The subject building is not considered to be of sufficient architectural interest to warrant inclusion on the Record of Protected Structures.

Library Wing

The building is not considered to be of sufficient architectural quality or interest to be considered of architectural significance. Internally, there are no features or fittings which could be considered to be of any particular architectural or other significance. With regard to setting, the location of this wing does not fit with the quadrangle layout of the earlier college buildings and is considered to detract from the front setting of the Main Seminary Block, a Protected Structure.

The architectural significance of the subject building has been assessed using the criteria in the *Architectural Heritage Protection Guidelines for Planning Authorities* (DoAHG, 2011):

- The building cannot be considered to be a generally agreed exemplar of good quality architectural design;
- The building is not the work of a known or distinguished architect;
- The building does not provide an exemplar of a building type, plan-form, style or styles of any period but also the harmonious interrelationship of differing styles within one structure;

- The building does not make a positive contribution to its setting and is considered to detract from the front setting of the Main Seminary Block (a Protected Structure);
- The building does not have an interior that is well designed, rich in decoration, complex or spatially pleasing.

The subject building is not considered to be of sufficient architectural interest to warrant inclusion on the Record of Protected Structures.

Ambulatory

This structure is listed on the DCC Record of Protected Structures.

The significance of the structure is based largely on its spatial quality and the contribution which it makes to the rear setting of the Main Seminary Block. The Ambulatory frames the rear quadrangle garden and creates a unifying element between the Assembly Hall, the Church Corridor and the Main Seminary Block. Architectural fixtures such as the mosaic tiling are of interest and create visual interest.

14.3.4.2 Historical Significance

The criteria given by the DoCHG for a building to merit inclusion on the RPS on the basis of its historical significance are as follows:

- *A structure may have historical interest as the location of an important event that occurred in, or is associated with it, or by its association with a historic personality…*
- *A structure may have influenced, or been influenced by, an historic figure…*
- *Historic interest can be attributed where light is thrown on the character of a past age by virtue of the structure's design, plan, original use, materials or location…*
- *A structure may be a memorial to a past event.*
- *A structure may itself by an example of the effects of change over time. The design and fabric of the structure may contain evidence of its former use or symbolic meaning…*
- *Some fixtures and features may survive, for example in consistory courts and courts of law, that are important evidence of former liturgical or legal practice and may have special historical interest for that reason.*
- *Some unusual structures may have historical or socio-historical interest, for example, early electricity substations…*
- *Special historical interest may exist because of the rarity of a structure. Either few structures of an identifiable type were built at a particular time, or few have survived…*

The buildings on Site are of historic significance as a large Catholic institutional facility in 19th Century Dublin. The growth and development of the site mirrors the rising Catholic population of the city and is of interest from a social history perspective. The development is tied to significant historic figures, including Archbishop McQuaid.

Main Seminary Block

The subject building is of historic significance as a reflection of the growth of the Catholic Church in Ireland following Catholic Emancipation.

South Link Building

The subject building is not considered to be of any particular historic significance.

College Church

The subject building is of historic significance as a reflection of the growth of the Catholic Church in Ireland following Catholic Emancipation.

Assembly Hall

The subject building is of historic significance as a reflection of the growing Catholic population of Dublin in the mid-20th Century as people moved from the suburbs to the city.

'New' Wing

The subject building is of historic significance as a reflection of the growing Catholic population of Dublin in the mid-20th Century as people moved from the suburbs to the city.

Library Wing

The subject building is not considered to be of any particular historic significance.

Ambulatory

The subject building is not considered to be of any particular historic significance.

14.3.4.3 Artistic Significance

The DoCHG guidelines state that special artistic interest may be attributed to a structure for its *craftsmanship, design* or *decoration.* Examples given in the guidelines are:

- *Examples of good craftsmanship;*
- *Decoratively carved statuary or sculpture that is part of an architectural composition;*
- *Decoratively-carved timber or ceramic-tiled shopfronts;*
- *Ornate plasterwork ceilings;*
- *Decorative wrought-iron gates;*
- *Religious art in a place of public worship such as the Stations of the Cross or stained-glass windows;*
- *Fixtures and fittings such as carved fireplaces, staircases or light-fittings;*
- *Funerary monuments within a graveyard;*
- *The relationship of materials to each other and to the totality of the building in which they are situated, if these have been designed as an ensemble.*

Some of the buildings on site contain fixtures or fittings which are considered to be of artistic significance.

Main Seminary Block

The subject building does not contain any features or fabric which could be considered to be of artistic significance.

South Link Building

The organ, formerly located in the Church, is considered to be of artistic significance.

College Church

The fixtures and fittings of the Church, as detailed in Section 14.3.3, are considered to be of artistic significance.

Assembly Hall

The subject building does not contain any features or fabric which could be considered to be of artistic significance.

'New' Wing

The Oratory at Ground Floor Level contains fittings and features which are considered to be of some artistic interest.

Library Wing

The subject building does not contain any features or fabric which could be considered to be of artistic significance.

Ambulatory

The mosaic panels in the Ambulatory are considered to be of some artistic significance.

14.3.4.4 Cultural Significance

The DoCHG provides guidance for what might constitute cultural significance:

- *Those structures to which the Granada convention refers as 'more modest works of the past that have acquired cultural significance with the passing of time';*
- *Structures that literary or cinematic associations, particularly those that have a strong recognition value*
- *Other structures that illustrate the development of society such as early schoolhouses, library buildings, swimming baths or printworks.*

None of the subject buildings are considered to be of any particular cultural significance.

14.3.4.5 Social Significance

Special Social interest is defined in the DoCHG guidelines as *'those qualities for which a structure, a complex or an area has become a focus of spiritual, political, symbolic or other sentiment to any group of people. A community may have an attachment to a place because it is an essential reference point for that community's identity, whether as a meeting place or a place of tradition, ritual or ceremony. The configuration, disposition or layout of a space or group of structures, where they facilitate behaviour that would otherwise be difficult or impossible, may be of social interest.'*

The subject site is of social significance based on its role as a Catholic seminary, a place of spiritual significance to the former students and staff. The Church is of wider social significance as services here were attended by the local residents.

The development of the subject site is associated with former Archbishops of Dublin, and with significant Irish architects including J. J. McCarthy. The construction and fundraising of the New Wing and the Library Wing were associated with the Archbishop McQuaid, considered one of the most powerful and influential figures in Ireland at the time.

Main Seminary Block

The Main Seminary Block is considered to be of social significance as a former Catholic Seminary.

South Link Building

The South Link Building is considered to be of social significance as part of the former Catholic Seminary.

College Church

The College Church is considered to be of social significance as a place of spiritual significance for the former students and staff of the seminary, and also for the residents of the local area.

Assembly Hall

The Assembly Hall is considered to be of social significance as part of the former Catholic Seminary.

'New' Wing

The subject building is considered to be of social significance as part of the former Catholic Seminary.

Library Wing

The subject building is a more recent addition to the subject site, and is therefore considered to be of lesser social significance than the other buildings on site. It is considered to be of minor social significance nonetheless.

Ambulatory

The Ambulatory is considered to be of social significance as part of the former Catholic Seminary. The mosaic panels record the Dublin parishes that contributed to the cost of construction of the Ambulatory and also lists former students of the Seminary.

14.3.4.6 Scientific Significance

Examples of how a structure may be of particular scientific significance are provided in the DoCHG guidelines:

- *The results of scientific research may be seen in the execution of the structure;*
- *the materials used in the structure may have the potential to contribute to scientific research, for example extinct pollen or plant species preserved in the base layers of ancient thatch roofs;*
- *The structure may be associated with scientific research that has left its mark on the place, such as early Ordnance Survey benchmarks carved into stonework.*

None of the buildings on site can be considered to be of particular scientific significance.

14.3.4.7 Technical Significance

The DoCHG guidelines provide examples of how a structure may be attributed special technical interest:

- *It displays structural or engineering innovation evidenced in its design or construction techniques such as the use of cast- or wrought- iron prefabrication or an early use of concrete;*
- *It is the work of a known and distinguished engineer;*
- *It is an exemplar of engineering design practice of its time. For example, a bridge may be a masonry arch, an iron suspension or a concrete span;*
- *it displays technically unusual or innovative construction of cladding materials, such as early examples of glazed curtain walling, prefabricated concrete plank cladding or Coade stone;*
- *It contains innovative mechanical fixtures, machinery or plant or industrial heritage artefacts that describe the character of the production processes. The specifically industrial aspect of some sites like mill buildings, mill ponds, tailings, or derelict mines can often have a technical heritage value;*

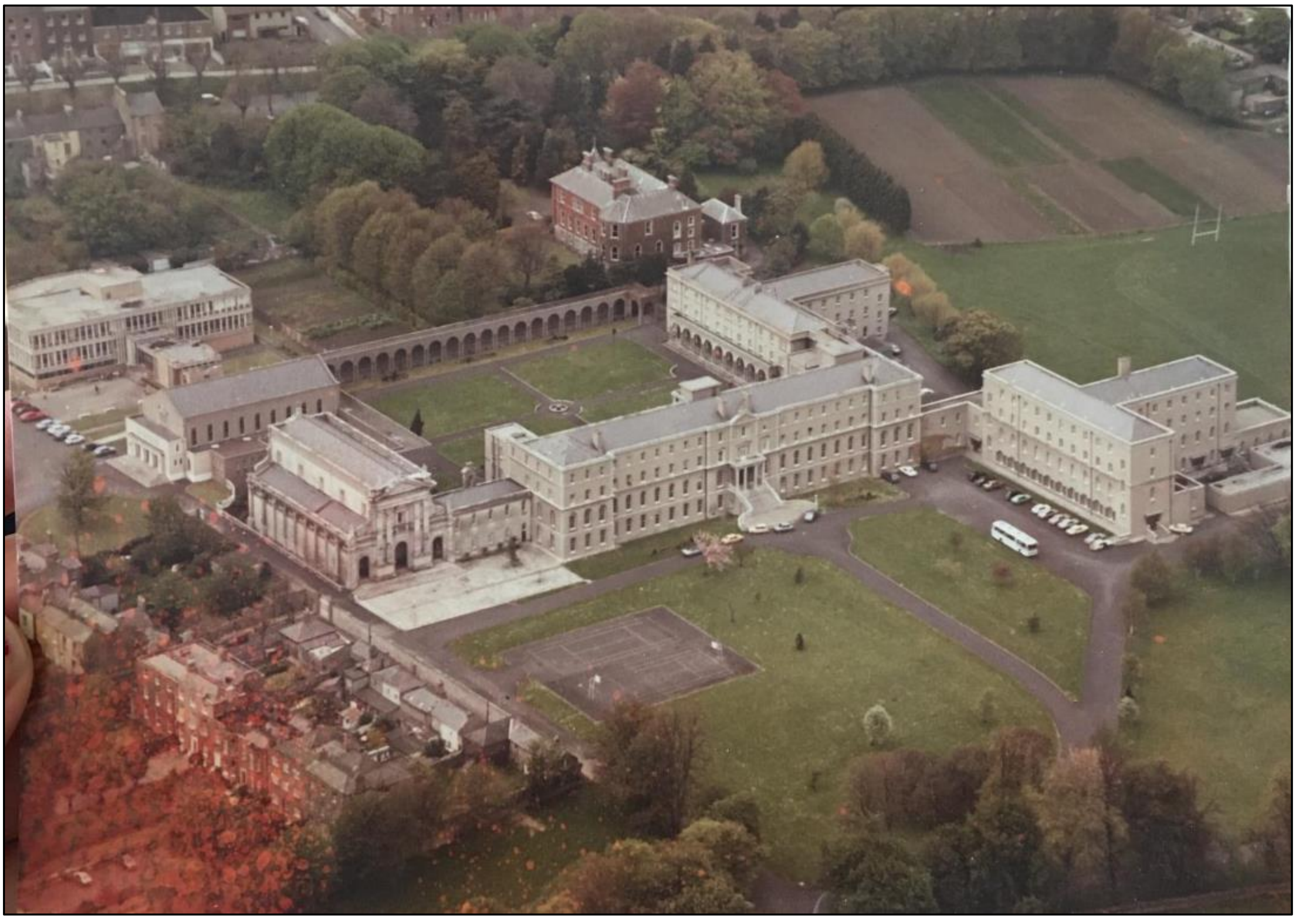
- *Purely special technical interest can be ascribed to the innovative engineering qualities of a structure, as distinct from the building's appropriateness for use, or its appearance or form.*

None of the buildings on site can be considered to be of particular technical significance.

14.3.4.8 Significance of the Setting

The setting of the College contributes to the significance of the Protected Structures. The setting comprises a formal entrance avenue, the formal front setting to the Main Seminary Block, and formal gardens to the rear quadrangle, which have significance as an ensemble. The significance of each of these elements within the setting is assessed separately below.

Figure 14.64: Undated aerial photograph showing the front setting of the college, the rear quadrangle and the parkland area to the north.



Please refer to the Photographic Record (Appendices 14.4 – 14.10) for views showing these various elements.

Entrance Avenue and Parkland to the Front of the Main Seminary Block

This setting is of primary significance within the College lands. The entrance avenue and parkland predate the construction of the College buildings, and were originally linked to the Red House. The development of the College buildings in the mid-late 19th century recognised the primacy of the front setting in its arrangement of all structures in a linear fashion, facing towards the Red House. This arrangement maximised the visual impact of the College buildings on views from the entrance avenue.

The front setting has been altered in modern times by the maturation of trees, which obscure views in some areas, and by the construction of tarmacked surface car parks in this area. The construction of the new Library

Block in the 1960s is somewhat anomalous and neither ties in with the original linear arrangement of seminary and chapel nor the Quadrangle arrangement to the rear. The Library also interrupts views from the Main Seminary Block towards the northern area of the site, and detracts from the significance of the front setting.

Formal Garden in the Quadrangle to the Rear of the Main Seminary Block

This section of the setting of the College buildings dates from the 1950s construction of the New Wing, followed by the Ambulatory and Assembly Hall. Prior to this, the area was in use as playing fields and had no formal architectural qualities.

The construction of the new 1950s structures framed this area of land, creating a formal quadrangle with new quadripartite lawns laid out in the centre. This resulted in the creation of a new formal setting within the College. The character of this quadrangle is largely defined by the rhythm of double-columns in the arcade of the New Wing, a detail which was later replicated in the construction of the ambulatory. The significance of this setting is recognised by the inclusion of the Ambulatory and Assembly Hall on the DCC Record of Protected Structures.

Parkland to the North of the College Buildings

This area of the College lands is illustrated as open parkland in historic maps and there are no buildings of architectural or other significance in this area. The boundary walls and gates to the western boundary are Protected Structures and contribute to the character of the Drumcondra Road.

As described above, the line of trees between the College Buildings and the Red House serve as a physical and visual boundary between this area and the Front Setting of the College. This area is disconnected from the College buildings, and is considered to be of limited significance.

14.3.5 Sensitivity

The Main Seminary Block, South Link Building, College Church, Assembly Hall and Ambulatory are all included on the DCC Record of Protected Structures. The New Wing and Library Wing are within the curtilage of these Protected Structures. The Red House, on the subject site but outside of the boundaries of the proposed Project, is also a Protected Structure and a National Monument.

The primary area of significance of the structures in their inter-relationships and the character of the site. The unified front facades of the Main Seminary Block South Link Building and College Church are of primary significance. The relationship between the Assembly Hall and the Ambulatory, and views of this combination from the Main Seminary Block, is also of significance. The significance of the buildings is largely based on their external appearance, and contribution to the character of the overall site. The interior of the Church is also considered to be of primary significance.

14.4 Predicted Impacts of the Proposed Project

At present, the structures on Site are largely disused, particularly at upper levels. In the Do-Nothing scenario, following the full departure of the Diocese and related offices, the structures would be entirely vacant. In this Do-Nothing scenario, the condition of the structures is at risk of deterioration through lack of use and maintenance. Section 7.3.1 of the *Architectural Heritage Protection Guidelines for Planning Authorities* by (DoAHG, 2011) emphasises the importance of keeping a building in use, and of avoiding vacancy:

> *"It is generally recognised that the best method of conserving a historic building is to keep it in active use."*

The proposed Project will enable the continued use and appreciation of these Protected Structures.

The following sections set out the predicted impacts of the proposed Project in the absence of mitigation measures and without consideration of the specific features and design of the proposed Project which will mitigate these predicted impacts.

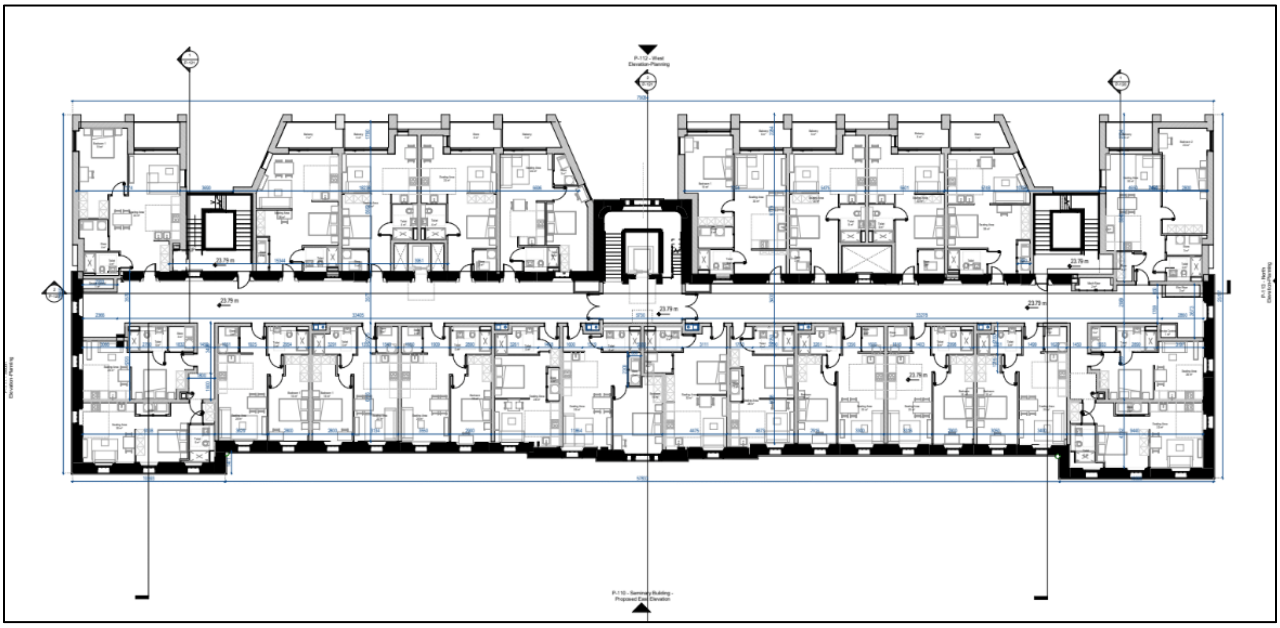
14.4.1 Main Seminary Block

The Main Seminary Block (a Protected Structure) will be retained as part of the proposed Project. The modern interior of the building will be demolished and new internal structure constructed to accommodate the proposed new residential use of the structure. The proposed new internal layout will respect the original layout through the retention of a central access corridor. A new extension will be constructed against the rear elevation of the Main Seminary Block. This will involve the demolition of modern toilet blocks to the rear and the construction of new connections between the extension and the existing structure at each level. For further detail on the proposed works, please refer to the drawings prepared by McCullough Mulvin Architects.

The removal of inappropriate later interventions and the proposed conservation of the historic fabric will have a positive impact on the cultural and architectural heritage of the Site, and will enhance the contribution of the Protected Structures to the character of the site and to the architectural heritage of the wider area.

Given the extensive internal reconstruction that was carried out in the 1960s, it would be difficult to consider that the interiors of the Main Seminary Block retain considerable architectural significance. The cellular layout reflects the original institutional design but the plasterwork and joinery is all 1960s' replica. The proposal to reconfigure the interior of this building as studio and 1-bed apartments will not impact on the external expression of the front face of the building and will result in minimal loss of historic fabric within. It is considered that this is an appropriate intervention which will restore use to the cellular spaces with minimal subdivision required for provision of *en suites*, etc.

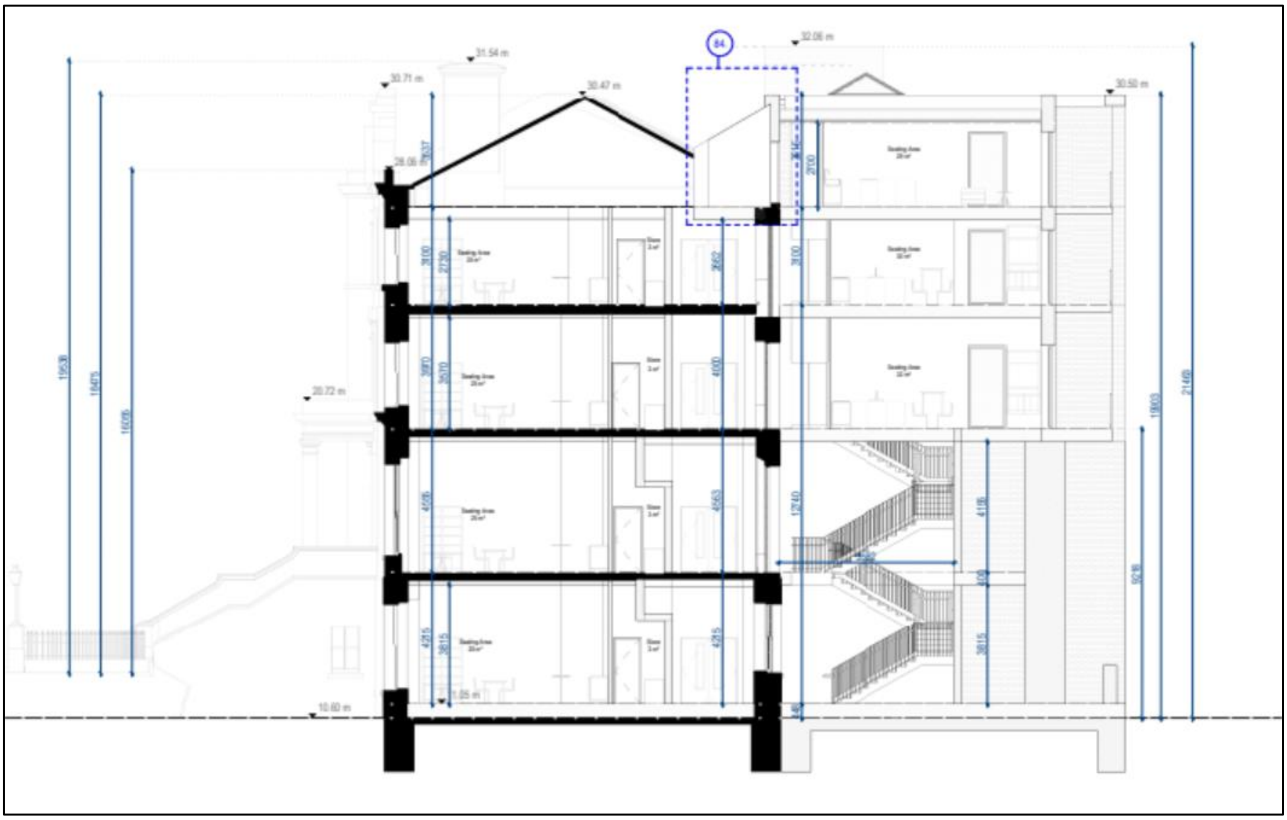
Figure 14.65: Extract from Proposed Second Floor Plan, McCullough Mulvin Architects, showing the proposed interventions to the existing Main Seminary Block, and the proposed rear extension.



As outlined in above, the rear elevation of the existing Main Seminary Block is has a lesser architectural significance – its original composition was less formal and it has been compromised by later additions. The proposed new block in this location is therefore considered to be an appropriate intervention, minimising the impact on the significance of the Protected Structure.

The rear of the building contains secondary circulation spaces and bathrooms for the most part, and lacks the architectural embellishments clearly visible to the east front. As such the elevation cannot be considered to be of primary significance. The existing visual and physical connections between the interior of the former seminary building and the formal gardens to the rear lack quality. They suffer from being at a lower level to the garden and they don't enjoy the relief that the cloistered edge provides on the other three sides of the quadrangle. The existing rear façade of the building has several later service block additions which also detract from its quality. The façade is a very large, austere elevation which was designed to face an open area – not a cloistered quadrangle. There is the opportunity under the scope of the proposed Project, therefore, to provide a rear extension to the Protected Structure which enhances the relationship to and qualities of the quadrangle and it is considered that the construction of new high quality architecture here, in harmony with the existing Protected Structures and character of the site, will have a positive impact on the character of the rear quadrangle.

Figure 14.66: Extract from Cross Section through the Main Seminary Block and Proposed Rear Extension, McCullough Mulvin Architects.



The proposed new extension takes its scale and height from existing ridge and roof and will not be visible therefore in any views of the front façade of the Main Seminary Block – the area of primary significance for this Protected Structure.

The approach to the materiality and façade of the new structure is described in McCullough Mulvin's design report:

> *"The new and old architecture around the cloister will share the same general approach to finishes – hues and shades of yellow grey brickwork; warmth will be established by a careful use of secondary colours. The garden, with its paving and planting, will be an important part of this design. It is proposed that the front elevation of the seminary towards the garden will be finished in a warm grey/yellow brick with a light mortar; the new block to the North will match this brick colour. The inner wall of the cloister court will be painted a new and warmer colour; the rooms seen through new opes (in the assembly hall) will be painted with strong colours."*

The proposal to construct a new addition to the rear of the Main Seminary block will necessitate the removal of the rear toilet blocks. As these are late 20th Century non-original additions, the removal of these is considered an acceptable intervention. The original central return to the rear elevation will be retained and incorporated into the new rear block.

In the absence of mitigation, effects on the Main Seminary Block are predicted to occur as a result of the proposed Project, as detailed in Table 14.14, below.

Table 14-14: Predicted Effects on Main Seminary Block

Cause	Effect	Impact Characterisation	
Demolition and reconfiguration of interiors	Replacement of non-original low quality spaces with high quality architectural spaces	*Quality*	Positive
		Significance	Slight
		Extent	Local
		Context	The interior of the building was reconstructed in modern times and is not considered to be of significance or quality
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Worst-case
Demolition and reconfiguration of interiors	No loss of historic fabric and features of interest	*Quality*	Neutral
		Significance	Slight
		Extent	Local
		Context	The interior of the building was reconstructed in modern times and is not considered to be of significance. There is no surviving historic fabric or features of interest.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Worst-case
Demolition of later inappropriate extensions to the rear	Restoration of historic architectural character	*Quality*	Positive
		Significance	Slight
		Extent	Local
		Context	Rear extensions such as the toilet blocks are non-original and detract from the character of the rear elevation
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Worst-case

Cause	Effect	Impact Characterisation	
Construction of new rear extension	The proposed new high quality rear extension will enhance and improve the rear setting of the Main Seminary Block	*Quality*	Positive
		Significance	Significant
		Extent	Local
		Context	The existing rear extension is considered to be of considerably lesser significance than the front elevation, and is considered to be an acceptable location for a new extension.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Worst-case
Construction of new residential blocks on the subject site	The impact of this effect will be assessed under Section 14.4.8, Setting	*Quality*	Neutral
		Significance	Slight
		Extent	Local
		Context	This will largely impact the front setting of the structure, and its relationship with College lands and the Red House
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Worst-case

14.4.2 South Link Building

The South Link Building (a Protected Structure) will be retained as part of the proposed Project. Minor internal alterations are proposed in order to accommodate the proposed new residential use. For further detail on the proposed works, please refer to the drawings prepared by McCullough Mulvin Architects.

The internal reconfiguration of this structure to contain studio and 1-bed apartments will not impact on its external appearance or contribution to the setting of the College. Internal features of interest will be restored and retained.

In the absence of mitigation, effects on the South Link Building are predicted to occur as a result of the proposed Project, as detailed in Table 14.15, below.

Table 14-15: Predicted Effects on South Link Building

Cause	Effect	Impact Characterisation	
Internal modifications	The proposed internal works will enhance the architectural quality of the interiors	*Quality*	Positive
		Significance	Significant
		Extent	Local
		Context	All historic fabric and features of interested will be retained and conserved
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Worst-case
Construction of new residential blocks on the subject site	The impact of this effect will be assessed under Section 14.4.8, Setting	*Quality*	Negative
		Significance	Slight
		Extent	Local

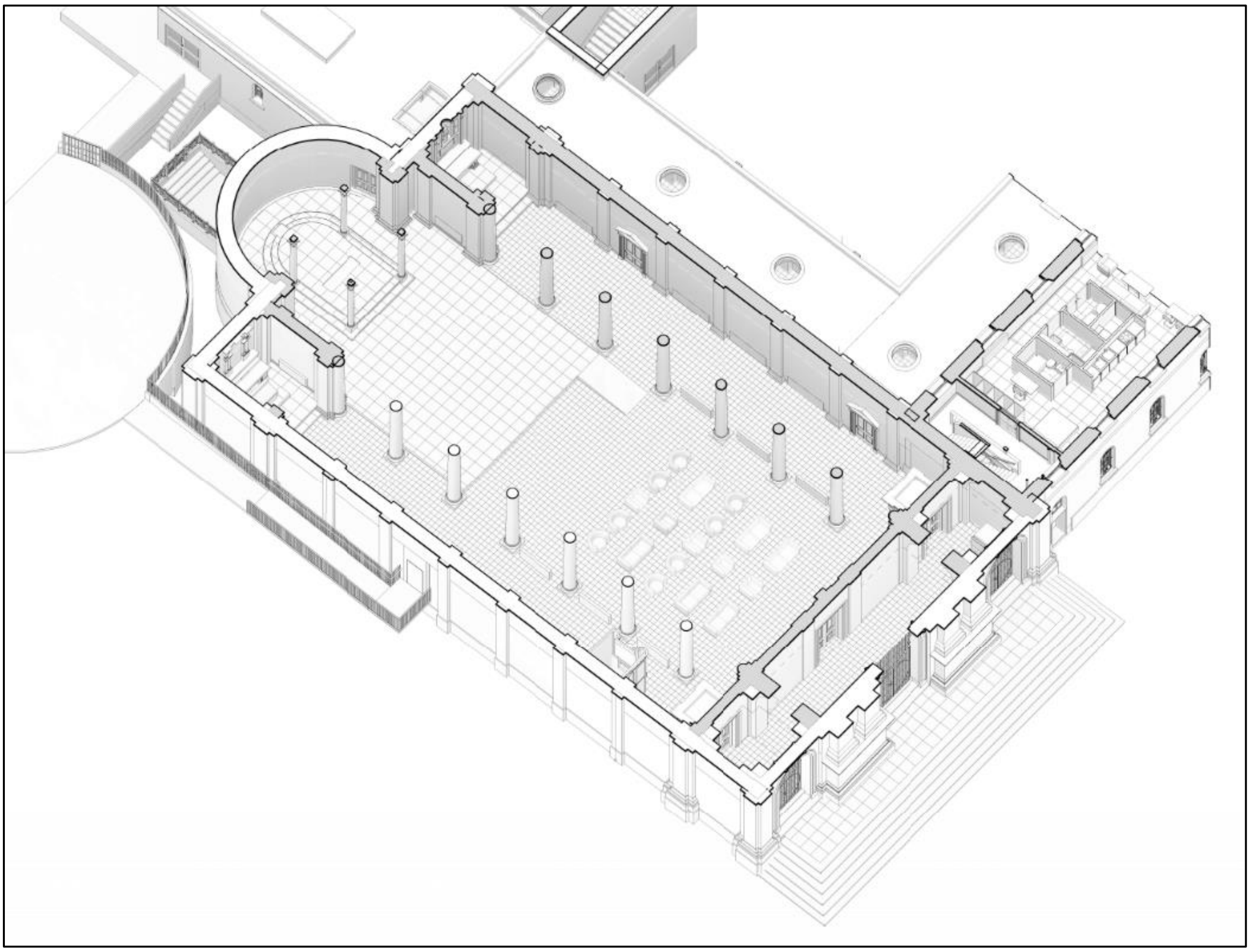
Cause	Effect	Impact Characterisation	
		Context	This will largely impact the front setting of the structure, and its relationship with College lands and the Red House
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Worst-case

14.4.3 College Church

The College Church (a Protected Structure) will be retained as part of the proposed Project. The later extensions to the north-west will be reconfigured internally. Some of the internal features will be removed (see Conservation Schedule – Appendix 14.11) for future use by the Church/Diocese, however architectural features of interest will largely be retained in situ. The Church will be used as a Community amenity space, with minimal internal works necessary. For further detail on the proposed works, please refer to the drawings prepared by McCullough Mulvin Architects.

The proposed re-use of this building as residential amenity is in keeping with its original use as a place for communal worship.

Figure 14.67: Extract from McCullough Mulvin's model view, showing the proposed interior layout of the Church.



The proposed new internal layout is considered to be an acceptable intervention. Partitions are at a low height, so as not to interrupt the volume of the space and the arrangement of central nave with side aisles is retained. The design respects the spatial quality of the building and does not detract from its significance. All fixtures and features of architectural, historic or artistic interest will be retained and restored as necessary. These, including the ciborium to the altar, will be retained in situ, where possible. The removal of the inappropriate modern additions to the north and east of the Church will have a positive impact on the architectural character of the Church.

In the absence of mitigation, effects on the College Church are predicted to occur as a result of the proposed Project, as detailed in Table 14.16, below.

Table 14-16: Predicted Effects on College Church

Cause	Effect	Impact Characterisation	
Internal modifications to accommodate proposed new use of structure	The proposed works will enhance and improve the internal architectural character and quality of the space	*Quality*	Positive
		Significance	Significant
		Extent	Local
		Context	Historic fabric and features will be retained in situ and conserved
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Worst-case
Removal of internal features and fittings associated with ecclesiastical use	Loss of historic features	*Quality*	Neutral
		Significance	Slight
		Extent	Local
		Context	The features and fittings to be removed will be salvaged for re-use by the Church in another location, thereby ensuring minimal loss of historic features.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Worst-case
Construction of new residential blocks on the subject site	The impact of this effect will be assessed under Section 14.4.8, Setting	*Quality*	Neutral
		Significance	Slight
		Extent	Local
		Context	This will largely impact the front setting of the structure, and its relationship with College lands and the Red House
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Worst-case

14.4.4 Assembly Hall

The Assembly Hall (a Protected Structure) will be retained as part of the proposed Project. The Assembly Hall will be used as a Community amenity space within the proposed scheme. The works will involve the removal of the modern mezzanine level and the reinstatement of the double-height space of the hall. The proscenium arch (partially obscured by a modern staircase) will be reinstated. For further detail on the proposed works, please refer to the drawings prepared by McCullough Mulvin Architects.

The proposed re-use of this building as a community amenity is in keeping with its original communal use. The proposed refurbishment of the interior will be in keeping with the existing architectural volume, quality and character of the space. The surviving proscenium arch has been identified and will be retained and revealed in situ. Some new opes will be created in the wall to the Ambulatory, utilising existing niches. It is considered that this is a positive intervention, as there will be minimal loss of historic fabric, and will enhance the physical and visual connection between the Ambulatory and Assembly Hall.

In the absence of mitigation, effects on the Assembly Hall are predicted to occur as a result of the proposed Project, as detailed in Table 14.17, below.

Table 14-17: Predicted Effects on Assembly Hall

Cause	Effect	Impact Characterisation	
Proposed interior alterations	The architectural character and quality of the space will be enhanced	*Quality*	Positive
		Significance	Significant
		Extent	Local
		Context	The interior of the building was extensively altered in modern times and is not considered to be of significance. The removal of these later interventions and the reinstatement of the proscenium arch will restore the historic architectural character of the space.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Worst-case

14.4.5 New Wing

The subject structure is not a Protected Structure and is considered to be of minimal architectural or other significance. It is proposed to demolish the existing structure, retaining only the arcade at ground floor level on the southern façade. A new structure (Block B1) of the same approximate height and footprint will be constructed in the place of the existing structure. For further detail on the proposed works, please refer to the drawings prepared by Henry J Lyons Architects.

The proposed demolition of the New Wing is an acceptable intervention as it is a modern structure with little architectural significance. The retention of the Ambulatory on the southern elevation will ensure that the character and form of the rear quadrangle is maintained. The New Wing is located to the rear of the site and is not visible from the front setting. Its demolition will therefore have no impact on the front setting of the college, the area of primary significance. It should be noted that DCC have not deemed this structure to be worthy of inclusion on the Record of Protected Structures.

This level of demolition will protect and retain the Ambulatory to the southern elevation, and its contribution to the character of the quadrangle, the area of primary significance for this building. The demolition of the northern section is not considered to be detrimental to the character of the wider college setting.

With the exception of the 1960 Oratory, the subject building is not considered to be of any particular significance internally. Features and fittings of significance, as detailed above, will be carefully salvaged.

In the absence of mitigation, effects on the New Wing are predicted to occur as a result of the proposed Project, as detailed in Table 14.18, below.

Table 14-18: Predicted Effects on New Wing

Cause	Effect	Impact Characterisation	
Demolition of the structure	Loss of surviving historic architectural features and fabric of interest	*Quality*	Neutral
		Significance	Slight
		Extent	Local
		Context	There are minimal architectural features of interest in the subject building, with the exception of the Oratory at ground floor level. Features of interest will be salvaged.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Worst-case
Demolition of the structure	The works will enhance the historic architectural character of the rear quadrangle	*Quality*	Positive
		Significance	Slight
		Extent	Local
		Context	The retention of the arcade on the southern façade and the construction of the proposed new Block B1 will ensure that the architectural heritage character of the rear quadrangle is protected and enhanced. The proposed new structure will be a high quality architectural design and will improve the amenity of the site.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Worst-case

14.4.6 Library Wing

The subject structure is not a Protected Structure and is not considered to be of any architectural or other significance. It is proposed to demolish the existing structure. Two new blocks will be constructed in this approximate area, Blocks B2 and B3. For further detail on the proposed works, please refer to the drawings prepared by Henry J Lyons Architects.

The proposed demolition of the Library Wing is an acceptable intervention as it is a modern structure with little architectural significance. The demolition of this building will restore the complex of college buildings to their mid-20th Century layout. The 1969 Library Wing cannot be considered to be of any particular significance, and its demolition will not detract from the character and significance of the overall site. The Library Wing is visually intrusive to the front setting of the Main Seminary Block and its removal will have a positive impact on the character of the front setting.

As detailed above, it is considered that the Library Wing unbalances the formal character of the front setting of the Main Seminary Block (a Protected Structure) and limits views within the setting.

The building is not considered to be of any particular architectural or other significance. As such, it is considered that the demolition of the building would be an acceptable intervention. It should be noted that DCC have not deemed this structure to be worthy of inclusion on the Record of Protected Structures.

In the absence of mitigation, effects on the Library Wing are predicted to occur as a result of the proposed Project, as detailed in Table 14.19, below.

Table 14-19: Predicted Effects on Library Wing

Cause	Effect	Impact Characterisation	
Demolition of the structure	No loss of surviving historic architectural features and fabric of interest	*Quality*	Neutral
		Significance	Slight
		Extent	Local
		Context	There are no architectural features of any particular architectural or other interest in the subject building
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Worst-case
Demolition of the structure	The works will enhance the setting of the neighbouring Protected Structures and the setting of the College.	*Quality*	Positive
		Significance	Slight
		Extent	Local
		Context	The demolition of this inappropriate modern structure will have a positive impact on the setting of the College and will enable the construction of Blocks B2 and B3, which are of high architectural quality and will enhance the setting of the College.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Worst-case

14.4.7 Ambulatory

The Ambulatory (a Protected Structure) will be retained as part of the proposed Project. Some new opes will be created in the wall of the Assembly Hall, utilising existing niches. The late 20th Century mosaics from these areas will be recorded and retained in situ. New openable timber panels with fitted lighting to match the mosaic panels will be installed over each mosaic. For further detail on the proposed works, please refer to the drawings prepared by McCullough Mulvin Architects.

It is considered that this is an appropriate intervention as there will be minimal loss of historic fabric, and the character of the Ambulatory will be retained and its use reactivated.

In the absence of mitigation, effects on the Ambulatory are predicted to occur as a result of the proposed Project, as detailed in Table 14.20, below.

Table 14-20: Predicted Effects on Ambulatory

Cause	Effect	Impact Characterisation	
Proposed timber panels to cover existing mosaic panels	No loss of architectural and artistic character	*Quality*	Neutral
		Significance	Slight
		Extent	Local
		Context	The Ambulatory is a relatively austere structure with few decorative details, with the exception of the mosaic panels. The panels will be retained in situ and will be accessible through the openable timber panels.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Worst-case

14.4.8 Setting

Alongside the proposed works to the existing structures on site, there are several proposed new residential blocks to be constructed within the setting. Refer to the masterplan drawings by Henry J Lyons Architects for more detail on the overall scheme for the site. The proposed scheme includes:

- Four new blocks to the northern section of the site (Blocks A1, A2, A3 and A4). Please refer to drawings by O'Mahony Pike Architects for more detail on these blocks.
- Three new blocks to the immediate north of the Main Seminary block (Blocks B1, B2 and B3) in the approximate location of the existing New Wing and Library Wing. Please refer to drawings by Henry J Lyons Architects for more detail on these blocks.
- Two new blocks to the south-east of the existing College quadrangle (Blocks C1 and C2). Please refer to drawings by Henry J Lyons Architects for more detail on these blocks.
- Two proposed new blocks to the eastern section of the front setting of the Main Seminary Block (Blocks D1 and D2). Please refer to drawings by O'Donnell and Tuomey Architects for further detail on Block D1, and to drawings by Henry J. Lyons Architects for further detail on Block D2.

The proposed scheme also includes a new landscape design, as illustrated in the drawings by Niall Montgomery Partnership. These drawings include further detail on the proposed works to the existing boundary walls and gates to the site (see Section 14.4.10, below for further detail on the walls and gates).

The impact of the proposed works on the setting of the Protected Structures of the former Holy Cross College will be assessed below, along with the impact on the setting of the Red House, a Protected Structure and National Monument to the east, and the Archbishop's House, a Protected Structure to the west.

In the absence of mitigation, effects on the setting are predicted to occur as a result of the proposed Project, as detailed in Tables 14.21 – 14.23, below.

14.4.8.1 Impact of the Proposed New Landscape Design on the Setting of the former Holy Cross College

The proposed redevelopment will utilise the existing circulation routes through the site, with the original entrance avenue to the Red House forming the primary circulation route through the site. This will have a positive impact on the architectural heritage of the site as it will ensure that views and approaches to the

Protected Structures will be maintained. Significant spaces, including the Front Setting and the Formal Garden will be retained and enhanced within the proposed scheme.

Figure 14.68: Extract from Niall Montgomery and Partner's site plan showing the proposed landscape design for the site.

Significant features within the setting, including the entrance avenue and the formal front setting to the Main Seminary Block, will be maintained and remade with the inappropriate tarmac surfaces removed. This will ensure that the significance of the setting of the Red House, the Main Seminary Block, the South Link Building and the College Church will not be compromised. Similarly, the formal garden in the quadrangle to the rear of the Main Seminary Block will be retained and enhanced, ensuring that the character and special significance of the Assembly Hall and the Ambulatory is protected.

Figure 14.69: Extract from Niall Montgomery and Partners Design Report, showing illustrative design for the Front Setting of the Main Seminary Block, referred to as 'Formal Green' within the proposed design

The proposed landscape design for the Front Setting follows the historic layout of this area, utilising the historic entrance avenue with an entrance plaza at the base of the stone steps to the Main Seminary Block. This area will be planted with grass, and mature trees will be retained. This will ensure that the parkland character of the setting is retained.

Figure 14.70: Late 19th Century Photo of the front setting of the Main Block and Church. NLI L_ROY_01108.

The original setting of the College, as seen in historic photos, has been significantly altered by the widespread planting and growth of mature trees within the landscape. This has diminished views within the site, and in some cases severed the visual connections between disparate buildings on the site.

Figure 14.71: Existing view of the front setting of the Main Block and Church, illustrating the extent to which the setting has been altered.

Figure 14.72: Extract from Niall Montgomery and Partners Design Report, showing existing trees to be retained (grey) and new trees to be planted (green).

The mature trees contribute significantly to the existing character of the setting and these were a significant influence on the location and size of new building footprints within the Masterplan for the wider Holy Cross

College lands. Most of these trees are to be retained therefore. The Arboricultural Report, prepared by the Tree File and submitted as part of this application under separate cover, notes:

> *"Ultimately, the efficient development of the site cannot be achieved without consuming space. Considering the dispersed nature of trees and the total canopy cover across the site, then efficient development of the site cannot be achieved without the loss of some trees…*
>
> *As far as is practicably possible, the design ethos has been to design around the existing landscape. Most new structures will be in gaps within the wooded landscape. Therefore the current design is considered broadly sympathetic to the existing landscape and its tree population.*
>
> *To date, it is assumed that of the 287 trees within the site area, the proposed works will see the loss of 95 trees. This number includes the loss of 28 low quality "category U" trees that were recommended for removal regardless of any development works, thereby providing for a loss of 67 trees that might otherwise have been suitable for retention."*

Numerous new trees will also be introduced as part of the landscape proposal. The retention of existing mature trees and the planting of new trees within the site will ensure that the sylvan character of the setting will be enhanced. It is considered that this is a positive intervention to the setting.

The proposed landscape design for the Formal Garden in the cloistered rear quadrangle is a modern interpretation of the quadripartite arrangement implemented in the 1950s. NMP's Design Report describes the approach to this space:

> *"Enclosed on all four sides the gardens present a unique opportunity to contribute to the public realm of Clonliffe … Ultimately, viewed in the wider context of the masterplan the Cloister was conceived as a 'secret garden'…In essence, the concept design respects what is existing and integrates into the garden. In search of privacy, the secret gardens pursue a sense of separation from the outer world. The discovery of unexpected spaces, the excitement of new adventures, the comfort of secret corners."*

It is considered that the proposal is a positive intervention and an appropriate interpretation of the Cloister garden type for the new residential use.

Figure 14.73: Extract from Niall Montgomery and Partners Design Report, showing illustrative design for the Formal Garden in the Rear Quadrangle of the Main Seminary Block, referred to as 'Cloister Garden' within the proposed design.

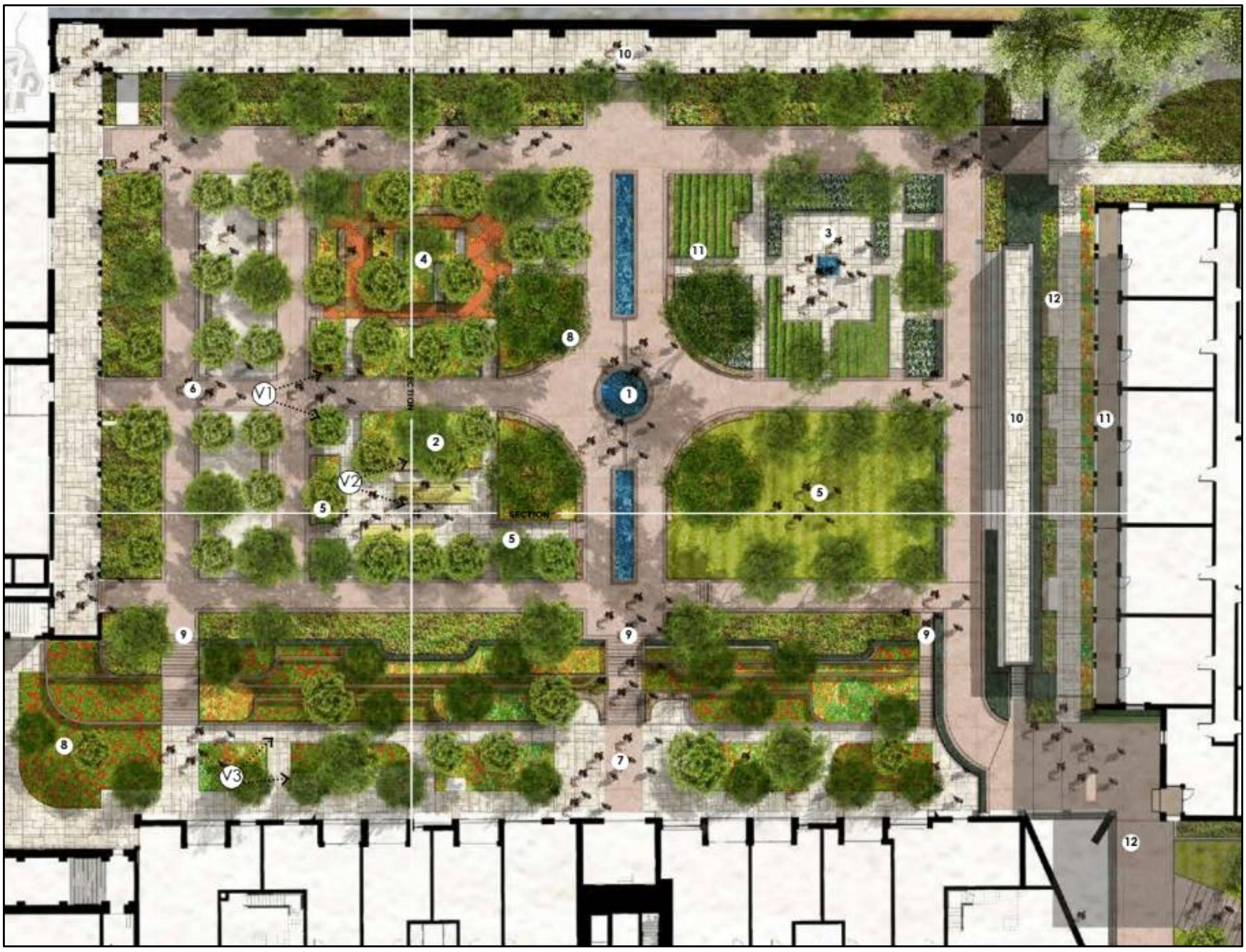


Table 14-21: Predicted Effects on Setting – Character of Subject Site

Cause	Effect	Impact Characterisation	
Proposed new landscape design for the subject site	The proposed new landscaped design for the site is respectful of the historic character of the various distinct areas within the site and will retain this character.	*Quality*	Positive
		Significance	Significant
		Extent	Local
		Context	The parkland character of the front setting of the Seminary Block will be retained in the proposed new design. The formal design of the rear quadrangle will be enhanced. The new landscape design will tie the proposed new scheme to the historic character of the College lands.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Worst-case

14.4.8.2 Impact of the Proposed New Structures on the Setting of the former Holy Cross College

The *Architectural Heritage Protection Guidelines for Planning Authorities* (DoAHG, 2011) provide guidance regarding new development within the setting and curtilage of a Protected Structure. Relevant extracts from this guidance are included below, with some commentary on the subject building and its attendant grounds.

> *"Features within the curtilage and attendant grounds of a protected structure can make a significant contribution to the character of that structure. The designed landscape associated with a protected structure was often an intrinsic part of the original design concept and, as such, inseparable from the building. Where proposals are made for alterations to a designed landscape, ancillary buildings, structures or features within the curtilage or attendant grounds of a protected structure, a site inspection should be carried out by the planning authority in order properly to understand the potential effects of the proposed development.*
>
> *When assessing the contribution of structures or features within the curtilage or attendant grounds to the character of a protected structure, and when considering any proposals to alter such features, the following should be considered:*
>
> *a) What items of interest are there within the present curtilage of the structure?*
>
> *b) Was this the original curtilage of the structure or are there likely to be other items of interest that are, or once were, associated with this structure and which now lie beyond its curtilage but within its attendant grounds?*
>
> *c) Are there any other items of interest which, while not original, are later additions of merit?*
>
> *d) Do any items within the curtilage or attendant grounds affect the character of the main structure and help to define its special interest?*
>
> *e) Do any items within the curtilage or attendant grounds affect the character of other structures? For example, boundary walls, railings, gates and gardens can contribute to the character of other protected structure or to the character of an ACA;*
>
> *f) How are the boundaries of the site enclosed or demarcated? Are there walls, railings, fences, ditches or ha-has, gates or gate piers?*
>
> *g) Are there other buildings within the curtilage or attendant grounds? Were these other structures connected with the previous use or enjoyment of the protected structure? For example, with a country house there may be such structures as outbuildings, coach-houses, stables, icehouses, dovecotes, follies, gate-lodges and others;*
>
> *h) Are there features of interest within the curtilage or attendant grounds connected with the use or enjoyment of the protected structure? For example, a mill may have associated features such as a mill-race, a mill-pond, a tail-race, sluice-gates, weirs, dams, and drying greens;*
>
> *i) Are there designed landscape features within the curtilage or attendant grounds connected with the protected structure or its ancillary buildings? These may include ornamental planting, earth works, avenues, gardens, ponds, woodlands or other plantations;*
>
> *j) Are there any items or structures within the curtilage which detract from the character of the protected structure? These might include, for example, later structure or planting which mar views of the structure or its relationship with other, more important, structures within the curtilage or attendant grounds. Does the opportunity exist to reverse any adverse impacts?"*

Significant designed landscape features such as the original entrance avenue, the front lawn to the Main Seminary Block, and the formal gardens in the rear Quadrangle will be protected and retained. This will ensure the retention of the significance of the setting, and the contribution that the setting makes to the appreciation of the Protected Structures.

The *Architectural Heritage Protection Guidelines for Planning Authorities* (DoAHG, 2011) provide guidance in relation to the construction of new extensions, which can also be applied to the construction of new buildings within the curtilage of a Protected Structure:

> *"If planning permission is to be granted for an extension, the new work should involve the smallest possible loss of historic fabric and ensure that important features are not obscured, damaged or destroyed. In general, principal elevations of a Protected Structure (not necessarily just the façade) should not be adversely affected by new extensions. The design of symmetrical buildings or elevations should not be compromised by additions that would disrupt the symmetry or be detrimental to the design of the protected structure."*

In this case the proposal involves minimal loss of historic fabric of any architectural significance, as detailed above. The primary facades, designed landscape features and vistas within the setting will also be protected (ibid.):

> *"Generally, attempts should not be made to disguise new additions or extensions and make them appear to belong to the historic fabric. The architectural style of additions does not necessarily need to imitate historical styles or replicate the detailing of the original building in order to be considered acceptable… Careful consideration of the palette of materials with which the works are to be executed can mediate between a modern design idiom and the historic fabric of the structure. Extensions should complement the original structure in terms of scale, materials and detailed design while reflecting the values of the present time."*

The proposed new buildings within the setting do not mimic the historic buildings, but are complementary to them in terms of proportion, materiality, and scale. This is in line with prevailing best conservation practice, as noted in the 2017 Society for the Protection of Ancient Buildings' publication *New Design for Old Buildings:*

> *"To prevent confusion, new work should express modern needs, a modern language and add to, rather than detract from, the building's historic provenance… that is complementary to what exists."*

The proposed new buildings within the setting of the Protected Structure will be high quality modern architectural designs, which will contrast and complement the existing building stock. The juxtaposition of old and new will ensure that the historic form of the cluster of buildings will remain legible (ibid.):

> *"Used in the historic environment, well-executed juxtaposition allows the old to remain clearly readable against the new, with visual separation created by distinct material and design differences. Despite these clearly set boundaries, there is inherent integration and sympathy: the two structures function together as a new and successful entity."*

The material palette and façade treatment has been designed with careful consideration of the existing Protected Structures on site, and the architectural heritage of the surrounding context. The approach is outlined in the Henry J Lyons Design Report:

> *"The key concept of the façade design is for the architectural expression to act as a conduit between the development and the wider Drumcondra community.*

The character of this area is largely residential. The architecture of the surrounding context shows the use of brick in both domestic and commercial buildings. Brick is used contextually to ornament and articulate the façade. This helps to introduce a sense of scale and depth into the elevation that defined and complimented the fenestration. This articulation gives human scale to buildings that helps to achieve the sense of domesticity and a sense of place.

Key concepts for the façade expression includes:

- *Reflect the domestic proportions of openings in the surrounding areas*
- *Create a material palette that is sympathetic to surrounding urban fabric and builds on the established sense of place of Drumcondra*
- *Generate a material palette for Clonliffe Road that creates order between the elements and has a connection to its context*
- *Balconies are semi-recessed to help with wind loading and improve the daylighting within units*
- *Create depth within the façade to articulate the building volume"*

A successful example of new design in a historic setting can be seen in McCullough Mulvin's 2008 Long Room Hub at Trinity College, Dublin. This building is in immediate proximity to numerous protected structures, and at an architectural heritage site of international significance. The new building is a high quality architectural design, in decidedly contemporary style. The building does not attempt to mimic the materiality or classical detailing of the surrounding architectural heritage. This building was the recipient of an RIAI Award in 2011.

The proposed new extension to the rear of the Main Seminary Block and the proposed new block in the location of the existing 'New Wing' will be a high quality architectural design and will add visual interest to the character of the rear quadrangle. There are numerous examples of high quality architectural additions and extensions to structures of great historic significance, including the Holbourne Museum, Bath; the New World Conservation and Exhibition Centre, London; and the Investcorp Building, Oxford.

Similarly, at the new World Conservation and Exhibitions Centre at the British Museum, by Roger Stirk Harbour and Partners, the new building is in a contemporary idiom and makes no attempt to mimic the existing building. The scale and proportions of the new building are in harmony with that of the existing historic building. There is a narrow gap separating the existing building from the new structure, ensuring minimal impact on the historic fabric.

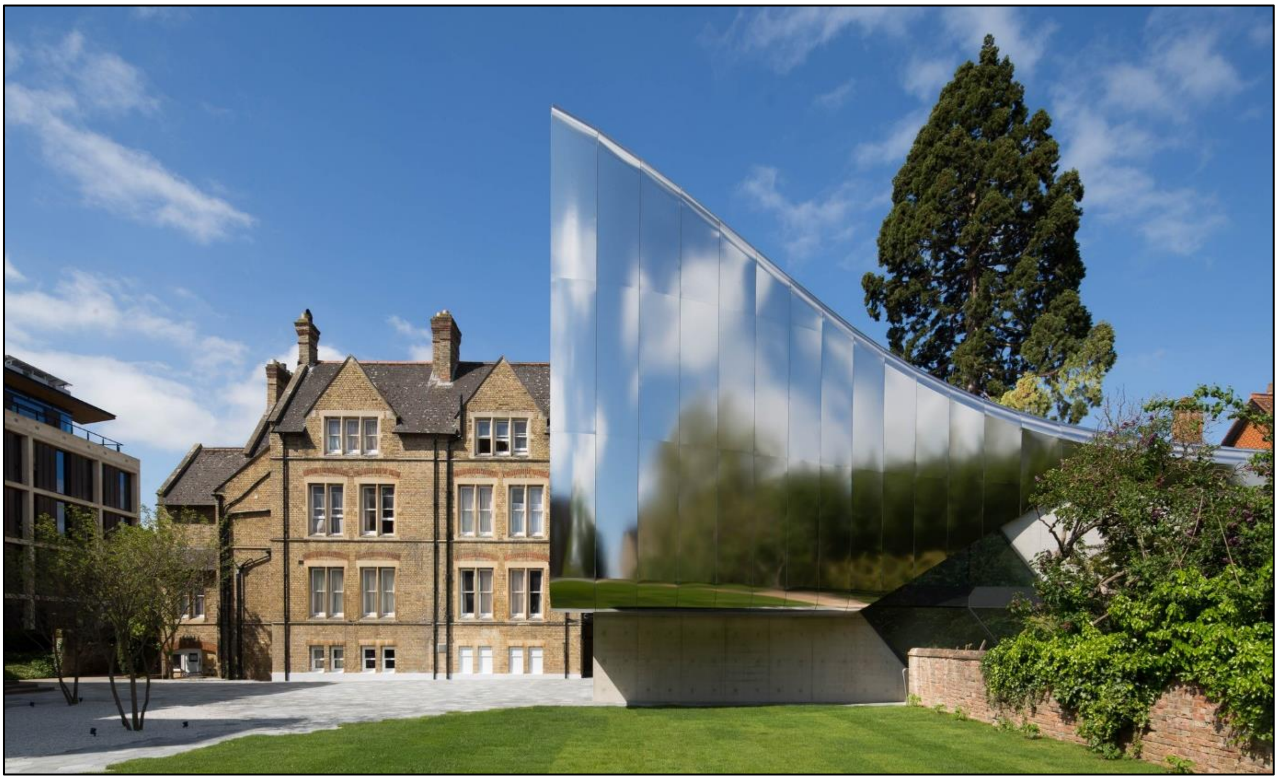
The new Investcorp building at St. Anthony's College, Oxford, by Zaha Hadid Architects, was constructed in a similarly collegiate setting to the subject site. The strikingly modern building contrasts with the existing historic buildings and has a powerful visual impact on the rear setting of the adjoining historic building. The impact of the new building is considered to be positive, adding visual interest to the rear setting.

In each of the cases noted above, the new additions to the rear setting of historic buildings have been of high architectural quality and have added to the architectural interest of the setting of the historic buildings. It is considered that the proposed new additions to the rear setting of the Main Seminary Building will have a similarly positive impact on the character of the rear quadrangle.

The proposed Project will consist of several apartment blocks constructed over the existing parkland. The height of these new blocks relates to the seminary ridge and parapets and in cases will match the heights of the existing mature trees on the site. The relatively low heights of the blocks and the retention of a significant amount of the existing mature trees on site will ensure that the parkland character of the site will be protected and retained.

Figure 14.74: New World Conservation and Exhibition Centre to the Rear of the British Museum, London. Rogers Stirk Harbour & Partners Architects.

Figure 14.75: Investcorp Building, St. Anthony's College, Oxford. Zaha Hadid Architects.



The heights of the proposed new blocks has been adjusted with regard to proximity to Protected Structures. Taller blocks have been set back from any significant structures, and proposed new blocks in the vicinity of Protected Structures have been stepped down.

Table 14-22: Predicted Effects on Setting – Character of Subject Site

Cause	Effect	Impact Characterisation	
Construction of proposed new structures on site	The new buildings will have a positive impact on the character of the site and will enhance the setting of the Protected Structures.	*Quality*	Positive
		Significance	Significant
		Extent	Local
		Context	The proposed new buildings have been designed with consideration of the historic context of the site and the numerous Protected Structures on site. The new buildings will be of high quality architectural design and will enhance the context and setting of the Protected Structures. The material palette utilised will ensure visual harmony between the new and old buildings on site, while clearly illustrating the modern interventions.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Worst-case

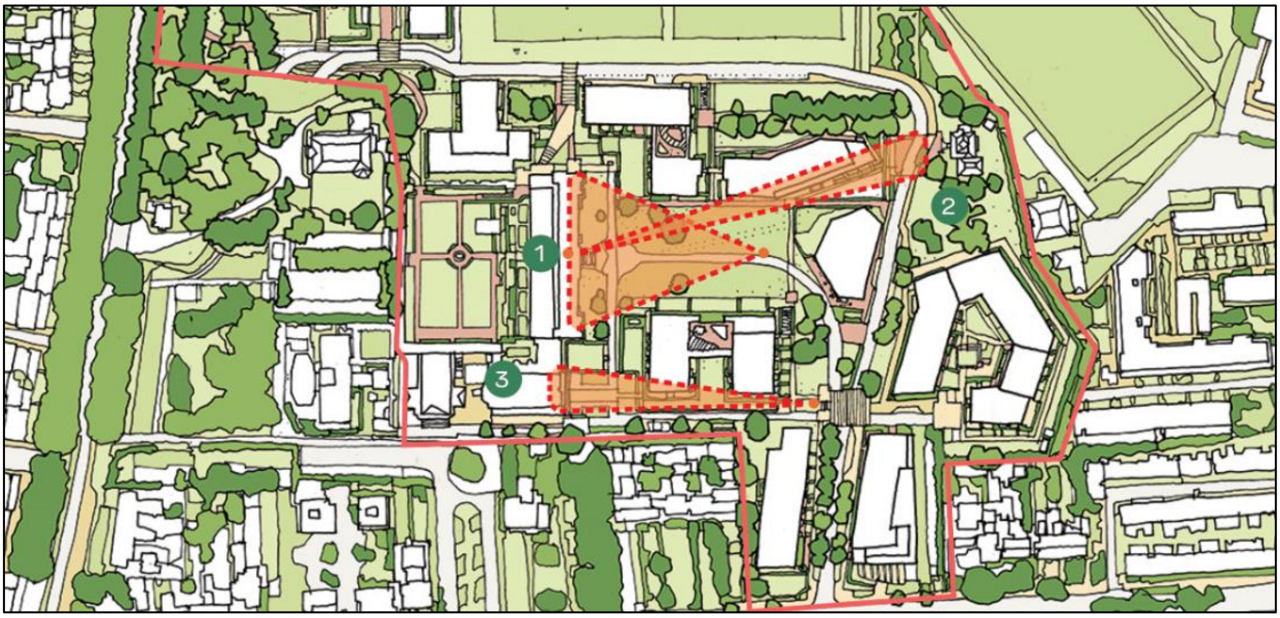
14.4.8.3 Impact of Proposed Project on Views and Vistas within the Site

Three key views within the site have been identified as being of particular significance. These are as follows:

1. The view of the Holy Cross Church from the entrance avenue
2. The view of the Main Seminary Block from the entrance avenue
3. The view of the Main Seminary Block from the Red House

The significance of these views has informed the layout of blocks in the subject Master Plan. These three key views will be retained, as highlighted in the material produced by Henry J Lyons Architects.

Figure 14.76: Key views identified within the Site



View 1 – View Towards Holy Cross Church from the Entrance Avenue

It should be noted that at present this view is only partially visible from certain points along the Entrance Avenue, due to the mature trees on site. The viewpoint chosen for the viewpoint illustrated in Figure 14.77 is located to the west of the entrance avenue, in a location where the full façade of the Church is clearly visible. The avenue branches in this area, providing a direct access route to the Church.

Figure 14.77: Existing (A) and proposed (B) views towards front façade of the College Church, from the entrance avenue. View No. 2, prepared by BSM.

The view of the front façade of the College Church will be protected within the proposed scheme. The above figure clearly shows that views to the College Church will not be interrupted or obstructed from this viewpoint along the entrance avenue (the planting here may need to be reviewed to avoid excessive screening). The proposed new Block C1 will block views of the South Link building and the façade of the Main Seminary Block. This is considered to be an acceptable impact, as it will bring a focus to the view of the façade of the College Church whilst moving along the entrance avenue.

The proposed works will therefore clearly not interrupt or obstruct this significant view within the subject site. It is considered that the proposed new high quality buildings will enhance the front setting of the College Church and Main Seminary Block and have a positive impact on views to the Protected Structure.

View 2 – View Towards Main Seminary Block from the Entrance Avenue

It should be noted that at present this view is only partially visible from certain points along the Entrance Avenue, due to the mature trees on site. The existing view is illustrated in Figure 14.78, below. This clearly shows that the existing view between the Main Seminary Block and the entrance avenue is focused on the central breakfront and entrance to the block. The façade of the Main Seminary Block, the South Link Building and the College Church are largely obscured by trees from this viewpoint.

The proposed new blocks within the front setting (Blocks C1 and B2) have been carefully sited so that this view of the front façade of the Main Seminary Block from the main entrance avenue will not be interrupted. Some of the existing trees will be retained in this area, preserving the parkland character of the setting. The proposed use of red-brick in the new buildings will create a visual connection between the new buildings and the Red House (not visible in this viewpoint). The proposed new blocks frame the view of the Main Seminary Block and further direct and focus the view on the façade of the block, and particularly on the central breakfront and entrance.

The proposed works will therefore clearly not interrupt or obstruct this significant view within the subject site. It is considered that the proposed new high quality buildings will enhance the front setting of the Main Seminary Block and have a positive impact on views to the Protected Structures.

Figure 14.78: Existing (A) and proposed (B) views towards the entrance of the Main Seminary Block, from the entrance avenue. View No. 1, prepared by BSM

View 3 – Visual Connection Between Main Seminary Block and Red House

Figure 14.79: Photomontage View 5, showing the front setting of the Red House.

As the college was housed in the Red House prior to the construction of the Main Seminary Block, the visual connection between the Red House and the Main Block is considered to be significant. This view will be preserved within the proposed redevelopment. The proposed new blocks have been arranged in such a way as to maintain the visual connection between the Red House and the Main Seminary Block. The front setting of the Red House will remain largely open, with landscaping works emphasising the connection between the structure and the College.

Table 14-23: Predicted Effects on Setting – Impact on Significant Views and Vistas within the Site

Cause	Effect	Impact Characterisation	
Proposed new structures on site	The proposed new blocks will have a positive impact on the setting of the Protected Structures and will retain significant views.	*Quality*	Positive
		Significance	Significant
		Extent	Local
		Context	Significant views and visual connections within the subject site have been retained and protected in the proposed Project. The proposed new high quality blocks will emphasise these significant views and will enhance the front setting of the structures.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Worst-case

14.4.8.4 Impact of the Proposed Project on the Setting of the Red House (A Protected Structure)

The history of the Red House has been dated to the early 18th Century, when Tristram Fortick obtained a lease of "*the great house of the Grange of Clonliffe with all out-offices, conveniences thereunder belonging*". This house was in the location of the existing Red House. By 1790, the house was the residence of a Frederick Edward Jones, manager of the Theatre Royal. Jones renamed the house as Clonliffe House, and employed an Italian craftsman, Maranari, to paint frescos in two rooms. The neighbouring Jones Road is named for Frederick Edward Jones, who laid out this road and who constructed the bridge over the Royal Canal (now known as Clonliffe Bridge).

The original construction date of the house is not clear, as the interiors have been extensively renovated. The college historian Richard Sherry undertook research into the construction of the Red house for the 1959 centenary publication. He notes that:

> *"Mr. C. P. Curran was good enough to give us his private opinion about the building. 'The house', he said, 'looks like late eighteenth century. The flat doorway which lacks a projecting pediment, and the flanking arcaded walls are a good example of Dublin domestic architecture of the last quarter of the eighteenth century'. The Honourable Desmond Guinness, president of the Irish Georgian Society, pointed out that the house is very difficult to date exactly. 'It has been extensively renovated', he said, 'and all the interior cornices have been removed. These are usually most helpful for fixing the date of construction. The fireplaces, staircase, basement and windows seem to suggest a date about 1770, although the house has some later features as well. In the distance, as one approaches the house, it looks rather like early nineteenth century, but this impression disappears as one comes closer. In my opinion it was probably built by Lord Mountjoy. It is certainly too late for Fortrick and most probably was built before the time of Jones'."*

The Clonliffe House and its lands were purchased by Dr. Cullen in 1858, and the Diocesan College was established in the existing house. The description of the sale notes that there were extensive offices on the grounds, as well as a large garden and pleasure grounds. The 1st Edition OS Map shows the ancillary office buildings to the south of the house. With the construction of the main seminary block in the early 1860s, and further additions such as the College Church c. 1873, all located in the western section of the College lands, the focal point of the site shifted away from Clonliffe House.

A relationship between the house and the later College buildings was maintained, and in the 1875 Ordnance Survey map, a path linking the two buildings is shown. This path survives to the present, lined with trees. This connection between the Red House and the Main Seminary Block has been taken into account in the design of the proposed scheme for the former College lands, with views between these two buildings preserved.

There will be no direct impacts on the Red House as part of the proposed Project, as the building is outside of the boundary of the Project Site. The proposal to construct a series of apartment blocks in the front setting of the Seminary will have a visual impact on the setting of the Red House, and on views between the Red House and the main College. This impact will be assessed in Section 14.4.8.3, Significant Views and Vistas within the Site.

The proposed new residential blocks are of high architectural quality and will utilise red-brick so as to ensure visual harmony with the Red House. The new structures have been laid out so as to ensure protection and retention of significant views and visual connections within the site. It is considered that the proposed new blocks will have a positive impact on the setting of the Red House.

Table 14-24: Predicted Effects on Setting – Impact on Setting of the Red House

Cause	Effect	Impact Characterisation	
Proposed new structures on the subject site	The proposed new high quality blocks will have a positive impact on the setting of the Red House.	*Quality*	Positive
		Significance	Significant
		Extent	Local
		Context	The proposed new residential blocks are of high architectural quality and have been designed so as to protect and retain significant views and vistas within the College lands. The proposed Project will use red-brick and be in visual harmony with the Red House.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Worst-case

14.4.9 Architectural Heritage Character of the Wider Area

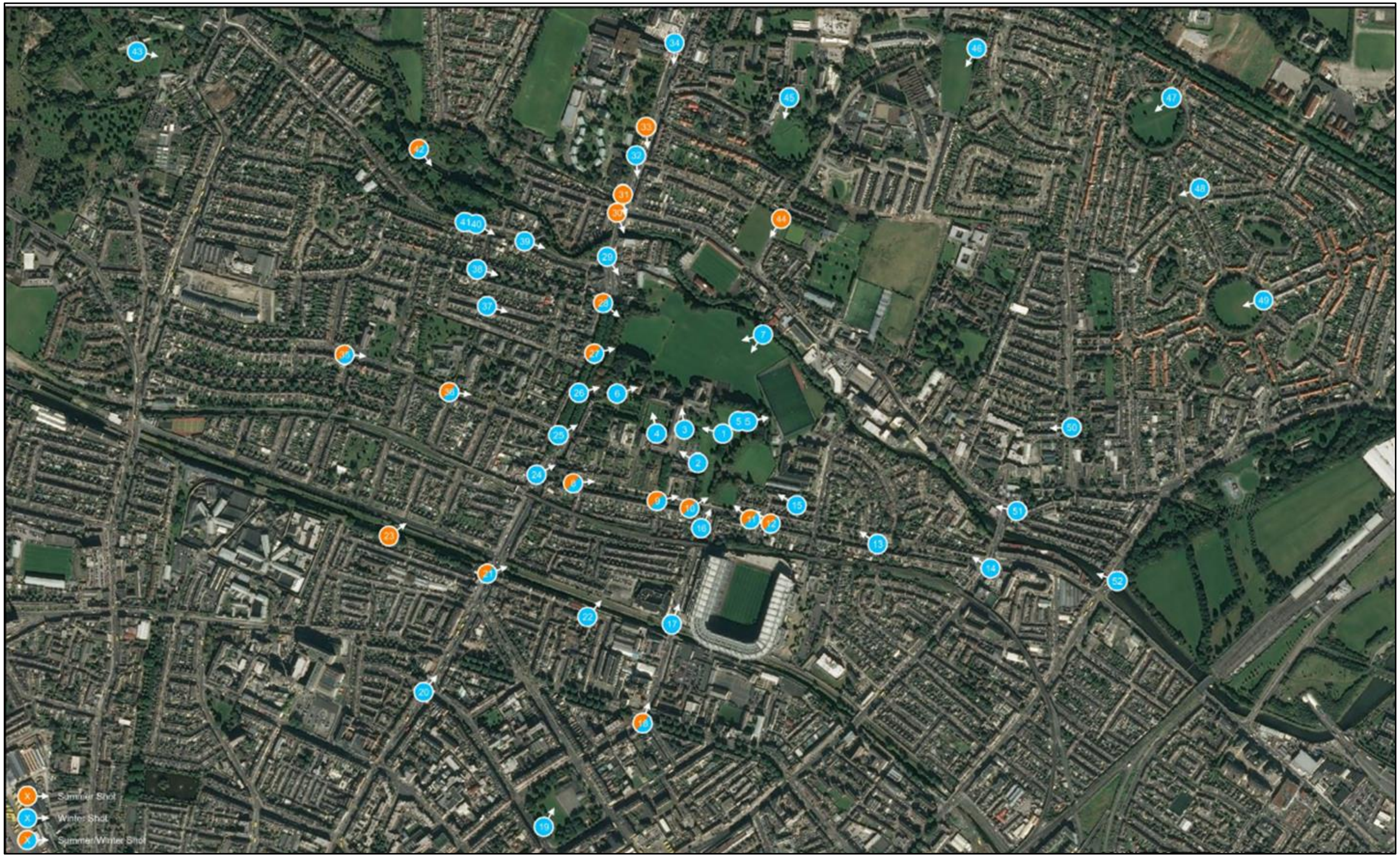
The proposal for the Project Site has been assessed with regard to its potential impact on the cultural and architectural heritage of the Site, and any visual impacts on the architectural character of the surrounding structures and area. The visual impact of the proposed Project on key view corridors and landmark buildings within the wider city, as outlined in the Dublin City Development Plan (2016 – 2022), has also been assessed.

Key viewpoints, prepared by Brady Shipman Martin, have been assessed. The locations of these viewpoints were selected so as to illustrate the impact on the Protected Structures and Residential Conservation Areas within the wider context. Please refer to the Landscape and Visual impact assessment (LVIA) (Chapter 11) for a detailed commentary on the selection of viewpoints.

Please refer to Figure 14.3, above, which shows the Protected Structures, Architectural Conservation Areas and Z2 Residential Conservation Areas in the wider context of the subject site. A selection of viewpoints illustrating the visual impact of the proposed scheme on the architectural heritage character of the wider area is assessed below.

Figure 14.80 shows the various viewpoints prepared by Brady Shipman Martin. Please refer to the full package of verified views / photomontages, submitted under separate cover, for further detail. The viewpoints show the existing/baseline view, the proposed view following the construction of the subject scheme, and the proposed view showing the cumulative impact of the proposed scheme and the proposed Project of the adjoining site as permitted under DCC Reg. Ref. 2935/20 (currently under appeal with An Bord Pleanála, Reg. Ref. PL29N.308193). The cumulative visual impact of the two schemes on the architectural heritage character of the wider area will be assessed in this section.

Figure 14.80: Map showing the viewpoints for which CGI photomontages were prepared by Brady Shipman Martin.



14.4.9.1 Protected Structures in the Wider Context of the Subject Site

Protected Structures within the immediate context of the Site include the Archbishop's House (Reg. Ref. 2361), the Red House (Reg. Ref. 1902), the houses along Drumcondra Road (Reg. Refs. 2344 – 2368), the houses along Clonliffe Road (Reg. Refs. 1903 – 1906), the corner tower and walls of the former Goodall's Warehouse (Reg. Ref. 2291), the railway bridge at Jones's Road (Reg. Ref. 884), the former warehouse and associated buildings along Richmond Road (Reg. Ref. 7359). The impact on the setting of the Red House has been assessed under Section 14.4.8.3, and will not be included in this section.

Figure 14.81: Baseline (A) and proposed (B) viewpoints showing the Archbishop's House (a Protected Structure). View No. 6, prepared by BSM.

The Archbishop's House is a Protected Structure (Reg. Ref 2361) adjoining the subject site to the immediate west. Figure 14.81 shows the visual impact of the proposed scheme on the setting of and views towards the structure. It is clear from these views that the scheme will be barely perceptible from the setting of the Protected Structure, due to the extensive planting of mature trees to the east of the Archbishop's' House. The proposed Project therefore cannot be considered to have any visual impact on this Protected Structure.

Figure 14.82: Baseline (A) and proposed (B) cumulative viewpoints showing the houses along Drumcondra Road (Protected Structures). View No. 25, prepared by BSM.

A number of the houses along Drumcondra Road are Protected Structures (Reg. Refs. 2344-2368), to the immediate west of the subject site. Figure 14.82 shows the visual impact of the proposed scheme on the setting of and views towards the Protected Structures. It is clear from these views that the scheme will be barely perceptible from the streetscape of Drumcondra Road, due to the distance from the subject site and the existing trees between the site and the Protected Structure. The proposed Project therefore cannot be considered to have any visual impact on these Protected Structures.

Figure 14.83: Baseline (A) and proposed (B) cumulative viewpoints showing St. Columba's Church, Iona Road (a Protected Structure). View No. 35, prepared by BSM.

St. Columba's Church is a Protected Structure (Reg. Ref 4001) located to the west of the subject site. Figure 14.83 shows the cumulative visual impact of the proposed scheme on the setting of and views towards the structure. It is clear from these views that the scheme will be barely perceptible from the setting of the

Protected Structure, due to the distance from the subject site and the existing trees between the site and the Protected Structure. The proposed Project therefore cannot be considered to have any visual impact on this Protected Structure.

Figure 14.84: Baseline (A) and proposed (B) cumulative viewpoints showing All Hallows College, DCU (a Protected Structure). View No. 45, prepared by BSM.

All Hallows College is a Protected Structure (Reg. Ref 3237) located to the north of the subject site. Figure 14.84 shows the cumulative visual impact of the proposed scheme on the setting of and views towards the structure. It is clear from these views that the scheme will be barely perceptible from the setting of the Protected Structure, due to the distance from the subject site and the existing trees between the site and the

Protected Structure. The proposed Project therefore cannot be considered to have any visual impact on this Protected Structure.

14.4.9.2 Architectural Conservation Areas in the Wider Context of the Site

Architectural Conservation Areas within the wider context of the subject site are illustrated in Figure 14.3, above. The Mountjoy Square ACA is located to the south of the subject site.

Figure 14.85: Baseline (A) and proposed (B) cumulative viewpoints showing the Mountjoy Square Architectural Conservation Area. View No. 19, prepared by BSM.

Mountjoy Square Architectural Conservation Area is located to the south of the subject site. Figure 14.85 shows the visual impact of the proposed scheme and the cumulative impact of the neighbouring scheme on the character of the Architectural Conservation Area. It is clear from these views that the scheme will be completely obscured from views within the ACA by the surrounding Georgian terraces. There are clearly no cumulative visual impacts from the proposed scheme on this Architectural Conservation Area.

14.4.9.3 Z2 Residential Conservation Areas in the Wider Context of the Site

A number of the neighbouring houses along Clonliffe Road, Drumcondra Road and Susanville Road are zoned Z2 Residential Conservation Areas under the Dublin City Council Development Plan 2016-22 (see Figure 14.3, above). The visual impact of the proposed scheme, and the cumulative impact of the proposed scheme and the adjoining hotel scheme (DCC Reg. Ref. 2935/20), on the architectural heritage character of these areas will be assessed in this section.

Figure 14.86: Baseline (A) and proposed (B) cumulative viewpoints showing the Z2 Residential Conservation Area at the corner of Clonliffe Road and Drumcondra Road. View No. 24, prepared by BSM.

Figure 14.86 shows the cumulative visual impact of the proposed scheme and the neighbouring scheme on the character of the Z2 Residential Conservation Area along Clonliffe Road and Drumcondra Road. It is clear from these views that the scheme will be largely obscured from views within the ACA by the trees along the road and due to the oblique angle. There cannot be considered to be any significant cumulative visual impacts on the character of this Z2 Residential Conservation Area.

Figure 14.87: Baseline (A) and proposed (B) cumulative viewpoints showing the Z2 Residential Conservation Area at the junction between Clonliffe Road and Jones's Road. View No. 16, prepared by BSM.

Figure 14.87 shows the proposed and the cumulative visual impact on the character of the Z2 Residential Conservation Area at the junction of Clonliffe Road and Jones's Road. There will clearly be a significant cumulative visual impact on the streetscape. However, the proposed material palette of red brick to be used in both schemes will ensure visual harmony between the new schemes and the existing Z2 Residential Conservation Areas. The scheme includes for the widening is restricted to the visual impact of the adjoining scheme 2935/20. The proposed materiality of the new schemes will minimise the cumulative visual impact

and maintain the character of the Z2 Residential Conservation Area. It I s considered that the proposed Project will have a positive impact on the character of the Z2 Residential Conservation Area, enhancing the architectural quality of the area and providing visual interest and greater connectivity and openness into the College lands. The cumulative impact of the proposed scheme and the adjoining permitted scheme is considered to have an acceptable visual impact on the character of this Z2 Residential Conservation Area.

Figure 14.88 shows the proposed and the cumulative visual impact on the character of the Z2 Residential Conservation Area along Susanville Road. These views clearly show that the proposed scheme 2935/20 will obscure views of the subject scheme. The cumulative visual impact on the character of the streetscape is restricted to the visual impact of the adjoining scheme 2935/20. The proposed materiality of the new schemes will minimise the cumulative visual impact and maintain the character of the Z2 Residential Conservation Area. The cumulative impact of the proposed scheme and the adjoining permitted scheme is considered to have an acceptable visual impact on the character of this Z2 Residential Conservation Area.

Figure 14.88: Baseline (A), proposed (B) and cumulative (C) viewpoints showing the Z2 Residential Conservation Area at Susanville Road. View No. 15, prepared by BSM.


B


C

14.4.9.4 Summary of Impacts on Architectural Heritage of Wider Context

In the absence of mitigation, effects on the architectural heritage character of the wider area are predicted to occur as a result of the proposed Project, as detailed in Table 14.25, below.

Table 14-25: Predicted Effects on Architectural Heritage Character of Wider Area

Cause	Effect	Impact Characterisation	
Proposed new structures on subject site and the adjoining scheme permitted under 2935/20	There will be little or no cumulative visual impact on the setting of or views to the Protected Structures in the wider context of the subject site.	*Quality*	Neutral
		Significance	Slight
		Extent	Local
		Context	There are a number of Protected Structures in the immediate and wider context of the subject site (see Figure 14.3, above). CGI Photomontages clearly show that the proposed scheme will be largely imperceptible from the setting of these Protected Structures.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Cumulative
Proposed new structures on subject site and the adjoining scheme permitted under 2935/20	There will be no cumulative impact on the character of Mountjoy Square Architectural Conservation Area.	*Quality*	Neutral
		Significance	Slight
		Extent	Local
		Context	Mountjoy Square is the closest ACA to the subject site. CGI Photomontages clearly show that the proposed scheme will be completely obscured from views within the ACA.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Cumulative
Proposed new structures on subject site and the adjoining scheme permitted under 2935/20	There will be minimal cumulative visual impact on the character of Z2 Residential Conservation Areas in the wider context of the subject site. Where visible, the proposed new development will have a positive impact on the character of the streetscape.	*Quality*	Positive
		Significance	Slight
		Extent	Local
		Context	There are a number of Z2 Residential Conservation Areas in the wider context of the subject site (see Figure 14.3, above). The proposed Project will largely have little or no visual impact on these. Where visible, the proposed new development will have a positive impact on the character of the streetscape.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Cumulative

14.4.10 Boundary Walls and Gates

Alteration works are proposed to the existing entrances to the subject site to facilitate the proposed new apartment developments. Please refer to the drawings and reports by Niall Montgomery Partnership for further detail.

- Clonliffe Road Entrance: It is proposed to take down the existing 20th century red-brick walls and gate piers, widen the entrance gate ope and reconstruct the piers in a semi-circular layout to match the existing plan. The brick will be re-used to construct low butt walls, with new railings on top.
- Drumcondra Road Entrance: These gates and the boundary wall are included on the Record of Protected Structures. It is proposed to take down the existing stone gate pier to the south, and reconstruct this pier in a new location further to the south, widening the gate ope in this location. This will involve the taking down of a small portion of the stone boundary wall.
- Archbishop's House Entrance: The existing gate on the eastern boundary of the Archbishop's Land will be removed and new brick piers and railings constructed along this boundary. The brick piers and railings will continue along the northern boundary of the Archbishop's lands, and a new gate will be formed here.

In the absence of mitigation, effects on boundary walls and gates are predicted to occur as a result of the proposed Project, as detailed in Tables 14.26 – 14.28, below.

The Clonliffe Road entrance gates are a modern intervention and cannot be considered to be of any particular significance. The proposed widening of this entrance is considered to be an acceptable proposal which will not detract from the significance of the site.

Table 14-26: Predicted Effects on Walls and Gates – Entrance from Clonliffe

Cause	Effect	Impact Characterisation	
Proposed widening of the existing entrance gates	Will not result in the loss of architectural fabric or features of interest	*Quality*	Neutral
		Significance	Slight
		Extent	Local
		Context	These entrance gates are a modern intervention and cannot be considered to be of any particular significance.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Worst-case

In relation to the entrance on Drumcondra Road, it is proposed to use this gate as a secondary access point for the redevelopment. This will involve the widening of this entrance, through the careful taking down of one of the existing gate piers and reconstructing it in a new position. The original stone gate piers will be retained. Precedents for such widening of 19th Century gates have been carried out at St. Patrick's College, Drumcondra Road, at Sir Patrick Dun's Hospital, James's Street, and at St. Patrick's College, Maynooth.

The proposed widening of the subject gateway, which comprises relatively simple stone gate piers leading to mews buildings is an appropriate proposal which can allow for fabric and architectural character to be retained.

Table 14-27: Predicted Effects on Walls and Gates – Entrance from Drumcondra Road

Cause	Effect	Impact Characterisation	
Proposed widening of the existing entrance gates and taking down of a section of the Boundary wall	The character and significance of the entrance gates and boundary walls along the Drumcondra Road will be maintained	*Quality*	Neutral
		Significance	Slight
		Extent	Local
		Context	These entrance gates and the adjoining walls are a Protected Structure. The southern gate pier will be carefully taken down and reconstructed in a new location. The reconstruction of the gate pier will ensure

Cause	Effect	Impact Characterisation	
			that the architectural character of the entrance is maintained. The taking down of a small section of the wall to enable the widening of the entrance will involve minimal loss of historic fabric and is a necessary intervention.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Worst-case

The proposed demolition of the modern gate and boundary wall to the Archbishop's lands, and its replacement with a modern fence and gate will not involve the loss of historic fabric and will have a positive impact on the character of the site.

Table 14-28: Predicted Effects on Walls and Gates – Entrance via Archbishop's House Lands

Cause	Effect	Impact Characterisation	
Proposed demolition of entrance gates	Will result in the loss of architectural and artistic character	*Quality*	Negative
		Significance	Slight
		Extent	Local
		Context	These entrance gates are a modern intervention and cannot be considered to be of any particular significance.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Worst-case

14.5 Mitigation Measures

14.5.1 Mitigation by Design

The design proposal for the Site has been developed with consideration of the architectural heritage impact of the proposed works. Discussions about the proposal were held with the DCC Conservation Office at an early design development stage. The design responds to the particular conditions of the Site and mitigates negative cultural and architectural heritage impacts through the retention of significant fabric and features, and the siting of new built elements so as not to interrupt significant views within the site.

The visual impact of proposed new build elements on the architectural heritage character of the subject site and of the wider setting have been taken into consideration during the early design stages of the project, and design decisions were taken to mitigate this impact. This includes the careful siting of the new build elements and the siting of taller proposed structures towards the centre of the site, and further from the neighbouring Z2 Residential Conservation Areas.

The removal of inappropriate later interventions and the proposed conservation of the historic fabric will have a positive impact on the cultural and architectural heritage of the Site, and will enhance the contribution of the Protected Structures to the character of the site and to the architectural heritage of the wider area.

The proposed material palette of the new built elements within the Site has been carefully considered and selected so as to reflect the architectural heritage character of the site and create visual links between the Red House, and the surrounding architectural heritage context, as exemplified by the use of red-brick in Block C2 to match the red-brick entrance gate piers and quadrant and the neighbouring red brick houses in the Z2 Residential Conservation Area. This ensures that the proposed new structures will be in keeping with the architectural character of the Protected Structures.

Details of how architectural heritage conservation considerations have been integrated into the proposal are detailed in Section 14.4, above.

14.5.2 Construction Phase

Architectural features of interest and surviving historic fabric, as detailed below, will be carefully taken down and salvaged prior to the demolition works. The re-use of this fabric within the proposed Project will be considered, and any items not feasible for re-use within the Site will be salvaged off-Site. This will ensure that significant features are not lost as part of the proposed Project and that the loss of historic fabric is minimised.

The historic / architectural features and fabric to be salvaged are as follows:

- All fitting and fixtures in the Oratory at the Ground Floor of the New Wing
- All surviving mid-century cast-iron radiators in the New Wing
- Decorative plaques at the stair hall of the New Wing.
- All decorative features within the College Church which will be retained by the Church

A full photographic survey of the site has been carried out, and is appended in the form of a photographic record (Appendices 14.4 – 14.10). A full drawn and photographic survey of the structures to be demolished, the New Wing and the Library Wing, has been prepared and will record these structures. Please refer to the Outline Conservation Specification appended to the EIAR (Appendix 14.11).

14.5.3 Operational Phase

The likely impacts of the proposed Project at operational phase relate to the visual impact of the proposed works on the architectural character of the wider area. As noted above, this has been taken into consideration as part of the incorporated mitigation by design.

14.6 Residual Impacts

Residual impacts (i.e. impacts following the implementation of the mitigation measures – including mitigation by design – as detailed in Section 14.5) are described in the following sections.

14.6.1 Main Seminary Block

Table 14-29: Predicted Residual Effects on Main Seminary Block

Cause	Effect	Impact Characterisation	
Demolition and reconfiguration of interiors	Higher quality spaces, not involving the loss of any historic fabric of significance	*Quality*	Positive
		Significance	Slight
		Extent	Local
		Context	The interior of the building was reconstructed in modern times and is not considered to be of significance or quality. There is no surviving historic fabric or features of interest.

Cause	Effect	Impact Characterisation	
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Residual
Demolition of later inappropriate extensions to the rear	Restoration of historic architectural character	*Quality*	Positive
		Significance	Slight
		Extent	Local
		Context	Rear extensions such as the toilet blocks are non-original and detract from the character of the rear elevation
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Residual
Proposed new rear extension with mitigation measures: the proposed new rear extension will be of high architectural quality and will be in keeping with the architectural character of the Main Seminary Block. The new extension will involve minimal loss of historic fabric, and will enhance the character of the quadrangle to the rear of the Main Seminary Block.	Will enhance the architectural character of the rear façade and setting of the structure	*Quality*	Positive
		Significance	Significant
		Extent	Local
		Context	The existing rear extension is considered to be of considerably lesser significance than the front elevation, and is considered to be an acceptable location for a new extension.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Residual
Proposed new residential blocks within the setting, with mitigation measures: the arrangement of the proposed new blocks on site was designed with consideration of the impact on the existing Protected Structures on site. The proposed new residential blocks will be of high quality architectural design and the material palette utilised will ensure visual	Will enhance and add visual interest to the setting of the structure	*Quality*	Positive
		Significance	Slight
		Extent	Local
		Context	This will largely impact the front setting of the structure, and its relationship with College lands and the Red House
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Residual

Cause	Effect	Impact Characterisation	
harmony with the existing structures. The new blocks will enhance the character of the setting and have a positive impact.			

14.6.2 South Link Building

Table 14-30: Predicted Residual Effects on South Link Building

Cause	Effect	Impact Characterisation	
Proposed internal modification, with mitigation: all features of interest will be retained in suit or salvaged for re-use, ensuring minimal loss of historic fabric. The proposed new layout will be of high architectural design quality and will enhance the architectural character of the structure.	The proposed internal works will enhance the architectural quality of the interiors	*Quality*	Positive
		Significance	Significant
		Extent	Local
		Context	All historic fabric and features of interested will be retained and conserved
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Residual
Proposed new residential blocks, with mitigation: the arrangement of the proposed new blocks on site was designed with consideration of the impact on the existing Protected Structures on site. The proposed new residential blocks will be of high quality architectural design and the material palette utilised will ensure visual harmony with the existing structures. The new blocks will enhance the character of the setting and have a positive impact.	Will enhance and add visual interest to the setting of the Protected Structures	*Quality*	Positive
		Significance	Slight
		Extent	Local
		Context	This will largely impact the front setting of the structure, and its relationship with College lands and the Red House
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Residual

14.6.3 College Church

Table 14-31: Predicted Residual Effects on College Church

Cause	Effect	Impact Characterisation	
Proposed minor internal alterations, with mitigation: proposed new layout of the interior will be of high architectural quality and will retain the historic architectural character of the space	The proposed works will enhance and improve the internal architectural character and quality of the space	*Quality*	Positive
		Significance	Significant
		Extent	Local
		Context	Historic fabric and features will be retained in situ and conserved
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Residual
Renovations as per mitigation measures: all features of interest will be retained in situ or salvaged for re-use, ensuring minimal loss of historic fabric. Original features will be retained in situ for the most part, with the features to be removed being later additions to the interior. Features of interest will be salvaged for re-use by the Church	The special architectural quality of the space will be protected and maintained.	*Quality*	Neutral
		Significance	Slight
		Extent	Local
		Context	The features and fittings to be removed will be salvaged for re-use by the Church in another location, thereby ensuring minimal loss of historic features.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Residual
Proposed new residential blocks within the setting, with mitigation: arrangement of the proposed new blocks on site was designed with consideration of the impact on the existing Protected Structures on site. The proposed new residential blocks will be of high quality architectural design and the material palette utilised will ensure visual harmony with the existing structures. The new blocks will enhance the	Will enhance and add visual interest to the setting of the Church	*Quality*	Neutral
		Significance	Slight
		Extent	Local
		Context	This will largely impact the front setting of the structure, and its relationship with College lands and the Red House
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Residual

Cause	Effect	Impact Characterisation	
character of the setting and have a positive impact			

14.6.4 Assembly Hall

Table 14-32: Predicted Residual Effects on Assembly Hall

Cause	Effect	Impact Characterisation	
Proposed works to the interior of the Structure, with mitigation, which will remove the inappropriate modern internal interventions and will re-incorporate the original proscenium arch to the south of the main hall	Restoration of the historic architectural character of the interior, having positive impact on the internal architectural character of the structure	*Quality*	Positive
		Significance	Significant
		Extent	Local
		Context	The interior of the building was extensively altered in modern times and is not considered to be of significance. The removal of these later interventions and the reinstatement of the proscenium arch will restore the historic architectural character of the space.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Residual

14.6.5 New Wing

Table 14-33: Predicted Residual Effects on New Wing

Cause	Effect	Impact Characterisation	
Demolition of structure, with mitigation: features of significance, including the arcade at ground floor level of the southern elevation, and the Oratory at Ground Floor Level will be carefully taken down and salvaged	No loss of any historic fabric or features of interest	*Quality*	Neutral
		Significance	Slight
		Extent	Local
		Context	There are minimal architectural features of interest in the subject building, with the exception of the Oratory at ground floor level. Features of interest will be salvaged.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Residual
Demolition of structure with retention in situ of the arcade on the southern elevation, which will ensure that the contribution which the structure makes to the character of the quadrangle will be maintained	Positive and ameliorative impact on the setting of the Protected Structures on site	*Quality*	Positive
		Significance	Slight
		Extent	Local
		Context	The retention of the arcade on the southern façade and the construction of the proposed new Block B1 will ensure that the architectural heritage character of the rear quadrangle is protected and enhanced. The proposed new structure will be a high quality architectural design and will improve the amenity of the site.
		Probability	Likely

Cause	Effect	Impact Characterisation	
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Residual

14.6.6 Library Wing

Table 14-34: Predicted Residual Effects on Library Wing

Cause	Effect	Impact Characterisation	
Demolition of the structure	No loss of surviving historic architectural features and fabric of interest	*Quality*	Neutral
		Significance	Slight
		Extent	Local
		Context	There are no architectural features of any particular interest in the subject building. The demolition of the structure is not considered to constitute any loss of fabric or features of architectural or other significance
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Residual
Demolition of the structure	The works will enhance the setting of the neighbouring Protected Structures and the setting of the College.	*Quality*	Positive
		Significance	Slight
		Extent	Local
		Context	The existing Library Wing is considered to be an inappropriate mid-20th Century addition to the front setting of the Main Seminary Block. The Library Wing detracts from the appreciation of the Main Seminary Block and is not considered to be of any particular significance in itself
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Residual

14.6.7 Ambulatory

Table 14-35: Predicted Residual Effects on Ambulatory

Cause	Effect	Impact Characterisation	
Proposed minor works, with mitigation: proposed new connections between the Ambulatory and the Assembly Hall will have a positive impact on the character of both	Minimal impact on its architectural, historic and artistic interest	*Quality*	Neutral
		Significance	Slight
		Extent	Local
		Context	The Ambulatory is a relatively austere structure with few decorative details, with the exception of the mosaic panels. The panels will be retained in situ and will be accessible through the openable timber panels.
		Probability	Likely

Cause	Effect	Impact Characterisation	
structures. The proposed panels covering the mosaics will be demountable and removable, ensuring no loss of historic fabric.		*Duration / Frequency*	Permanent and constant
		Assumed Scenario	Residual

14.6.8 Setting

14.6.8.1 Impact of the Proposed New Landscape Design on the Setting of the former Holy Cross College

Table 14-36: Predicted Residual Effects on Character of the Subject Site

Cause	Effect	Impact Characterisation	
Proposed new landscape design for the subject site	The proposed new landscaped design for the site is respectful of the historic character of the various distinct areas within the site and will retain this character.	*Quality*	Positive
		Significance	Significant
		Extent	Local
		Context	The parkland character of the front setting of the Seminary Block will be retained in the proposed new design. The formal design of the rear quadrangle will be enhanced. The new landscape design will tie the proposed new scheme to the historic character of the College lands.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Residual

14.6.8.2 Impact of the Proposed New Structures on the Setting of the former Holy Cross College

Table 14-37: Predicted Residual Effects on Character of the Subject Site

Cause	Effect	Impact Characterisation	
Construction of proposed new structures on site	The new buildings will have a positive impact on the character of the site and will enhance the setting of the Protected Structures.	*Quality*	Positive
		Significance	Significant
		Extent	Local
		Context	The proposed new buildings have been designed with consideration of the historic context of the site and the numerous Protected Structures on site. The new buildings will be of high quality architectural design and will enhance the context and setting of the Protected Structures. The material palette utilised will ensure visual harmony between the new and old buildings on site, while clearly illustrating the modern interventions.
		Probability	Likely
		Duration / Frequency	Permanent and constant

Cause	Effect	Impact Characterisation	
		Assumed Scenario	Residual

14.6.8.3 Impact of Proposed Project on Views and Vistas within the Site

Table 14-38: Predicted Residual Effects on Views and Vistas within the Subject Site

Cause	Effect	Impact Characterisation	
Proposed new structures on site	The proposed new blocks will have a positive impact on the setting of the Protected Structures and will retain significant views.	*Quality*	Positive
		Significance	Significant
		Extent	Local
		Context	Significant views and visual connections within the subject site have been retained and protected in the proposed Project. The proposed new high quality blocks will emphasise these significant views and will enhance the front setting of the structures.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Residual

14.6.8.4 Impact of the Proposed Project on the Setting of the Red House (A Protected Structure)

Table 14-39: Predicted Residual Effects on Setting of the Red House

Cause	Effect	Impact Characterisation	
Proposed new structures on the subject site	The proposed new high quality blocks will have a positive impact on the setting of the Red House.	*Quality*	Positive
		Significance	Significant
		Extent	Local
		Context	The proposed new residential blocks are of high architectural quality and have been designed so as to protect and retain significant views and vistas within the College lands. The proposed Project will use red-brick and be in visual harmony with the Red House.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Residual

14.6.9 Architectural Heritage Character of the Wider Area

As noted above, the likely significant effects of the proposed Project on the neighbouring Residential Conservation Area and on views to / from the Protected Structures in the wider area have been taken into consideration throughout the design process, and visual impact assessments carried out to ensure minimal visual impact on the existing architectural heritage.

The impact of the proposed Project on the architectural heritage character of the wider setting has been mitigated through various design decisions, including the material palette used, the stepping down in height of the blocks at the perimeter of the site, and the siting of taller blocks in the centre of the Site. The resulting visual impact of the proposed Project can be seen in the photomontages prepared by Brady Shipman Martin. These images clearly illustrate how the design of the proposed Project mitigates the impact on the surrounding architectural heritage. See Section 14.4.9 for a more detailed assessment of the visual impact on the setting.

It is considered that the residual cumulative impact of the subject development and the adjoining site as permitted under DCC Reg. Ref. 2935/20 (currently under appeal with An Bord Pleanála, Reg. Ref. PL29N.308193 on the architectural heritage character of the wider area is will be largely imperceptible and cannot be considered to detract from the architectural heritage character of the context, or the setting of neighbouring Protected Structures or Architectural Conservation Areas. There is some visual impact on the adjoining Z2 Residential Conservation Areas at Jones Road/Clonliffe Road and Susanville Road. It is considered that the proposed new high architectural quality development will have a positive impact on the character of these streetscapes, and that visual harmony will be maintained through the use of an appropriate material palette.

Table 14-40: Predicted Residual Effects on Architectural Heritage Character of the Wider Area

Cause	Effect	Impact Characterisation	
Proposed new structures on subject site and the adjoining scheme permitted under 2935/20	There will be little or no cumulative visual impact on the setting of or views to the Protected Structures in the wider context of the subject site.	*Quality*	Neutral
		Significance	Slight
		Extent	Local
		Context	There are a number of Protected Structures in the immediate and wider context of the subject site (see Figure 14.3, above). CGI Photomontages clearly show that the proposed scheme will be largely imperceptible from the setting of these Protected Structures.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Cumulative/Residual
Proposed new structures on subject site and the adjoining scheme permitted under 2935/20	There will be no cumulative impact on the character of Mountjoy Square Architectural Conservation Area.	*Quality*	Neutral
		Significance	Slight
		Extent	Local
		Context	Mountjoy Square is the closest ACA to the subject site. CGI Photomontages clearly show that the proposed scheme will be completely obscured from views within the ACA.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Cumulative/Residual
Proposed new structures on subject site and the adjoining scheme permitted under 2935/20	There will be minimal cumulative visual impact on the character of Z2 Residential Conservation Areas in the wider context of the subject site. Where visible, the proposed new development will have a positive impact on the	*Quality*	Positive
		Significance	Slight
		Extent	Local
		Context	There are a number of Z2 Residential Conservation Areas in the wider context of the subject site (see Figure 14.3, above). The proposed Project will largely have little or no visual impact on these. Where visible, the proposed new development will have a

Cause	Effect	Impact Characterisation	
	character of the streetscape.		positive impact on the character of the streetscape.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Cumulative/Residual

14.6.10 Boundary Walls and Gates

Table 14-41: Predicted Residual Effects on Entrance from Clonliffe Road

Cause	Effect	Impact Characterisation	
Proposed widening of the existing entrance gates	Will not result in the loss of architectural fabric or features of interest	*Quality*	Neutral
		Significance	Slight
		Extent	Local
		Context	These entrance gates are a modern intervention and cannot be considered to be of any particular significance.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Residual

Table 14-42: Predicted Residual Effects on Entrance from Drumcondra Road

Cause	Effect	Impact Characterisation	
Proposed widening of the existing entrance gates and taking down of a section of the Boundary wall	The character and significance of the entrance gates and boundary walls along the Drumcondra Road will be maintained	*Quality*	Neutral
		Significance	Slight
		Extent	Local
		Context	These entrance gates and the adjoining walls are a Protected Structure. The southern gate pier will be carefully taken down and reconstructed in a new location. The reconstruction of the gate pier will ensure that the architectural character of the entrance is maintained. The taking down of a small section of the wall to enable the widening of the entrance will involve minimal loss of historic fabric and is a necessary intervention.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Residual

Table 14-43: Predicted Residual Effects on Entrance via Archbishop's House Lands

Cause	Effect	Impact Characterisation	
Proposed demolition of entrance gates		*Quality*	Neutral
		Significance	Slight

Cause	Effect	Impact Characterisation	
	Will not result in the loss of architectural fabric or features of interest	*Extent*	Local
		Context	These entrance gates are a modern intervention and are not considered to be of any particular interest.
		Probability	Likely
		Duration / Frequency	Permanent and constant
		Assumed Scenario	Residual

14.6.11 Conclusion

The residual impacts of the proposed scheme are largely ***neutral*** or ***positive*** with regard to their impact on the historic architectural character of the subject site. The Masterplan for the site was designed with careful consideration of the architectural heritage of the site and takes into account the significant views and vistas within the site.

Mitigation measures such as the salvaging of features of interest and the creation of a full drawn and photographic record of the New Wing and Library Wing ensure that this intervention will not result in the loss of historic fabric of significance.

The visual impact of the proposed Project on the wider architectural heritage of the surrounding area is not considered to be significant or negative.

14.7 Monitoring

During the construction phase, the Developer / Contractor will ensure that a qualified conservation architect oversees the recording, disassembly, taking down, storage and salvaging of material from the Site, so as to ensure minimal damage to the historic features.

14.8 Interactions

Thera are interactions between this chapter and Chapter 13 (Landscape and Visual) and Chapter 15 (Cultural Heritage – Archaeology), which have been addressed above.

14.9 Cumulative Impacts

The cumulative visual impact of the proposed Project and the development of the adjoining site as permitted under ABP Ref. PL29N.308193, on the architectural heritage character of the wider context has been assessed under Section 14.4.9, above.

14.10 Difficulties Encountered in Compiling the Chapter

Access to relevant archives was limited due to ongoing Covid-19 restrictions. Initial research on the Site generally was carried out prior to the Covid-19 situation, but lockdown measures precluded carrying out follow-up visits to carry out more in-depth research into the individual buildings. There may therefore be archival and historical material which is not referred to in this chapter, however we are satisfied that the research undertaken provides an adequate historical background and context of the buildings and the site for the assessment.

14.11 References

This evaluation has been carried out with reference to a number of important resources. These include the following:

- Trinity College Map Library
- National Library of Ireland
- Irish Architectural Archive
- Dictionary of Irish Architects
- Pearse Street Library – Dublin City Archive
- Britain from Above – Online Photographic Collection
- Irish Photo Archive – Online Photographic Collection
- Irish Times Archive
- Dublin Diocesan Archives

Please refer to the appendices for further detail on the historic maps (Appendix 14.1), drawings (Appendix 14.2) and photographs (Appendix 14.3) used in this assessment.

A key secondary source used in the preparation of the historical background section of this report is the book '*Holy Cross College, Clonliffe, 1859 – 1959*' by Reverend Sherry, available in the National Library of Ireland.

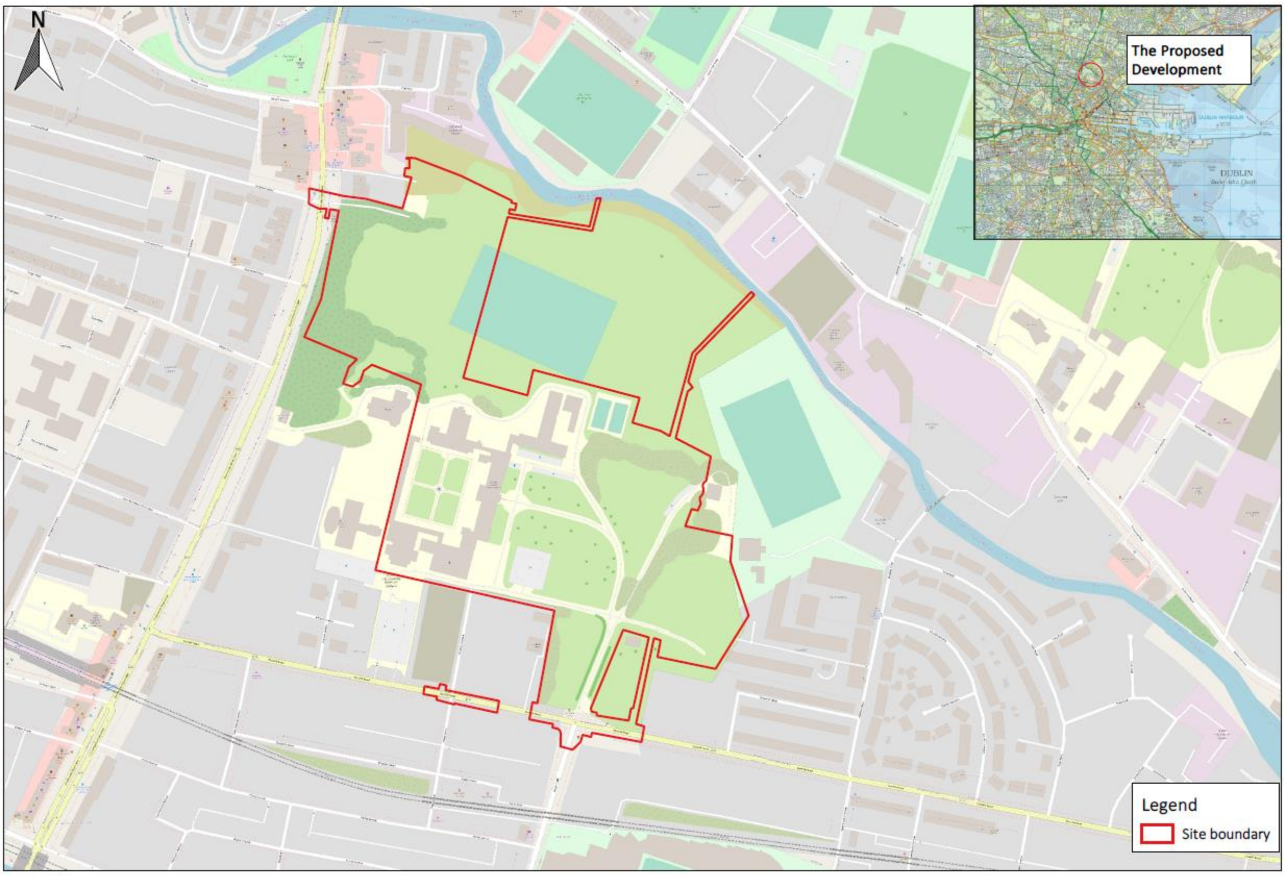
15 Cultural Heritage – Archaeology

15.1 Introduction

This Chapter details an archaeological assessment undertaken in relation to the proposed Project at Holy Cross College, Clonliffe Road, Dublin 3 and Drumcondra Road Lower, Drumcondra, Dublin 9 (Figure 15.1, ITM 716277, 736343). This assessment has been carried out to ascertain the potential impact of the proposed Project on the archaeological and historical resource that may exist within the area.

The assessment was undertaken by Grace Corbett of IAC Archaeology. Grace holds an MA in Landscape Archaeology from the University of Sheffield and a BA in Archaeology and Classics from the University College Cork. She is also a member of the Chartered Institute of Field Archaeologists and has over 16 years' experience working in the commercial archaeological sector, both in Ireland and the U.K. Grace has worked on a number of large-scale EIARs, including the Limerick-Foynes Road Scheme, the redevelopment of the Player-Wills and Bailey-Gibson sites in Dublin City and large scale commercial developments at Baldonnell, Co. Dublin.

Figure 15.1: Site Location



This study determines, as far as reasonably possible from existing records, the nature of the archaeological resource in and within the vicinity of the Project Site using appropriate methods of study. Desk-based assessment is defined as a programme of study of the historic environment within a specified area or site that addresses agreed research and / or conservation objectives. It consists of an analysis of existing written, graphic, photographic and electronic information in order to identify the likely heritage assets, their interests and significance and the character of the study area, including appropriate consideration of the settings of heritage assets (CIfA, 2014). In order to compile a complete baseline, a site inspection is carried out to complement the results of the desk-based assessment. This leads to the following:

- Determining the presence of known archaeological heritage sites that may be affected by the proposed Project;
- Assessment of the likelihood of finding previously unrecorded archaeological remains during the construction programme; and
- Suggested mitigation measures based upon the results of the above research.

The study involved detailed interrogation of the archaeological and historical background of the Project Site. This included information from the Record of Monuments and Places of County Dublin (Figure 15.2), the Dublin City Development Plan (2016 – 2022), topographical files of the National Museum of Ireland, and cartographic and documentary records. A programme of geophysical survey and archaeological testing has also been carried out in order to inform the impact assessment.

Note that the assessment herein is focussed on cultural heritage, in the general sense, and archaeological heritage, specifically. Impacts on architectural heritage as a result of the proposed Project are assessed in Chapter 14, Cultural Heritage – Architectural Heritage.

15.1.1 Definitions

In order to assess, distil and present the findings of this study, the following definitions apply:

- **'Cultural Heritage'** where used generically, is an overarching term applied to describe any combination of archaeological, architectural and cultural heritage features, where –
  - The term **'archaeological heritage'** is applied to objects, monuments, buildings or landscapes of an (assumed) age typically older than AD 1700 (and recorded as archaeological sites within the Record of Monuments and Places);
  - The term **'architectural heritage'** is applied to structures, buildings, their contents and settings of an (assumed) age typically younger than AD 1700;
  - The term **'cultural heritage'**, where used specifically, is applied to other (often less tangible) aspects of the landscape such as historical events, folklore memories and cultural associations. This designation can also accompany an archaeological or architectural designation.

15.1.1.1 Impact Definitions

The assessment of impacts herein is in accordance with the definitions set out in the EPA (2017) *Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports*, as follows:

- **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 alters 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.

15.2 Methodology

Research has been undertaken in four phases. The first phase comprised a paper survey of all available archaeological sources. The second phase involved a field inspection of the proposed Project area. The third phase comprised a geophysical survey of the site. This was followed by the fourth phase, which comprised a programme of archaeological test trenching.

The following legislation and guidelines informed the compilation of this assessment:

- PDA 2000, as amended
- Heritage Act, 1995, as amended
- National Monuments Acts, 1930-2004
- Guidelines on the information to be contained in Environmental Impact Statements, 2003, EPA
- Advice Notes on Current Practice (in preparation of Environmental Impact Statements), 2003, EPA
- Draft Advice Notes on Current Practice (in preparation of Environmental Impact Statements), 2015, EPA
- Guidelines on the information to be contained in environmental impact assessment reports (Draft August 2017), EPA
- Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act, 2000 and the Local Government (Planning and Development) Act 2000
- Chartered Institute for Archaeologists. 2014a. Standards & Guidance for Field Evaluation.
- Chartered Institute for Archaeologists. 2014b. Standards & Guidance for Archaeological Excavation.
- Chartered Institute for Archaeologists. 2014c. Standards & Guidance for an Archaeological Watching Brief (Monitoring).

15.2.1 Paper Survey

The following sources were consulted in the paper survey:

- Record of Monuments and Places for County Dublin;
- Sites and Monuments Record for County Dublin;
- National Monuments in State Care Database;
- Preservation Orders List;
- Topographical files of the National Museum of Ireland;
- Cartographic and written sources relating to the study area;
- Dublin City Development Plan 2016–2022
- Aerial photographs;
- Dublin City Industrial Heritage Record; and
- Excavations Bulletin (1970-2020)

Record of Monuments and Places (RMP): A list of archaeological sites known to the National Monuments Section, which are afforded legal protection under Section 12 of the 1994 National Monuments Act and are published as a record.

Sites and Monuments Record (SMR): Holds documentary evidence and field inspections of all known archaeological sites and monuments. Some information is also held about archaeological sites and monuments whose precise location is not known, e.g. only a site type and townland are recorded. These are known to the

National Monuments Service as 'un-located sites' and cannot be afforded legal protection due to lack of locational information. As a result, these are omitted from the RMP. RMP/SMR sites are also listed on the Department of Housing, Local Government and Heritage (DoHLGH) website – www.archaeology.ie.

National Monuments in State Care Database: A list of all the National Monuments in State guardianship or ownership. Each is assigned a National Monument number whether in guardianship or ownership and has a brief description of the remains of each Monument. The Minister for the DoHLGH may acquire national monuments by agreement or by compulsory order. The state or local authority may assume guardianship of any national monument (other than dwellings). The owners of national monuments (other than dwellings) may also appoint the Minister or the local authority as guardian of that monument if the state or local authority agrees. Once the site is in ownership or guardianship of the state, it may not be interfered with without the written consent of the Minister.

Preservation Orders List: Contains information on Preservation Orders and/or Temporary Preservation Orders, which have been assigned to a site or sites. Sites deemed to be in danger of injury or destruction can be allocated Preservation Orders under the 1930 Act. Preservation Orders make any interference with the site illegal. Temporary Preservation Orders can be attached under the 1954 Act. These perform the same function as a Preservation Order but have a time limit of six months, after which the situation must be reviewed. Work may only be undertaken on or in the vicinity of sites under Preservation Orders with the written consent, and at the discretion of, the Minister.

Topographical files of the National Museum of Ireland form the national archive of all known finds recorded by the National Museum. This archive relates primarily to artefacts but also includes references to monuments and unique records of previous excavations. The find spots of artefacts are important sources of information on the discovery of sites of archaeological significance.

Cartographic sources are important in tracing land use development within the Project area as well as providing important topographical information on areas of archaeological potential and the development of buildings. Cartographic analysis of the following maps has been carried out to identify any topographical anomalies or structures that no longer remain within the development area:

- John Rocque's Map of the City and County of Dublin, 1760
- John Taylor's Map of the Environs of Dublin 1816
- Ordnance Survey Maps, 1843, 1888, 1906–9

Documentary sources were consulted to gain background information on the archaeological and historical landscape of the proposed Project area.

Development Plans contain a catalogue of all the Protected Structures and archaeological sites within the county/city. The Dublin City Development Plan (2016–2022) was consulted to obtain information on cultural heritage sites in and within the immediate vicinity of the proposed Project.

Aerial photographic coverage is an important source of information regarding the precise location of cultural heritage sites and their extent. It also provides initial information on the terrain and its likely potential for archaeology. A number of sources were consulted, including aerial photographs held by the OSi and Google Earth.

Dublin City Industrial Heritage Record (DCIHR): Makes recommendations for sites to be added to the Record of Protected Structures (RPS) in the City Development Plan and is maintained by DCC. It is a policy of the Council to implement the recommendations of the DCIHR (Policy FC68).

Excavations Bulletin is a summary publication that has been produced every year since 1970. This summarises every archaeological excavation that has taken place in Ireland during that year up until 2010 and, since 1987, has been edited by Isabel Bennett. This information is vital when examining the archaeological content of any area, which may not have been recorded under the SMR and RMP files. This information is also available online (www.excavations.ie) from 1970 – 2020.

15.2.2 Field Inspection

Field inspection is necessary to determine the extent and nature of archaeological and historical remains, and can also lead to the identification of previously unrecorded or suspected sites and portable finds through topographical observation and local information. The archaeological field inspection entailed:

- Inspecting the proposed Project area and its immediate environs.
- Recording the terrain type and land usage.
- Recording the presence of features of archaeological significance and potential significance
- Verifying the extent and condition of any recorded sites / features.
- Visually investigating any suspect landscape anomalies to determine the possibility of their being anthropogenic in origin.

15.2.3 Geophysical Survey

Geophysical survey is used to create 'maps' of subsurface archaeological features. Features are the non-portable part of the archaeological record, whether standing structures or traces of human activities left in the soil. Geophysical instruments can detect buried features when their electrical or magnetic properties contrast measurably with their surroundings. In some cases, individual artefacts, especially metal, may be detected as well. Readings, which are taken in a systematic pattern, become a dataset that can be rendered as image maps. Survey results can be used to guide excavation and to give archaeologists insight into the pattern of non-excavated parts of the Site. Unlike other archaeological methods, the geophysical survey is not invasive or destructive.

A geophysical survey was undertaken to inform this assessment in March 2020 within the Site of the proposed Project (Leigh 2020, Licence Ref.: 20R0046). A summary of the geophysical report is presented in Section 15.3.7 and the full technical report is included in Appendix 15.1.

15.2.4 Archaeological Testing

Archaeological Test Trenching can be defined as *"a limited programme [...] of intrusive fieldwork which determines the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts within a specified area or site on land or underwater. If such archaeological remains are present test trenching defines their character and extent and relative quality"* (CIfA 2014a, 4).

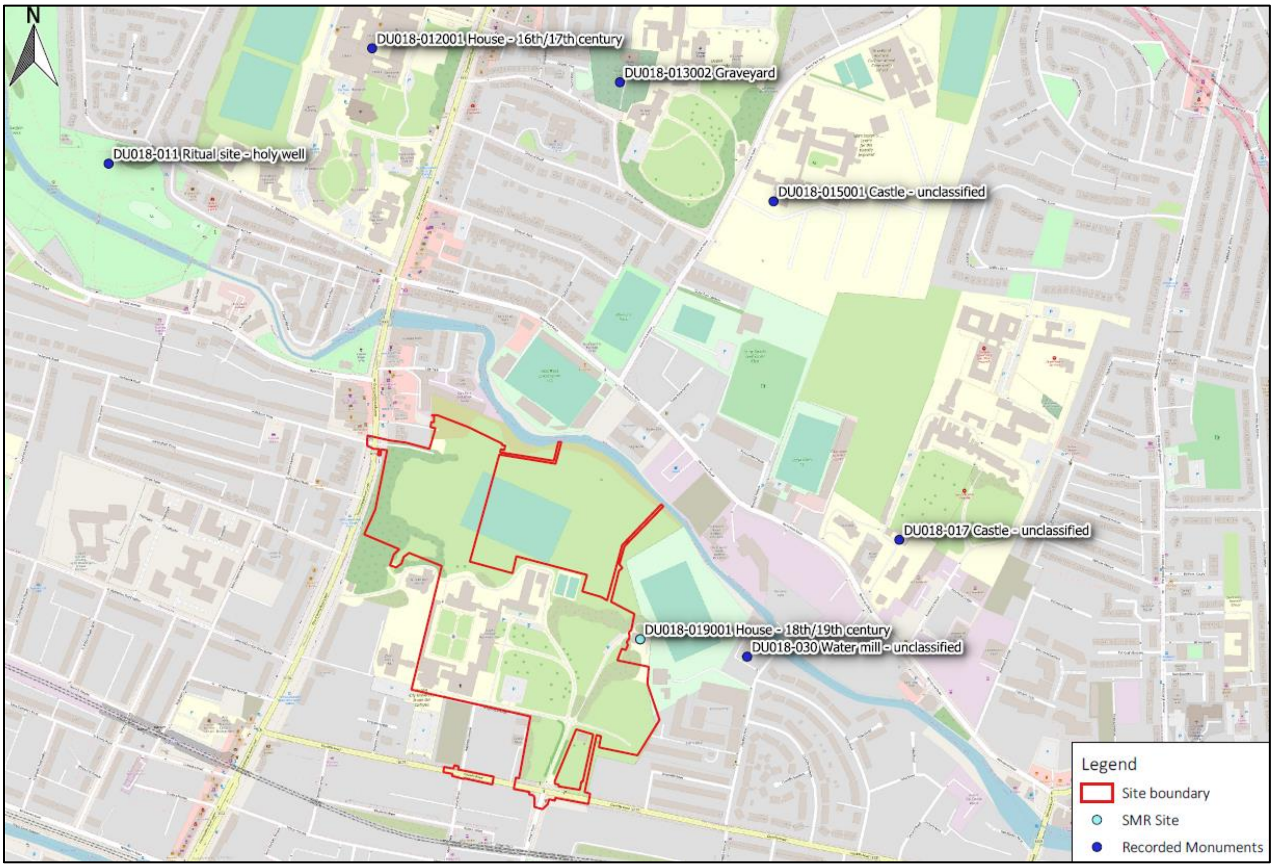
A programme of archaeological testing based on the results of the geophysical survey was carried out within the proposed Project area in July 2020. This was undertaken by Neil O'Flanagan of IAC under licence 20E0286. Detailed results of the archaeological testing are included in Section 15.3.8 and the full technical report is included in Appendix 15.2.

15.3 Baseline Environment

15.3.1 Archaeological Background

The Site of the proposed Project is located to the north of Clonliffe Road, east of Drumcondra Road and to the south of the River Tolka. The Site is currently occupied by the buildings of Holy Cross College and Diocesan Centre and associated landscaping. There are six recorded monuments within 500 m of the proposed Project Site, in addition to a site listed in the SMR, an 18th / 19th century house (DU018-019001), to the immediate east of the site (Figure 15.2).

Figure 15.2: Archaeological Sites within the Study Area



15.3.1.1 Prehistoric Period

Mesolithic Period (6000–4000 BC)

Although recent discoveries have suggested the possibility of a human presence in the southwest of Ireland as early as the Upper Palaeolithic (Dowd and Carden 2016), the Mesolithic period is the earliest time for which there is widespread evidence of human occupation of the island. During this period, small mobile groups hunted, fished and foraged as a way of life. These small groups migrated seasonally in order to exploit seasonal resources, and natural resources, such as the coast and river valleys, which were of key importance for their survival. While there is no recorded evidence of Mesolithic activity in the immediate surrounding of the proposed Project Site, the vicinity of the River Tolka, which lies c. 29m north of the proposed Project Site, would have been an attractive location for Mesolithic communities.

Neolithic Period (4000–2500 BC)

The Neolithic period saw the introduction and adoption of agriculture to Ireland. This represented a seismic shift in lifestyle with settlements becoming more permanent, while forests were cleared and field boundaries constructed to facilitate farming. A new concern for claiming land on which to farm contributed to the emergence of the megalithic tomb tradition, which was characteristic of the Neolithic period. There are four main types of megalithic tombs, court cairns, portal tombs, passage tombs and the wedge tombs of the early Bronze Age. However, there are no recorded Neolithic sites in the vicinity of the proposed Project Site.

Bronze Age (2500–800 BC)

The Bronze Age was marked by the widespread use of metal for the first time in Ireland. As with the transition from Mesolithic to Neolithic, the transition into the early Bronze Age was accompanied by changes in society. The construction of megalithic tombs went into decline by the end of the early Bronze Age and the burial of the individual became typical. Cremated or inhumed bodies were often placed in a cist, which is a stone-lined grave, usually built of slabs set upright to form a box-like construction and capped by a large slab or several smaller lintels (Buckley and Sweetman 1991). Barrows and pit burials are also funerary monuments associated with this period. A possible ring-ditch was identified during field work c. 500m north of the site in 2009 (Licence Ref.: 09E437; Bennett 2009:306).

Another site type thought to reveal of glimpse of domestic life at this time is the burnt mound and *fulacht fia*. A common site within the archaeological record, they are normally interpreted as temporary cooking sites but may have been used for other industrial or even recreational functions. They survive as low mounds of charcoal- enriched soil mixed with an abundance of heat-shattered stones. They are usually horseshoe shaped and located in low-lying areas near a water source and are often found in clusters. Even when levelled by an activity such as ploughing, they are identifiable as burnt spreads in the landscape (Brindley and Lanting 1990).

Iron Age (800 BC–AD 500)

Until recently, the dearth of evidence representing the Irish Iron Age made it one of the more enigmatic and least understood periods in Irish prehistory. However, large scale commercial excavations carried out over the past two decades have produced large quantities of new data relating to Iron Age settlement and industry across the country.

As in Europe, two phases of the Iron Age have been proposed in Ireland; the Hallstatt and the La Tène (Raftery 1994). The Hallstatt period generally dates from 700 BC onwards and spread rapidly from Austria, across Europe, and then into Ireland. The later Iron Age or La Tène culture also originated in Europe during the middle of the 5th century BC. While evidence of the Hallstatt period was traditionally viewed as rare in Ireland, La Tène influences are clear in the Irish metalwork of the period.

There is as yet no firmly dated evidence for Iron Age activity within the immediate vicinity of the proposed Project Site.

15.3.1.2 Early Medieval Period (AD 500-1100)

Settlements expanded and advanced during the early medieval period when the area now known as County Dublin straddled the ancient kingdoms of *Brega* (north of the River Tolka) and *Laigin* (south of the Tolka). A pre-Viking settlement was located at *Ath Cliath* in the 7th and 8th centuries. The Vikings set up a longphort or ship camp on the southern banks of the River Liffey in the mid-9th century which was intermittently occupied until the late 12th century.

The most common indicator of settlement during the early medieval period is the ringfort. Ringforts, (also known as *rath, lios, caiseal, cathair* and *dún*) are a type of defended homestead comprising of a central site enclosed by a number of circular banks and ditches. Ringforts are most commonly located at sites with commanding views of the surrounding environs which provided an element of security. While raths, for the most part, avoid the extreme low and uplands, they also show a preference for the most productive soils (Stout 1997, 107). There are hundreds of early medieval enclosures or raths within County Dublin, although none are recorded within the immediate vicinity of the proposed Project Site. It is possible that sites of this type were removed during suburban development in the 1970s and 1980s.

A holy well (DU018-011), dedicated St. Catherine, is recorded c. 500m north-west of the proposed Project Site. The veneration of wells is a very widespread and ancient tradition in Ireland. Many holy wells can be found associated with early ecclesiastical sites. Well veneration and its antecedent well worship is not confined to Ireland or even to Europe, and at least some holy wells in Ireland were important venues of pre-Christian ritual activity. Most wells are springs but occasionally other water sources, or hollowed stones which collect water, are treated as holy wells.

During the 10th century, the concept of a central authority began to take root in Ireland due to the emergence of rulers sufficiently powerful to declare themselves high kings of Ireland over all lesser kings and chieftains. One of the more prominent of these was Brian Boruma (Boru) who established himself in AD 976 as leader of the Dalcassians from his stronghold in Kincora and went on to declare himself King of Ireland in AD 1002. The Vikings had largely retained the kingship of Dublin throughout the century, despite many defeats. On Good Friday AD 1014, a battle was fought between Mealmordha, King of Leinster, and Brian Boruma, later known as the Battle of Clontarf, in which the Vikings supported Maelmordha. It seems unlikely that the Battle of Clontarf took place in the modern district of Clontarf. The Annals of the Four Masters say it was fought 'from *Tulcainn* to *Ath Cliath'* and suggests isolated encounters of small groups occurred during the day over a wide area. This description is the simplest and the most accurate definition of the battlefield. *Tulcainn* was the River Tolka and *Ath Cliath* was likely to have been located at the *Droichet Dubhgaill*, the bridge that crossed the Liffey at this time (possibly close to Augustine Street). The main action of the battle is believed to have taken place in the area bounded by O'Connell Street, Dorset Street, Drumcondra Road, the River Tolka, Ballybough Road and the North Strand (De Courcy 1996). This would place the proposed Project Site within the region affected by the battle.

15.3.1.3 Medieval Period (AD 1100–1600)

The beginning of the medieval period is characterised by political unrest that originated from the death of Brian Borumha in AD 1014. Diarmait MacMurchadha, deposed King of Leinster, sought the support of mercenaries from England, Wales and Flanders to assist him in his challenge for kingship. Norman involvement in Ireland began in 1169, when Richard de Clare and his followers landed in Wexford to support MacMurchadha. Two years later de Clare (Strongbow) inherited the Kingdom of Leinster and by the end of the 12th century the Normans had succeeded in conquering much of the country.

Under Anglo-Norman occupation, Clonliffe was confirmed to the Abbey of St. Mary's. The grange of Clonliffe was the birthplace of an Abbot of St. Mary's Abbey, Stephen Lawless, who was in control of the abbey from 1429–1437. After the dissolution of the religious houses in 1537 by King Henry VIII, the Grange of Clonliffe was granted in common with other possessions of the Abbey to Walter Peppard (Ball 1920). At that time the property was estimates to contain 150 acres with a messuage. In 1611 the Grange was granted to the Crown and is believed to contain over 200 acres, as well as a messuage, three cottages and a mill (Ball 1920). In the Commonwealth Civil Survey conducted in 1654–1656, land at the Grange of Clonliffe is recorded as including 250 acres and was in the possession of Viscount Moore. In the early 18th century, the Grange became the residence of Tristram Fortick. It is possible that the current Clonliffe House (DU018-019001), located to the east of the proposed Project Site, may be the location of the original medieval messuage, although no direct evidence of this has been identified to date.

Two castles are recorded within 500m of the proposed Project Site. A castle (DU018-017, 377m northeast) was recorded on maps during the early 19th century; however, no surface remains of the castle exist today. Drumcondra Castle (DU018-015001, 490m north) was built in the 16th century on the present site of St. Joseph's Asylum for the Blind. Part of the 16th century castle walls are located at ground floor level in the current building, it is intact at semi-basement/ground level where it currently forms part of the kitchen.

15.3.1.4 Post-Medieval Period (AD 1600–1800)

Post-medieval settlement and activity in the wider area can be seen to the north-west of the proposed Project Site. Belvedere House (DU018-012001, 490m north northwest) dates to the 17th century and is incorporated in to St. Patrick's Training College. This house was originally the seat of the Coghill family before being leased to Henry Singleton in 1725, who carried out a number of renovations and additions to the building.

A post-medieval graveyard is located 470m north of the proposed Project Site (DU018-013002) and is associated with the Church of St. John the Baptist (DU018-013001) directly to the north. It is believed the Church may be built on the site of a medieval foundation associated with the Priory of All Saints. A watermill (DU018-030) is recorded c. 133m east of the proposed Project Site. It is depicted on historic mapping as early as Taylor's map of 1816 (Figure 15.4) and had fallen out of use by the OS map of 1906–9 (Figure 15.6).

The 18th and early 19th centuries saw a dramatic rise in the establishment of large residential houses around the country. The large country house was only a small part of the overall estate of a wealthy landowner and provided a base to manage an estate that could be spread nationwide. During the 17th century, lands associated with the large houses were generally formal gardens, which were much the style of continental Europe. Gradually the formal avenues and geometric garden designs were replaced during the mid-18th century by the adoption of parkland landscapes – to be able to view a large house within a natural setting. Although the creation of a parkland landscape involved working with nature, rather than against it, considerable constructional effort went into their creation. Earth was moved, field boundaries disappeared, streams were diverted to form lakes and quite often roads were completely diverted to avoid travelling anywhere near the main house or across the demesne. The proposed Project Site is shown in the first edition OS map of 1843, as forming part of the demesne lands associated with Clonliffe House (Figure 15.5).

15.3.2 Summary of Previous Archaeological Fieldwork

A review of the Excavations Bulletin (1970–2020) and available excavation reports, has revealed that six archaeological investigations have taken place within the surrounding landscape, three of which revealed archaeological remains.

Monitoring carried out during the River Tolka Flood Alleviation Scheme in 2003 (Licence Ref.: 03E0079, Bennett 2003:490) revealed evidence relating to Distillery Weir and its associated Clonliffe Mill complex to the north of the site, on the south bank of the Tolka River. The house foundations of Tolka Park Cottages were also uncovered.

Testing at 185–189 Richmond Road, 360m northwest of the site (Licence Ref.: 03E0615) revealed archaeological features below the level of 19th century cellars, however it was not clear how extensive these were, or what period they dated from.

Geophysical survey and testing carried out at Drumcondra Castle and demesne, c. 500m north of the site in 2009 (Licence Ref.: 09E437, Bennett 2009:306) revealed evidence for prehistoric activity, including a ring-ditch. Possible medieval activity associated with the castle (DU018-015001), as well as post-medieval agricultural activity was also revealed.

The following archaeological investigations (Table 15.1) did not reveal anything of archaeological significance.

Table 15.1: Archaeological Investigations

Licence No.	Location	Reference
03E1067	Distillery Road, 80m east	Phelan 2003, Bennett 2003:521
06E0729	Waterfall Avenue, 290m northeast	Walsh 2006, Bennett 2006:597
98E0604	St. Patrick's College, 500m north-northwest	Byrne 1998

15.3.3 Cartographic Analysis

15.3.3.1 John Rocque's Map of the City and County of Dublin, 1760 (Figure 15.3)

This map shows the proposed Project Site in some detail, with the area occupied by agricultural fields to the east of Drumcondra Road. Clonliffe Road is named 'Fortick Lane' on this map and leads from Drumcondra Road towards a structure, most likely DU018-019001. The area surrounding the structure is named 'Fortick's Grove', with an orchard and formal gardens also illustrated. A mill race can be seen extending from the River Tolka, to the northeast of the structure, however there is no evidence for a mill on this map. A small number of structures are also located fronting on to Drumcondra Road.

Figure 15.3: Extract from John Rocque's Map of the City and County of Dublin (1760) showing the approximate location of the proposed Project

15.3.3.2 John Taylor's Map of the Environs of Dublin 1816 (Figure 15.4)

By 1816, Clonliffe Road appears to have been formalized, though it is not labelled as such. House (DU018-019001) is now called 'Clonliffe House', the mill at Clonliffe is now named (DU018-030), as is a weir along the Tolka. A number of structures have also been built off Clonliffe Road and Drumcondra Road.

Figure 15.4: Extract from John Taylor's Map of the Environs of Dublin (1816) showing the approximate location of the proposed Project

15.3.3.3 First Edition Ordnance Survey Map, 1843, scale 1:10,560 (Figure 15.5)

The proposed Project Site is located across the demesne of Clonliffe House, which includes an orchard located across the central area of the Site. The house itself is located outside of the Project Site, to the immediate east, while further buildings are located to the south, fronting on to Clonliffe Road, as per the previous mapping. To the south of Clonliffe House, within the Project Site, is an area of planting, less formal than the orchard to the west. The mill (DU018-030) to the east of the proposed Project Site is clearly labelled, as is the associated mill pond and mill race.

15.3.3.4 Ordnance Survey Map, 1888, scale 1:1,056

By the publication of the 1888 OS map, Holy Cross College had been constructed at the centre of the Site, across the area once occupied by the orchard. A Roman Catholic chapel has also been constructed at the southern end of the college. Gardens and pathways can be seen to the east and west of the college buildings.

Some of the structures associated with Clonliffe House, as shown on the 1843 map, have been demolished, while Clonliffe corn mill (DU018-030) is now recorded as a paper mill.

15.3.3.5 Ordnance Survey Map, 1906-9, scale 1:2,500 (Figure 15.6)

No significant changes are noted across the proposed Project Site on this map. Clonliffe paper mill is now recorded as a colour printing works.

Figure 15.5: Extract from the First Edition 6-inch OS map (1843) showing the proposed Project Site

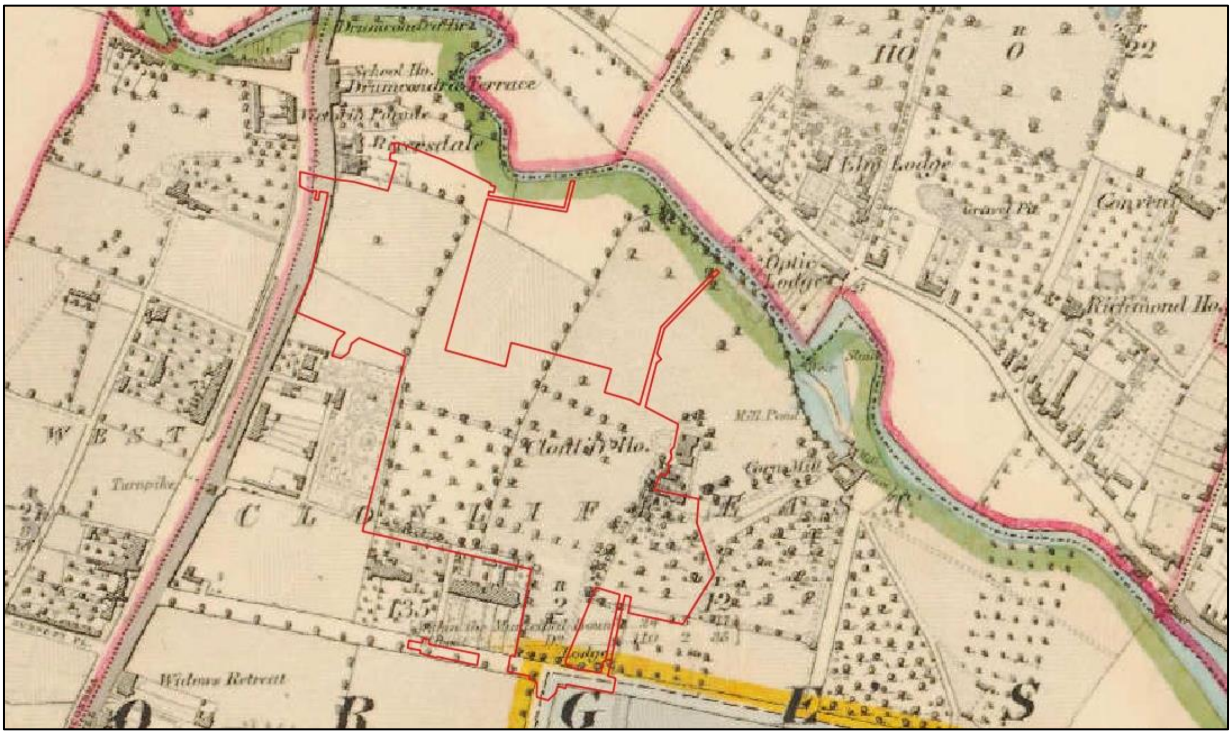
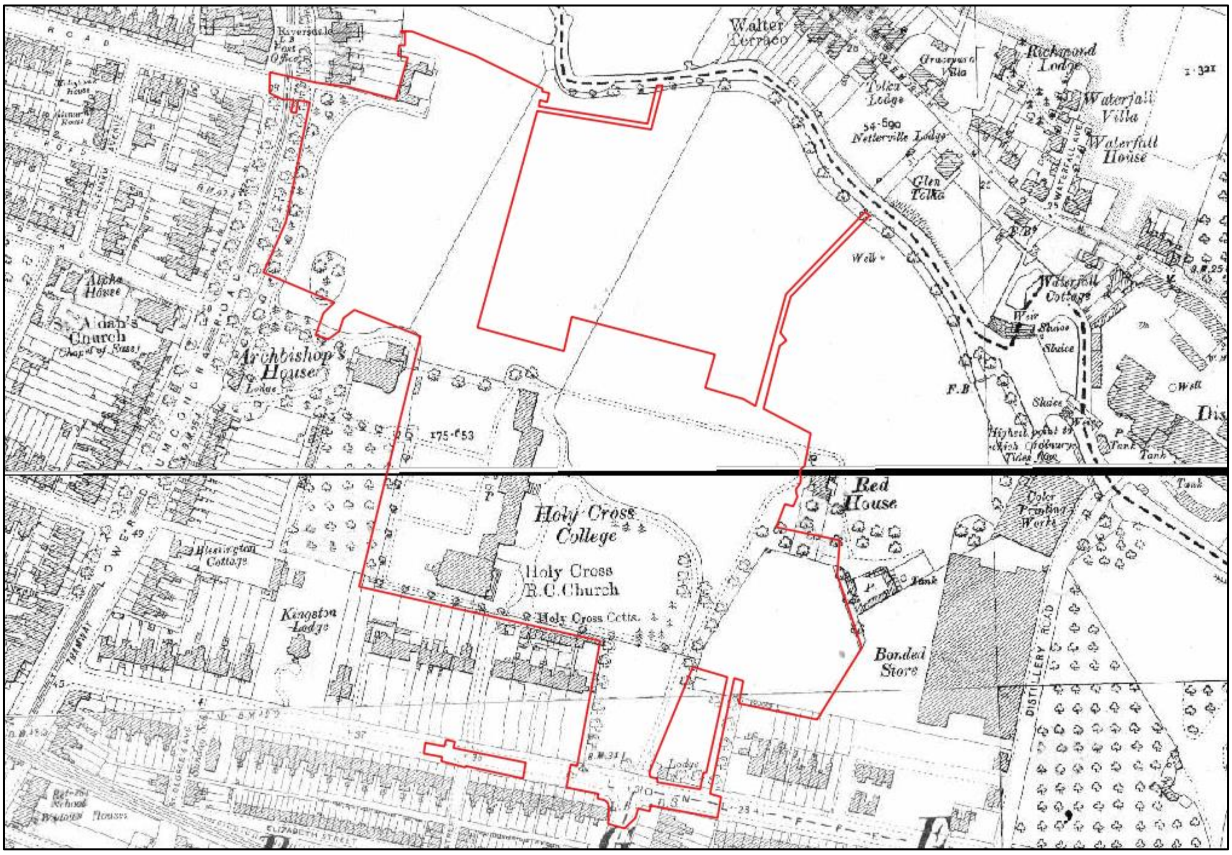


Figure 15.6: Extract from the 25-inch OS Map, (1906–9) showing the proposed Project Site



15.3.4 City Development Plan

There are six recorded monuments within 500m of the proposed Project Site, in addition to one site listed in the SMR (Table 15.2). Further information on these sites can be found in Appendix 15.3.

The Dublin City Development Plan 2016–2022 recognises the statutory protection afforded to all RMP sites under the National Monuments Legislation (1930–2014). The plans list a number of aims and objectives in relation to archaeological heritage (Appendix 15.4). It is the objective of the Council to protect and preserve (in-situ, or at a minimum, preservation by record) all known sites and features of historical and archaeological interest and all sites and features of historical interest discovered subsequent to the publication of the Record of Monuments and Places.

Table 15.2 Recorded Archaeological Sites

RMP/SMR No.	Location	Classification	Distance from development	RMP Status
DU018-019001	Holy Cross College	House – 18th/19th century	Immediate east	No
DU018-030	Distillery Road	Watermill – unclassified	133m east	Yes
DU018-017	Richmond Road	Castle - unclassified	377m northeast	Yes
DU018-013002	Church Avenue	Graveyard	470m north	Yes
DU018-012001	Drumcondra Road Upper	House – 16th/17th century	490m north-northwest	Yes
DU018-015001	Grace Park Road	Castle – unclassified	490m north	Yes
DU018-011	Griffith Park	Ritual site – holy well	500m northwest	Yes

15.3.5 Aerial Photographic Analysis

Inspection of the aerial photographic coverage of the proposed Project Site held by the Ordnance Survey (1995-2013), Google Earth (2002–2020) and Bing Maps failed to identify any additional or previously unknown archaeological features. Aerial photographic analysis has shown that the central area of the Project Site is largely occupied by standing buildings of Holy Cross College and Diocesan Centre, while the remainder of the areas are occupied by green field and small pockets of planting and woodland.

15.3.6 Topographical Files of the National Museum of Ireland

Information on artefact finds from the study area in County Dublin has been recorded by the National Museum of Ireland since the late 18th century. Location information relating to these finds is important in establishing prehistoric and historic activity in the study area. There were no stray finds recorded in the proposed Project Site or within its immediate vicinity.

15.3.7 Dublin City Industrial Heritage Record

There are no sites recorded within the DCIHR located within the proposed Project Site. The closest site is located c. 155m north of the Site and is formed by Drumcondra Bridge, which is in use as a road bridge and survives in good condition.

15.3.8 Field Inspection

The field inspection sought to assess the Site, its previous and current land use, the topography and any additional information relevant to the assessment. During the course of the field investigation the proposed Project Site and its immediate surrounding environs were inspected.

The proposed Project Site is characterised by open greenfield to the northwest, containing some ornamental tree planting and the complex of existing buildings at the centre with associated modern structures, landscaping, footpaths and ornamental planting (Figures 15.7 – 15.9). The south-eastern portion of the Site is formed by five small green areas subdivided by footpaths and access roads, with belts of mature trees. Many of these trees are shown within the first edition OS map and once formed part of the ornamental planting of the demesne landscape associated with Clonliffe House, the site of which is located to the immediate east of the Project Site (Figures 15.10 – 15.11).

No specific areas or features of archaeological potential were noted during the course of the field inspection.

Figure 15.7: North-western section of the Project Site, facing north-northeast

Figure 15.8: Central buildings, facing southeast

Figure 15.9: Central buildings, facing west

Figure 15.10: Green area in eastern part of the site, facing east

Figure 15.11: Green area in north-eastern part of the site, facing east

15.3.9 Summary of Geophysical Survey

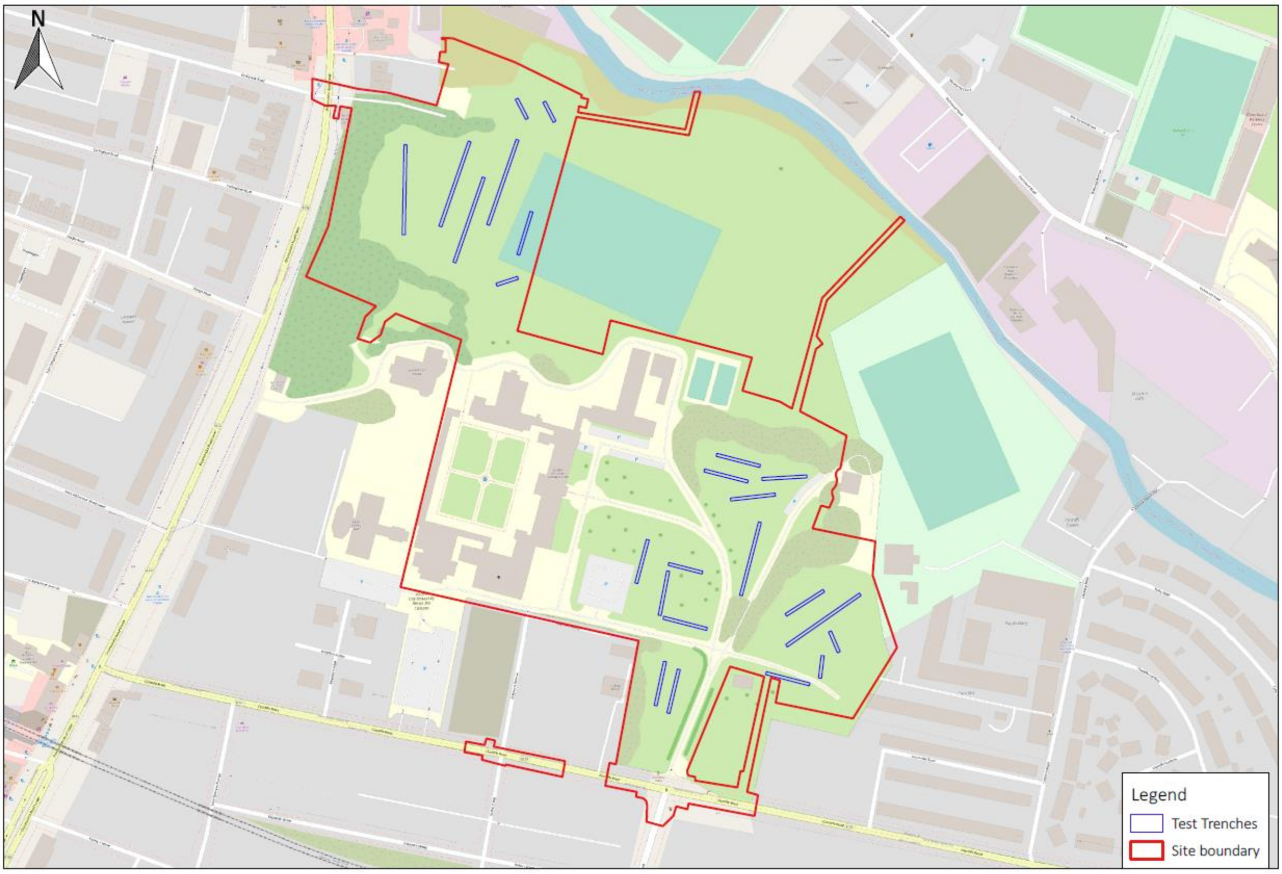
A geophysical survey was carried out by JM Surveys under licence 20R0046 in March 2020. The dataset was largely dominated by modern ferrous responses and disturbance from multiple buildings, landscaping and modern services. This may have obscured any response from potential archaeological remains in these areas. Several possible former field divisions were identified, some of which correlate with field boundaries depicted on historic mapping. Faint linear trends were suggestive of former agricultural activity, possibly associated with the extant field boundaries. The full technical report for the survey is included in Appendix 15.1.

15.3.10 Summary of Archaeological Testing Results

Test trenching took place between the 6th and 8th July 2020, using a 13 tonne 360 degree tracked excavator equipped with a flat, toothless bucket under strict archaeological supervision. Any investigated deposits were preserved by means of written, drawn and photographic records. A total of 24 trenches were excavated across the accessible parts of the Site, measuring a total of 808 linear metres (Figure 15.12). The full technical report for the archaeological testing, is included as Appendix 15.2.

The test trenches were excavated to determine, as far as reasonably possible, the location, extent, date, character, condition, significance and quality of any surviving archaeological remains threatened by the proposed Project. Test trenching was also carried out to clarify the nature and extent of existing disturbance and intrusions and to assess the degree of archaeological survival in order to formulate further mitigation strategies. These are designed to reduce or offset the impact of the proposed Project.

Figure 15.12: Proposed Project Site showing locations of archaeological test trenches



Topsoil across the site ranged in depth from 0.10-0.15m and was characterised by a light brown sandy soil with modern pottery at various depths. The exposed natural clay comprised a sterile light brown soil over a limestone boulder clay. Trenches 12 and 13 included recent fills of rubble / debris deposited for the purposes of providing a level surface for the lawn areas.

During the course of testing, isolated drains and field boundaries were identified, whilst some indications of post medieval furrows and agricultural activity were seen in the northern field. Trench 12 included the base of a large structure likely from the 19th or 20th century.

No features of archaeological significance were identified during the course of archaeological testing.

15.3.11 Conclusions

The proposed Project area is located to the north of Clonliffe Road, east of Drumcondra Road and to the south of the River Tolka. The site is currently occupied by the buildings of Holy Cross College and Diocesan Centre and associated landscaping. There are six recorded monuments within 500m of the proposed Project Site, in addition to a site listed in the SMR, a 18th /19th century house (DU018-019001), located to the immediate east.

One potential prehistoric ring ditch was identified during testing at Drumcondra Castle, 500m to the north (Licence Ref.: 09E437, Bennett 2009:306). Medieval activity was also noted at this site. The grange at Clonliffe is recorded during the medieval period and Clonliffe House (DU018-019001), located to the east of the Site, may be the location of the original medieval messuage, although no direct evidence of this has been identified to date. A medieval castle (DU018-015001), dating to the 16th century, is also located to the north, at Drumcondra.

Evidence for later medieval and post-medieval activity is more prevalent across the landscape, including a graveyard (DU018-013002) and 17th century house (DU018-012001). While the landscape was located outside of the city boundary during the mid-19th century, expansion during the second half of that century led to the establishment of the area as a suburb of the city by the early 20th century.

Archaeological testing carried out as part of the assessment, with test trenches targeting anomalies identified during a previous geophysical survey, to fully investigate the archaeological potential of the Site. Testing did not reveal areas of archaeological significance. Much of the lands appeared to have been reworked for the purposes of laying out a flat lawn and playing fields associated with Holy Cross College.

15.4 Predicted Impacts of the Proposed Project

15.4.1 Do-Nothing Scenario

If the proposed Project were not to proceed there would be no negative impact on the archaeological heritage resource.

15.4.2 Construction Phase

Whilst no sites or areas of archaeological potential were noted during the course of the investigations, it remains possible that small or isolated features survive beneath the current ground level and outside of the footprint of the excavated test trenches. Ground disturbances associated with the development have the potential to ***directly and negatively*** impact on same. In the absence of mitigation, potential negative impacts on unrecorded subsurface remains as a result of the construction of the proposed Project may range from ***moderate to significant***.

With the exception of the above-stated potential impacts, there will be ***no adverse impacts*** on any specific site of archaeological heritage significance.

15.5 Mitigation Measures

All topsoil stripping during construction of the proposed Project will be monitored by a suitably qualified archaeologist. If any features of archaeological potential are discovered during the course of the works, further archaeological mitigation will be required, such as preservation in-situ or by record. Any further mitigation will require approval from the National Monuments Service of the DoHLGH and Dublin City Council Archaeologist.

15.6 Residual Impacts

Following the implementation of the above mitigation measures, there will be ***no residual impacts*** upon the archaeological or cultural heritage resource.

15.7 Monitoring

The mitigation measures recommended above would also function as a monitoring system to allow the further assessment of the scale of the predicted impacts and the effectiveness of the recommended mitigation measures.

15.8 Interactions

No interactions have been identified during the course of this assessment.

15.9 Cumulative Impacts

The mitigation measures will ensure that any archaeological remains on site will be preserved by record. As such, no cumulative impacts have been identified upon the archaeological resource as a result of the development going ahead.

15.10 References

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- heritagemaps.ie
- googleearth.com
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16 Microclimate - Daylight / Sunlight

16.1 Introduction

The Holy Cross College SHD ('proposed Project' hereafter) at Holy Cross College, Clonliffe Road, Dublin 3 and Drumcondra Road Lower, Drumcondra, Dublin 9, has been considered for its impact on daylight and sunlight availability on the surrounding environment, including residential buildings and amenity spaces.

When considering daylight and sunlight for new development, Dublin City Development Plan (2016 – 2022) makes reference to the document *Site Planning for Daylight and Sunlight: A Good Practice Guide (BRE209)*. The 2011 edition of this document has been applied for this analysis. It is worth noting that BRE 209 is considered best practice, but compliance with its targets is not mandatory. This is very clearly laid out within the document, which includes the statement below:

> *"The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aims is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in site layout design."*

In addition, BRE 209 also states that the targets it suggests may not be entirely appropriate for all locations, e.g. mid-rise nature sites such as that of the proposed Project:

> *"… in a historic city centre, or in an area with modern high rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings."*

The target values used in the daylight and sunlight analysis have not been altered in line with the above statement, but the reader is requested to keep it in mind whilst interpreting the results presented.

The reader should note that a separate, standalone, Daylight and Sunlight Analysis report, prepared by ARUP in respect of the proposed Project, has been submitted with this application, under separate cover. Full results, graphics and tables are available in this report if the reader wishes to find more detailed information beyond that given within this Chapter.

16.2 Methodology

As set out above, the methodology applied for the daylight and sunlight analysis follows that outlined within BRE209, BS 8206 and by proxy BS EN 17037. For the assessment of the impact of the proposed Project on the surrounding buildings, the metrics described below are applied.

16.2.1 Availability of Daylight

16.2.1.1 Vertical Sky Component

Vertical Sky Component (VSC) gives a measure of daylight received on the outside of a window. As stated within BRE 209, for good interior diffuse daylight provision, no obstruction, measured in a vertical section perpendicular to the main face, shall exist that subtends an angle of more than 25° to the horizontal. Where this is not achievable, the windows shall have a vertical sky component of at least 27%, or a figure that is 80% of the existing condition is acceptable.

16.2.2 Availability of Sunlight

16.2.2.1 Availability of Sunlight in Dwellings

The percentage of probable annual sunlight hours is calculated and presented in terms of total annual values and winter values. Taken from BRE 209, a target of 25% of total Probable Annual Sunlight Hours (PASH) and of 5% of total Probable Winter Sunlight Hours (PWSH) has been applied. As stated within BRE 209, this target for sunlight hours in dwellings is applied only to windows that face within 90° of due south. Windows facing north are not expected to meet a sunlight availability target; hence, they have not been included in the assessment.

16.2.2.2 Availability of Sunlight in Amenity Spaces

Within BRE 209, recommendations are given as to the quantity of sunlight penetration in amenity areas that is required to produce a well sunlit space throughout the year:

> *"It is recommended that for it to appear adequately sunlit throughout the year, at least half of a garden or amenity area should receive at least two hours of sunlight on 21 March. If as a result of new development, an existing garden or amenity area does not meet the above, and the area which can receive two hours of sun on 21 March is less than 0.8 times its former value, then the loss of sunlight is likely to be noticeable."*

16.2.3 Classification of Reduction

To help understand the impact that the proposed Project has on the surrounding buildings, results are divided into categories as shown in Table 16.1, below. These categories relate back to the descriptions of impacts within BRE 209 and are applied for the metrics described above. The application of these categories offers some insight into the total number of points in the surrounding buildings that are affected, in addition to the magnitude of this effect.

Table 16.1: Classification of Impact

Classification of Impact	Ratio Differential
Negligible	Between 0.8 and 1.0 times the current value
Minor Adverse	Between 0.8 and 0.6 times less than the current value
Major Adverse	Less than 0.6 times the current value

16.3 Baseline Environment

The following massing models have been considered in the assessment of daylight and sunlight availability in the surrounding environment:

- ***The Baseline Condition:*** This configuration is the existing Site condition before any proposed Project works begin. The mirror building method described within Section 2.3 of BRE 209 has been used to set the baseline condition and determine targets in accordance with this.
- ***The Proposed Condition:*** This configuration adds to the existing Site condition the massing and layout arrangement proposed within the planning application.

These models and their comparative masses are used to demonstrate the difference in daylight and sunlight performance in surrounding areas between the Baseline Condition and the Proposed Condition.

In line with BRE 209 (Section 2.3, Adjoining Development Land), the benchmark for the daylight and sunlight assessment has been set using a *"mirror image building"* criterion. A mirror image building has been copied across the Site boundary, considering the same distance and geometry of the existing mass, and has been taken as baseline model for the simulations. This approach has been applied to each surrounding building individually.

The following metrics have been used to assess the effects of the proposed Project on the surrounding environment:

- Vertical Sky Component (VSC)
- Probable Annual Sunlight Hours (PASH)
- Probable Winter Sunlight Hours (PWSH)
- Sun Hours on Ground (SHOG)

16.4 Predicted Impacts of the Proposed Project

Note that this assessment pertains to the operational phase impacts of the proposed Project in terms of daylight and sunlight only. As such, the predicted impacts detailed below may be assumed to be operational phase impacts.

For the buildings surrounding the proposed Project, many points were chosen from online mapping systems. These are considered to best represent the location of surrounding windows. No survey has been undertaken to assess the precise position of these windows.

The selection of points to be tested was completed in accordance with the guidance in BRE 209. This includes all the windows falling inside an area three (3) times the height of the proposed Project radius:

> *"Loss of light to existing windows need not be analysed if the distance of each part of the new development from the existing window is three or more times its height above the centre of the existing window. In these cases, the loss of light will be small."*

16.4.1 Do-Nothing Impact

The Do-Nothing scenario will retain the existing daylight and sunlight availability with no expected reduction.

16.4.2 Impact to Surrounding Windows

When comparing the impact on daylight and sunlight availability to the surrounding buildings, it could be said that the Proposed Condition will produce an overall ***negligible*** impact.

Of all the surrounding points tested for VSC, 98% experienced a negligible impact and only 2% experienced a minor adverse impact. Of the points tested for PASH, 100% experienced a ***negligible*** impact. Similarly, 100% of points experienced a ***negligible*** impact in respect of PWSH.

A ***minor adverse*** impact relative to the Baseline Condition is experienced only at one location (the existing western façade of the cottage building in front of Cornmill Apartments). Additionally, at this location, the impact is only to skylight (VSC). Levels of direct sunlight (both PASH and PWSH) will still fall within the guidelines given in BRE 209 at this location. At the cottage building, 63% of points experience a ***negligible*** impact to levels of VSC, while 15% experience a ***minor adverse*** impact and 22% a major negative impact.

At present, the existing Site is predominantly undeveloped. As stated in BRE209, when a proposed massing is constructed within 25° to the horizontal of the adjacent existing building, the proposed building will have a

negative impact on the existing. With the above in mind, and also considering the associated change in level between the cottage building and the proposed Project, it becomes apparent that the scale of any proposed massing adjacent to the cottage building would need to be very low rise to cause only a ***negligible*** impact to the levels of daylight and sunlight in the existing apartment (the 25° would need to be taken from the bottom level). Applying this rule, the resultant proposed Project at this location would need to be in the region of two (2) levels maximum. Additionally, it is to be noted that the other windows of the dwelling will experience ***no impact***.

Figure 16.1: Cottage building experiencing a minor adverse impact on skylight highlighted in red below.

Tables 16.2 – 16.7, below, summarise the effect of the Proposed Condition, compared with the Baseline Condition. Results are presented for each metric separately.

16.4.2.1 Vertical Sky Component

Table 16.2: Overall Classification of Impact – VSC

Classification of Impact	Proposed Condition
Percentage of points experiencing a ***Negligible Impact*** relative to the Existing Condition	98%
Percentage of points experiencing a ***Minor Adverse Impact*** relative to the Existing Condition	2%
Percentage of points experiencing a ***Major Adverse Impact*** relative to the Existing Condition	0%

Table 16.3: Classification of Impact for Each Building – VSC

Reference Building	Negligible	Minor Adverse	Major Adverse
Corn Mill	100%	0%	0%
Corn Mill Row	96%	4%	0%
College Terrace	100%	0%	0%
Holy Cross Ave	87%	13%	0%
Education Secretariat	100%	0%	0%
133-137 Drumcondra Rd Low	97%	3%	0%
Cottage Building	63%	15%	22%
59-79 Drumcondra Rd Low	100%	0%	0%
Gate Lodge	100%	0%	0%
Lydon house	100%	0%	0%
Red House	100%	0%	0%
Belvedere Rugby Building	92%	8%	0%
33 Kingston Lodge	100%	0%	0%
26 Kingston Lodge	100%	0%	0%
23 Kingston Lodge	100%	0%	0%
O'Callaghan Court	100%	0%	0%
Clonliffe Rd	100%	0%	0%
Riversdale	100%	0%	0%

16.4.2.2 Probable Annual Sunlight Hours

Table 16.4: Overall Classification of Impact – PASH

Classification of Impact	Proposed Condition
Percentage of points experiencing a ***Negligible Impact*** relative to the Existing Condition	100%
Percentage of points experiencing a ***Minor Adverse Impact*** relative to the Existing Condition	0%
Percentage of points experiencing a ***Major Adverse Impact*** relative to the Existing Condition	0%

Table 16.5: Classification of Impact for Each Building – PASH

Reference building	Negligible	Minor Adverse	Major Adverse
Corn Mill	100%	0%	0%
Corn Mill Row	100%	0%	0%
College Terrace	100%	0%	0%
Holy Cross Ave	100%	0%	0%
Education Secretariat	100%	0%	0%
133-137 Drumcondra Rd Low	97%	3%	0%
Cottage Building	100%	0%	0%

Reference building	Negligible	Minor Adverse	Major Adverse
59-79 Drumcondra Rd Low	100%	0%	0%
Gate Lodge	100%	0%	0%
Lydon House	100%	0%	0%
Red House	100%	0%	0%
Belvedere Rugby Building	100%	0%	0%
33 Kingston Lodge	100%	0%	0%
26 Kingston Lodge	-	-	-
23 Kingston Lodge	100%	0%	0%
O'Callaghan Court	100%	0%	0%
Clonliffe Rd	100%	0%	0%
Riversdale	-	-	-

16.4.2.3 Probable Winter Sunlight Hours

Table 16.6: Overall Classification of Impact – PWSH

Classification of Impact	Proposed Condition
Percentage of points experiencing a ***Negligible Impact*** relative to the Existing Condition	100%
Percentage of points experiencing a ***Minor Adverse Impact*** relative to the Existing Condition	0%
Percentage of points experiencing a ***Major Adverse Impact*** relative to the Existing Condition	0%

Table 16.7: Classification of Impact for Each Building - PWSH

Reference building	Negligible	Minor Adverse	Major Adverse
Corn Mill	100%	0%	0%
Corn Mill Row	100%	0%	0%
College Terrace	100%	0%	0%
Holy Cross Ave	100%	0%	0%
Education Secretariat	100%	0%	0%
133-137 Drumcondra Rd Low	100%	0%	0%
Cottage Building	100%	0%	0%
59-79 Drumcondra Rd Low	100%	0%	0%
Gate Lodge	100%	0%	0%
Lydon House	100%	0%	0%
Red House	100%	0%	0%
Belvedere Rugby Building	100%	0%	0%
33 Kingston Lodge	100%	0%	0%
26 Kingston Lodge	-	-	-
23 Kingston Lodge	100%	0%	0%

Reference building	Negligible	Minor Adverse	Major Adverse
O'Callaghan Court	100%	0%	0%
Clonliffe Rd	100%	0%	0%
Riversdale	-	-	-

16.4.3 Sunlight Availability

Particular attention has been given to the existing amenity spaces (i.e. courtyards, terraces) surrounding the proposed Project, with the intention of minimising the impact on their access to direct sunlight. The final assessment shows that the proposed Project will cause a negligible impact on sunlight availability in all of these existing spaces.

The massing iterations and associated analysis completed ensured that the spacing from the Site boundary, the height and the general scale of the proposed Project is such that it ensures no significant impact on direct sunlight to surrounding existing amenity spaces.

Table 16.8: Overall Classification of Impact – Sunlight Availability

Classification of Impact	Proposed Condition
Percentage of points experiencing a ***Negligible Impact*** relative to the Existing Condition	100%
Percentage of points experiencing a ***Minor Adverse Impact*** relative to the Existing Condition	0%
Percentage of points experiencing a ***Major Adverse Impact*** relative to the Existing Condition	0%

16.5 Mitigation Measures

16.5.1 Construction Phase

The impact to daylight and sunlight availability during the construction phase of the proposed Project will be, for the most part, equal to or better than that described during the operation phase. There is no scope for mitigation measures.

16.5.2 Operational Phase

As presented in the analysis and results above, the operational phase of the proposed Project is expected to have an overall **negligible impact** on daylight and sunlight provision to the surrounding residential buildings. Further mitigation measures are, therefore, not suggested.

16.6 Residual Impacts

As no further mitigation measures are expected or proposed, the residual impacts are in line with the predicted impact described above.

16.7 Cumulative Impacts

All adjacent permitted developments have been included within the assessment of the impact of the proposed Project on the surrounding environment. As such, the cumulative impacts can be described as being the same as the impact of the propose Project, as assessed above.

16.8 Difficulties Encountered in Compiling this Chapter

With the duration of the design phase of the proposed Project and the current Covid-19 restrictions in Ireland, a detailed survey of the surrounding Site geometry was not possible. Every effort has been made to extract the correct geometry from existing information (3D models, online mapping systems, topography surveys, etc.) but minor anomalies may occur. Whilst minor anomalies may occur, the above process is quite typical of that conducted on large daylight and sunlight availability assessments. It is not expected that the process will have any measurable or material impact on the accuracy of the results presented within this chapter.

16.9 Summary of Chapter

When considering the impact of the proposed project on the daylight and sunlight availability in the existing surrounding environment, it can be stated that the proposed Project has a negligible impact on most of the surrounding dwellings, with the exception of one smaller building (Cottage building). At this location, a ***minor adverse*** impact in skylight availability and a negligible impact on sunlight availability is experienced.

When considering the wider impact of the proposed project on the level of daylight and sunlight in the surrounding existing environment, and when applying the classification system given in BRE 209, the impact could be classified as ***negligible***.

16.10 References

- BRE (2011). *BRE 209 - Site layout planning for daylight and sunlight. A guide to good practice.*
- BSI (2008). *BS 8206-2– Lighting for Buildings – Part 2: Code of practice for daylighting*
- *BSI (2018). BS EN 17037 – Daylight in buildings*

17 Microclimate – Wind

17.1 Introduction

This Chapter will analyse the effect of the operational phase of the proposed Project on the microclimate, in terms of wind, at the Project Site. It will analyse the effects of wind on the green spaces, streets, walkways, and roof top terraces of the Holy Cross College SHD proposed Project Site. It will determine the annual variation of air speed around the Site and propose mitigation measures, if any are required.

Presence of green spaces within a myriad of high rise structures makes it tricky to ensure usability of the space throughout the year. It becomes necessary to understand the suitability of external comfort to ensure green spaces are optimally designed and located to maximise their function throughout the year, which includes alleviating the effects of flow around nearby high-rise buildings.

There are two typical cases of acceleration of air as it moves through a built environment. First, when the wind impinges on the face of the building, it slows down and the pressure increases. This high pressure air will tend to move towards low pressure areas which exist at the base of the building and at the top of the building. This sudden acceleration of air produces downwash and upwash, which could lead to uncomfortable conditions for the pedestrians near the foot of the building as well as occupants on the high level balconies and terraces.

Further, the effect can be compounded by the second effect, which is the acceleration in the space between the buildings. When the air moves from an open environment and enters a built area, the area available for flow reduces. Consequently the air speed increases to compensate. This can also lead to gusts, which are primarily experienced by pedestrians walking in between the buildings.

This Chapter has been prepared by IES (Harshad Joshi, BE (Mech.) MS (Mech. and Aerospace), CFD Project Leader). He has extensive experience of working on CFD projects for over 10 years, with his project work including Golf Lane Development, Former Nissan Site, Cherrywood Towncentre, Player Wills Site, Bailey Gibson Site etc.

17.2 Methodology

17.2.1 Pedestrian Comfort / Safety Criteria

The assessment has been carried out in reference to the Lawson's Pedestrian Comfort and Safety Criterion. This is the most widely used reference for assessment of pedestrian comfort. It considers the air speed at the location as well as the frequency of the occurrence of this air speed. It consists of two assessment criteria:

- The first criteria assesses whether the air movement will be comfortable for the pedestrian for different types of activities (Table 17.1).
- The second criteria assesses the feeling of safety or distress by the pedestrian at higher air speeds (Table 17.2).

Table 17.1: Lawson's Pedestrian Comfort Criterion Thresholds

Category	Pedestrian Activity	Threshold mean hourly wind speed not to be exceeded for more than 5% of the time (m/s)
C1	Business Walking	10
C2	Leisurely Walking	8
C3	Standing	6
C4	Sitting	4

Table 17.2: Lawson's Pedestrian Safety Assessment Thresholds

Category	Pedestrian Type	Threshold mean hourly wind speed not to be exceeded more than once per annum (m/s)
S1	Typical Pedestrian	20
S2	Sensitive Pedestrian	15

17.2.2 Simulation Procedure

The methodology for the simulations was as follows:

- The annual mean wind speed was determined from the DublinIWEC.fwt weather file.
- Eight (8) steady state Computational Fluid Dynamics (CFD) simulations were performed corresponding to the 8 directions (SW, W, NW, N, NE, E, SE and S).
- The local air speeds at various designated locations around the Site was recorded for each of the simulations.
- This value was compared to the meteorological wind speed used, and the magnification factor at that location for the corresponding wind direction was determined.
- The magnification factor was used to determine the air speed at the designated locations for the various recorded values of the wind speed and direction in the weather file, thus generating the local air speeds at designated locations for a year.
- These recorded values were compared to the Lawson Pedestrian Comfort / Safety Criteria.

17.2.3 Wind Boundary Layer

In an atmospheric boundary layer, wind speed increases with height due to the influence of surface roughness (i.e. the presence of buildings, trees, roads, etc. on the ground) (see Figure 17.1).

In the current CFD modelling, the velocity profile was generated according to the parameterised ASHRAE methodology described below. This allows for different wind profiles across various terrain types: open country, urban, and city centre.

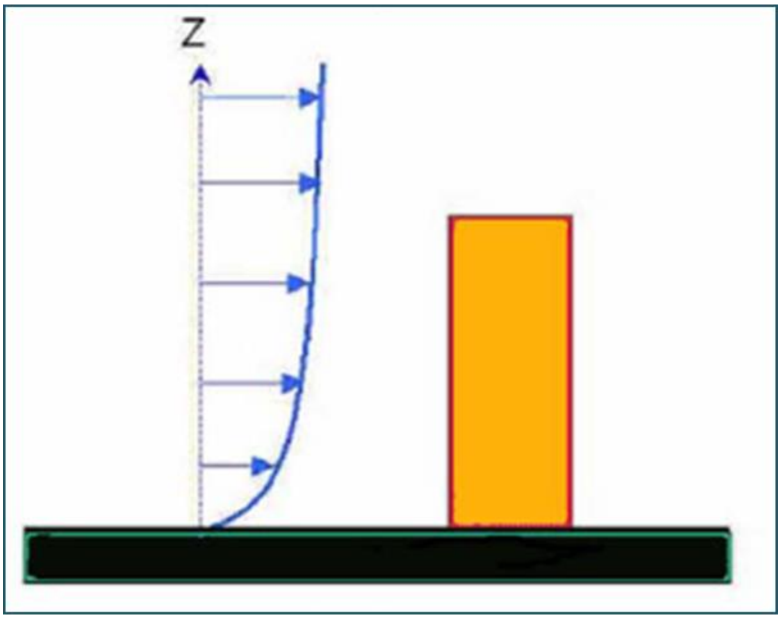
The wind speed, U_H, at height, H, above the ground is given by:

$$\boldsymbol{U_H} = \boldsymbol{U_{met}}\left(\frac{\boldsymbol{\delta_{met}}}{\boldsymbol{H_{met}}}\right)^{\boldsymbol{a_{met}}}\left(\frac{\boldsymbol{H}}{\boldsymbol{\delta}}\right)^{\boldsymbol{a}} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (Eq. 1)$$

Where,

a	=	Exponent in power law wind speed profile for local building terrain
δ	=	Fully developed strong wind atmospheric boundary layer thickness (m)
a_{met}	=	Exponent for the meteorological station
δ_{met}	=	Atmospheric boundary thickness at the meteorological station (m)
H_{met}	=	Height at which meteorological wind speed was measured (m)
U_{met}	=	Hourly meteorological wind speed, measured at height H_{met} (m/s)

Figure 17.1: Typical wind boundary layer profile



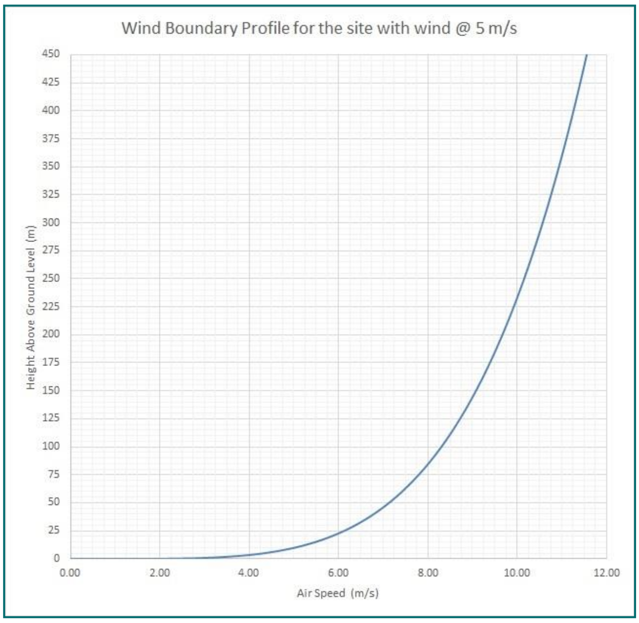
The parameters for different types of terrain are given in Table 17.3, below:

Table 17.1: Atmospheric Boundary Layer parameters

Terrain Category	Description	a	δ
1	Large city centres; 50% of buildings above 21m over a distance of at least 2000m upwind	0.33	460
2	Urban, suburban, wooded areas	0.22	370
3	Open, with scattered objects generally less than 10m high	0.14	270
4	Flat, unobstructed areas exposed to wind flowing over a large water body (no more than 500m inland)	0.10	210

For this study, we used the atmospheric boundary layer corresponding to the terrain category 1, i.e. large city centre type Site. The meteorological data was taken to be on category 3 terrain, at a height of 10m. Figure 17.2, below, shows the shape of the wind boundary profile.

Figure 17.1: Wind Boundary Profile for wind @ 5m/s



17.2.4 Model Geometry

Figures 17.3 – 17.10 show the Site geometry as modelled.

Figure 17.3: Plan view of the Site

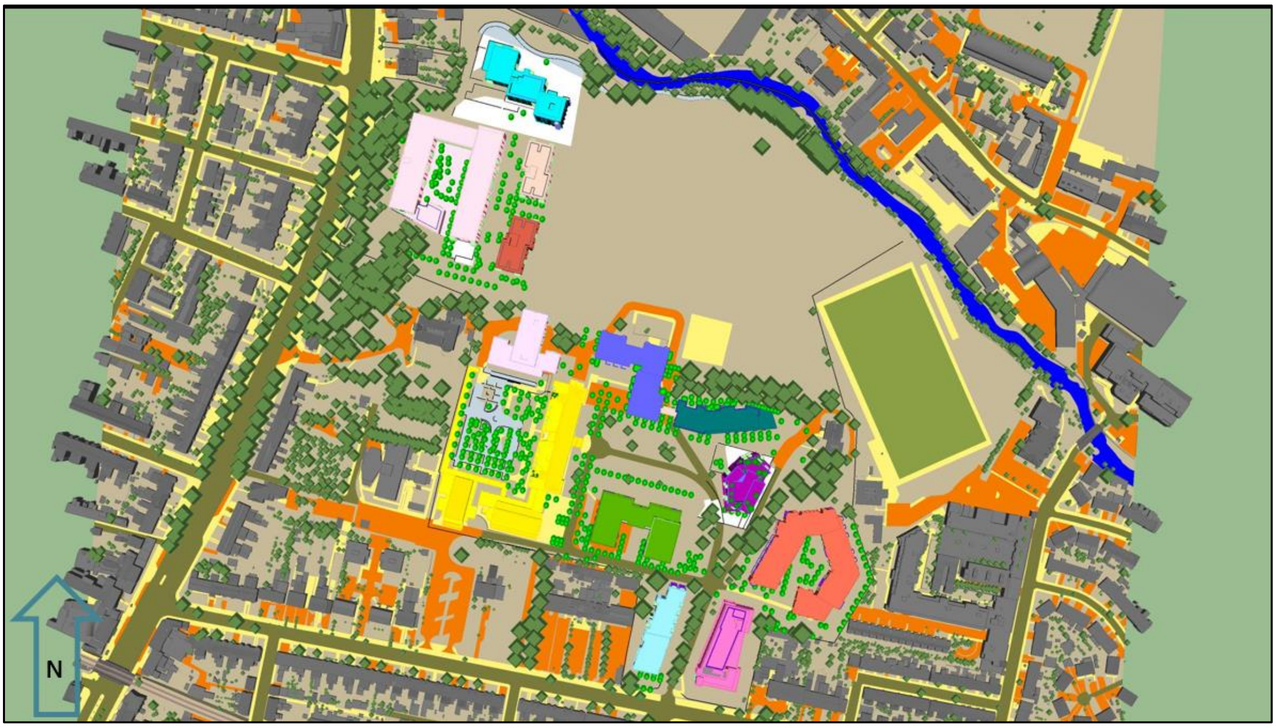


Figure 17.4: View of the Site from the south

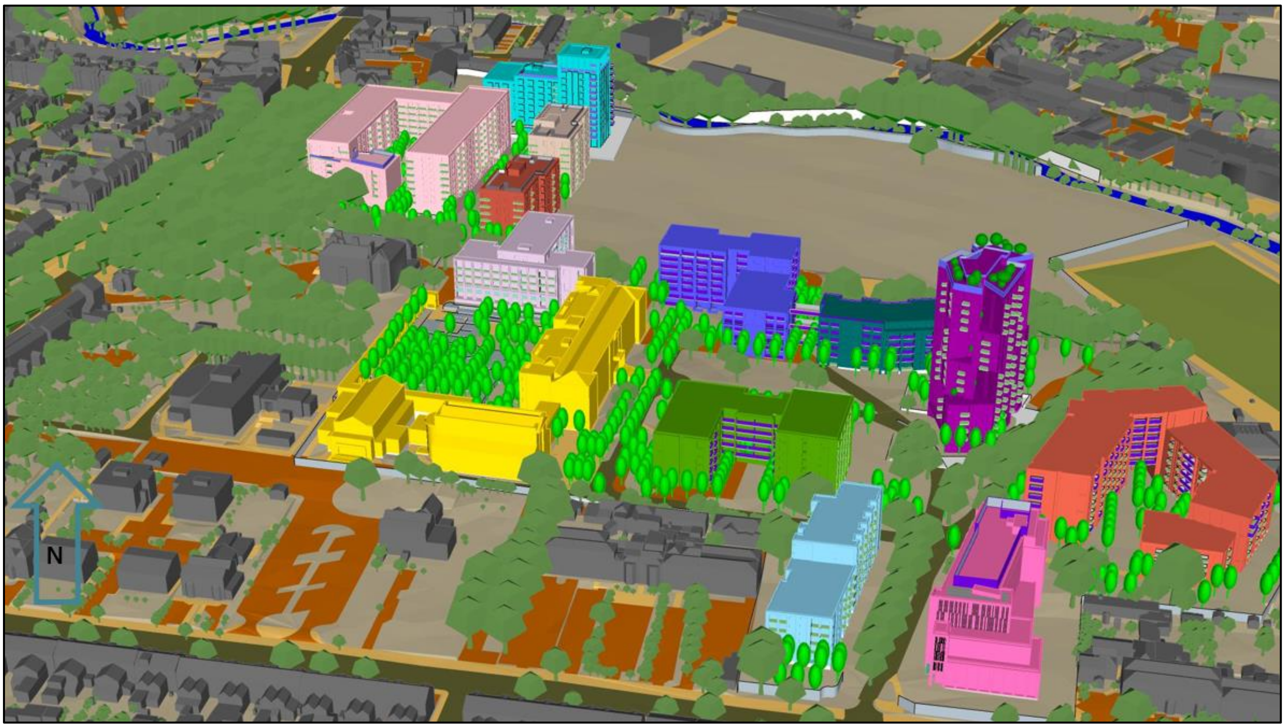


Figure 17.5: View of the Site from the west

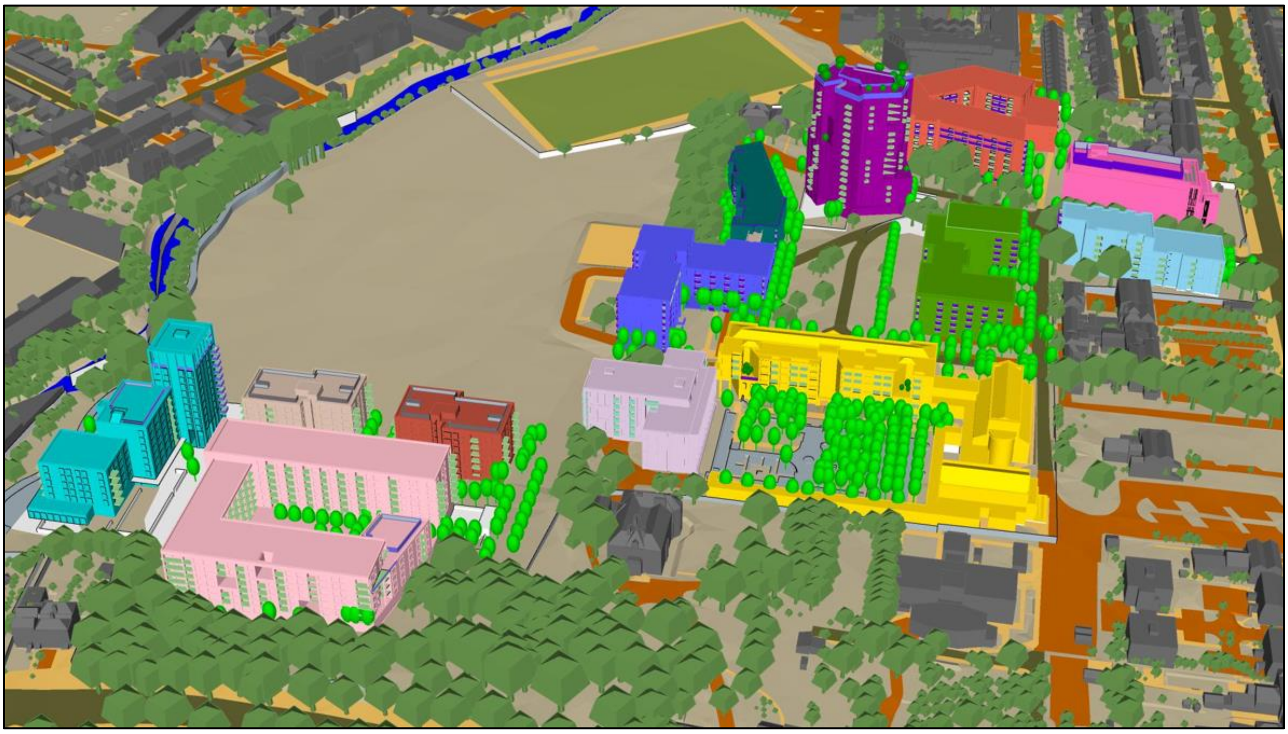


Figure 17.6: View of the Site from the north

Figure 17.7: View of the Site from the east

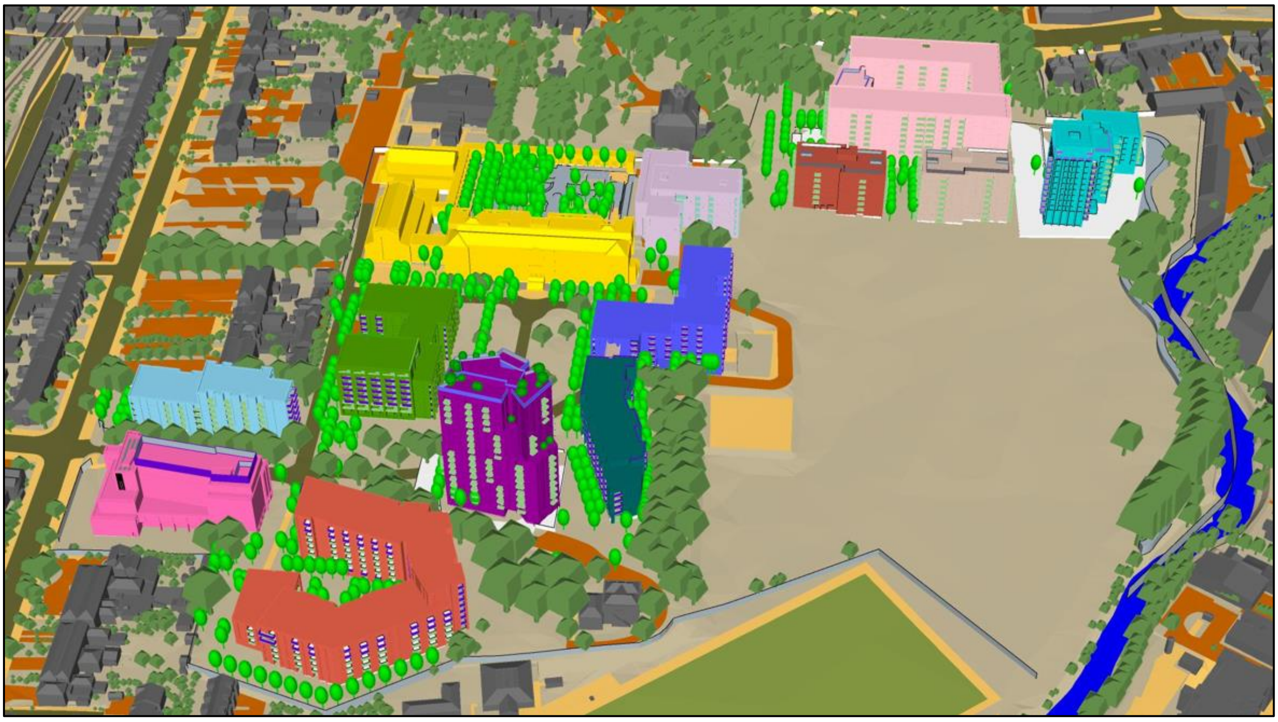


Figure 17.8: Closer view of Site from the south

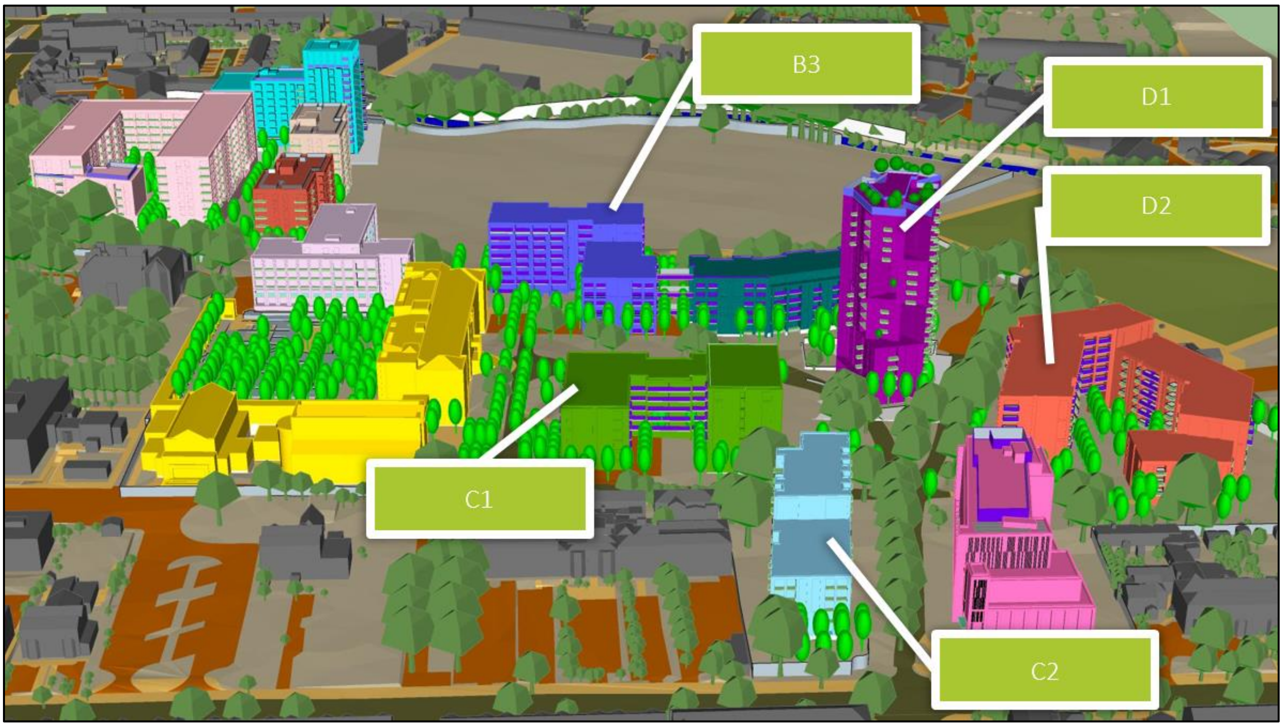
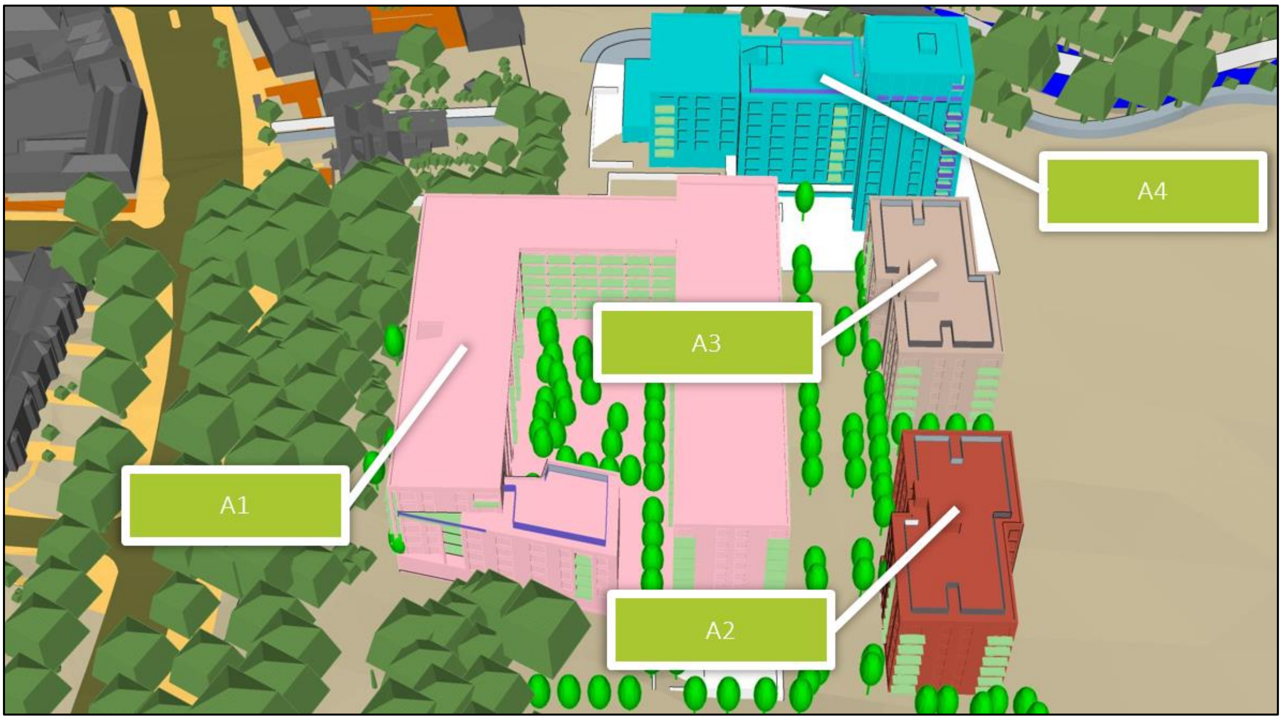


Figure 17.9: Closer view of Site from the north

Figure 17.10: Closer view of Site from the south



17.3 Baseline Environment

17.3.1 Weather Data

The analysis is based on the 'DublinIWEC.epw' weather file. The variation of wind speed recorded in the weather file is shown in Figure 17.11, below. Figure 17.12 shows the wind direction variation and Figure 17.13 shows the wind rose.

Figure 17.11: Wind speed variation as per DublinIWEC.epw

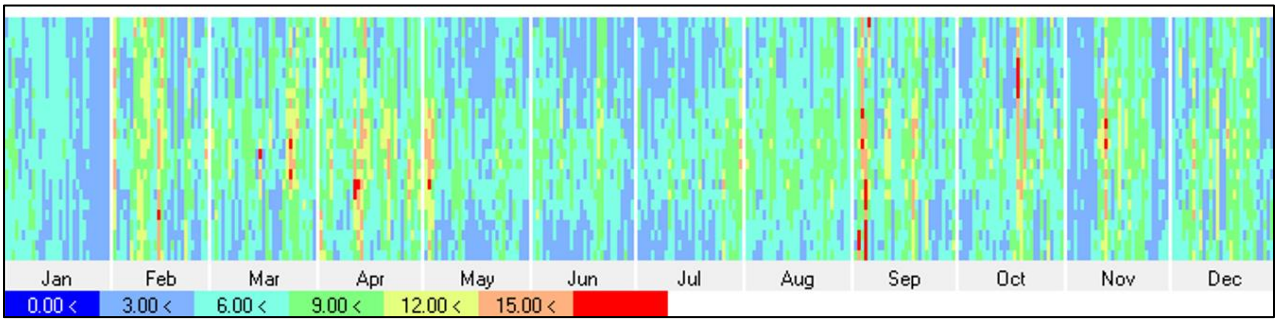


Figure 17.12: Wind direction variation as per DublinIWEC.epw

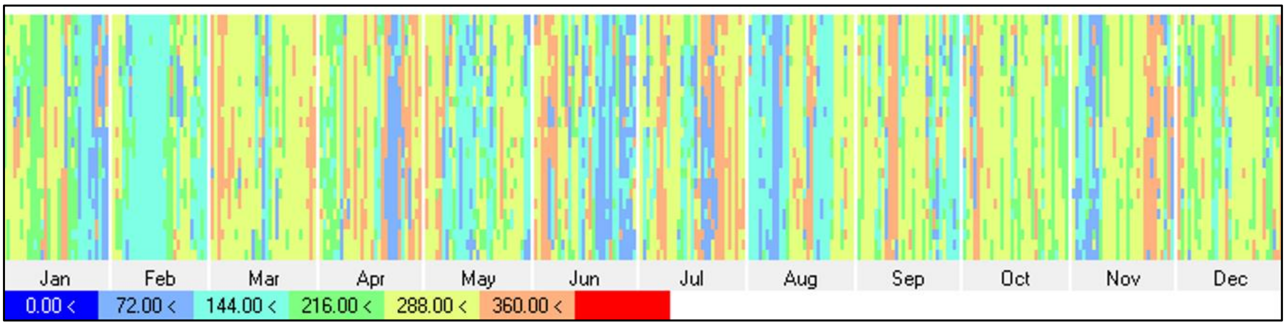
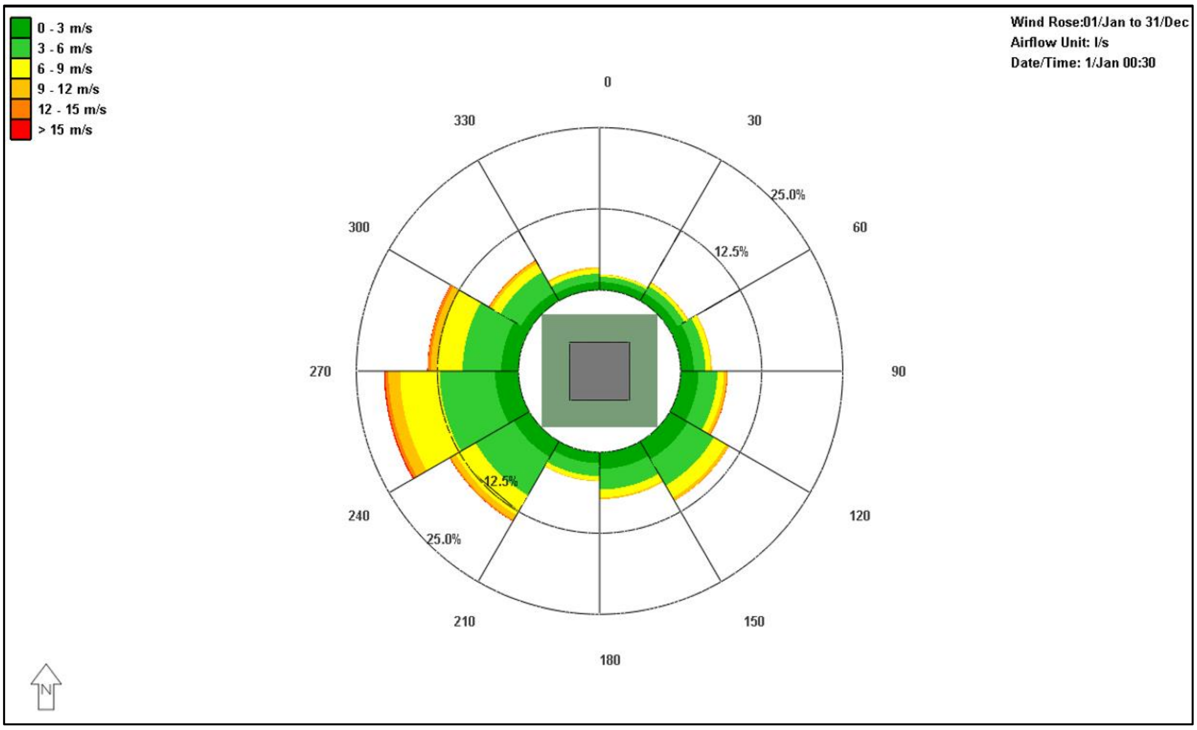


Figure 17.13: Wind rose as per DublinIWEC.epw



17.3.2 Weather Statistics

Based on this, the mean, and median wind speed recorded was 5 m/s with a south-westerly prevailing direction. That means, for 50% of year, the wind speed is higher than 5 m/s.

The Lawson's sitting comfort criteria, seen in Table 17.1, states that the local air speed at designated locations should not exceed 4 m/s for more than 5% of the year (equivalent to cumulative period of 18 days). The Lawson's standing comfort criteria states that the local air speed at designated locations should not exceed 6 m/s for more than 5% of the year.

Therefore, the proposed Project would be expected to reduce the frequency of wind speed at the Site by more than 10 times.

17.4 Predicted Impacts of the Proposed Project

This section should be read in conjunction with Appendix 17.1, which shows the results of the modelling.

17.4.1 Do-Nothing Scenario

In absence of the development, the present wind pattern is likely to continue unobstructed.

17.4.2 Sitting and Standing Comfort

The Lawson's sitting comfort criteria states that the local air speed at designated locations should not exceed 4 m/s for more than 5% of the duration analyzed. The Lawson's standing comfort criteria states that the local air speed at designated locations should not exceed 6 m/s for more than 5% of the duration analyzed.

17.4.3 Ground Level

The Site shows generally good compliance with the sitting criterion and standing criterion on the grounds around the Site. There are a few locations where the absolute strict adherence to sitting criterion was exceeded:

1. Public open space between Blocks C2 and D1;
2. Public open space between Blocks B3 and D1;
3. Public open space between Blocks A1 and A2/A3; and
4. Public open space north of block A3.

However, on comparing the results on these locations to standing criterion results, it can be seen that all these locations show excellent compliance with the standing criterion.

The wind speed threshold for sitting criterion is 4 m/s. The same threshold for standing criterion is 6 m/s. As the site shows excellent compliance for standing criterion, the wind speed at the noted locations is 6 m/s or less for more than 95% if the year. So whenever the wind speed at the above location exceeds 4 m/s, it is also very much likely to be less than 6 m/s. So any exceedance noted can be considered very marginal and, it will not lead to an environment which is unpleasant to use. The local air speed is only going to greater than a gentle breeze, but most frequently less than a moderate breeze. Such conditions are unlikely to have any impact on usability of the public open spaces.

The proposed location of the café at base of Block D1 also shows good results for sitting and standing criteria.

17.4.4 Balconies

All balconies on the Site, other than the balconies of the D1 Block, show excellent compliance with the sitting criterion and standing criterion. The recessed nature of these balconies helps to keep the air speed low on the balconies.

The balconies of Block D1 show excellent compliance with the standing criterion results. So, similarly to the ground level results discussed above, whenever the sitting comfort criterion is exceeded (air speed > 4 m/s), the air speed will likely be < 6 m/s (standing comfort criterion threshold). So the exceedance noted can be classed as only marginal, and will not lead to an environment which is unpleasant to use. The environment on these balconies will be typical of, and consistent with, balconies on buildings of a similar scale and design.

17.4.5 Rooftop Communal Spaces

As observed above in relation to ground level and balconies, the sitting comfort criterion results show some exceedance over the recommended levels at the roof top communal spaces. However, the standing criterion results show excellent compliance. Again, whenever the sitting comfort criterion is exceeded (air speed > 4 m/s), the air speed will likely be < 6 m/s (standing comfort criterion threshold). So the exceedance noted can be classed as only marginal, and will not lead to an environment which is unpleasant to use. The environment on these rooftop spaces will be typical of, and consistent with, rooftop spaces on buildings of a similar scale and design.

17.4.6 Walking Comfort

The Lawson's leisure walking and business walking comfort criteria state that the local air speed at designated locations should not exceed 8 m/s and 10 m/s, respectively, for more than 5% of the year. The Site shows excellent compliance with the requirements of both the criteria.

17.4.7 Safety Criteria

The Lawson's normal pedestrian and sensitive pedestrian safety criteria state that the local air speed at designated locations should not exceed 20 m/s and 15 m/s, respectively, for more than 0.01% of the year, i.e. only 1 hour of the year. Despite such a restrictive requirement, the site shows excellent compliance with both the safety criteria.

17.4.8 Conclusion

Significant negative impacts on pedestrian comfort and / or safety are not predicted to occur as a result of the wind microclimate at the Site of the proposed Project during the operational phase.

17.5 Mitigation Measures

This assessment pertains to operational phase impacts. As such, no mitigation measures are recommended during the construction phase. The mitigation measures required for the operational phase have already been included in the design of the scheme. Mitigation by design in relation to wind includes the following features of the proposed Project:

- Courtyard shape of buildings (Blocks A1, D2);
- Arrangement of buildings to form a courtyard (Blocks B1, MCM Extension);
- Solid screens for balconies;
- Solid screens for roof terraces; and
- Trees and vegetation along the various paths.

No further mitigation measures are required.

17.6 Residual Impacts

As the mitigation measures have been incorporated into the design of the proposed Project, ***there will not be any significant negative residual impacts*** in relation to wind.

17.7 Monitoring

No monitoring measures are proposed for the proposed Project in relation to wind.

17.8 Cumulative Impacts

In terms of wind, the Site is unlikely to have any cumulative adverse impact on any neighbouring site.

17.9 References

- T. V. Lawson (2001). *Building Aerodynamics,* Imperial College Press, London.
- ASHRAE (2013). *ASHRAE Fundamentals Handbook*.

18 Traffic & Transportation

18.1 Introduction

This chapter of the EIAR has been prepared to assess the potential impact of the proposed Project in terms of traffic and transport. This chapter provides an overview of the existing receiving environment, a detailed and robust assessment of the potential impact of the proposed Project on the operation of the local road network, both during the short-term construction phase and long-term operational phase, and outlines mitigation measures to ensure any significant effects are minimised or avoided.

A detailed description of the proposed Project is provided in Chapte 5 (Description of the Proposed Project).

18.2 Methodology

This chapter has been prepared having regard to the following guidelines:

- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning & Local Government, 2018)
- Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017);
- Guidelines on the information to be contained in Environmental Impact Statements (EPA, 2002)
- Draft Advice Notes for Preparing Environmental Impact Statements (EPA, 2015);
- Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2017);
- Transport Infrastructure Ireland's (TII's) Traffic & Transport Assessment Guidelines (2014); and
- Guidelines for the Environmental Assessment of Road Traffic (Institute of Environmental Management & Assessment (UK Based), 2003).

There are also a number of relevant national and regional policies which have guided the assessment and, where necessary, the design of mitigation measures. These include the following documents:

- The Dublin City Development Plan 2016 – 2022 (DCC, 2016);
- Transport Strategy for the Greater Dublin Area 2016 – 2035 (NTA, 2016);
- Design Manual for Urban Roads and Streets (DTTAS & DHPLG, 2013); and
- National Cycle Manual (NTA, 2011).

The methodology adopted for the assessment is outlined below and in line with the guidance set out in TII's Assessment Guidelines.

- Baseline Assessment: Site visits, data collection (including surveys), assessment of existing accessibility and local travel patterns, identification of opportunities and constraints, and policy review.
- Trip Generation: A forecast of person trips to / from proposed Project is carried out. These are converted to modal trips based on the expected mode share, to be informed by modelling and baseline assessment. Trip Generation during the construction period is based on the preliminary construction programme and estimated movements.
- Traffic Growth: Growth in traffic volumes to be forecast based on TII forecasts.
- Trip Assignment & Distribution: Vehicular trip to be assigned based on predicted final destination and distributed across the wider network based on strategic modelling and / or baseline travel patterns.

- Impact Analysis: Assessment of the resultant impact of development on the wider road network, with detailed modelling undertaken locally. The rating of impacts is in line with the terminology set out in Table 3.3 of the Draft EPA EIAR Guidelines (2017).
- Conclusion and Recommendations: Identification of potential impacts and necessary mitigation and supporting measures.

18.3 Baseline Environment

18.3.1 Site Location

The Site of the proposed Project is situated immediately east of Drumcondra Road and bounded by Clonliffe Road to the South and the Tolka River to the North. The site is less than two kilometres from Dublin City Centre and there are several public transport options nearby that enable sustainable travel across the Greater Dublin Area.

The land use of the surrounding area is predominantly residential with some commercial areas located along Drumcondra Road Lower. Croke Park, the national Gaelic games stadium and headquarters of the Gaelic Athletic Association (GAA), is located just to the south.

The location of the Site in relation to the surrounding road network is shown in Figure 18.1, below.

18.3.2 Existing Transport Infrastructure

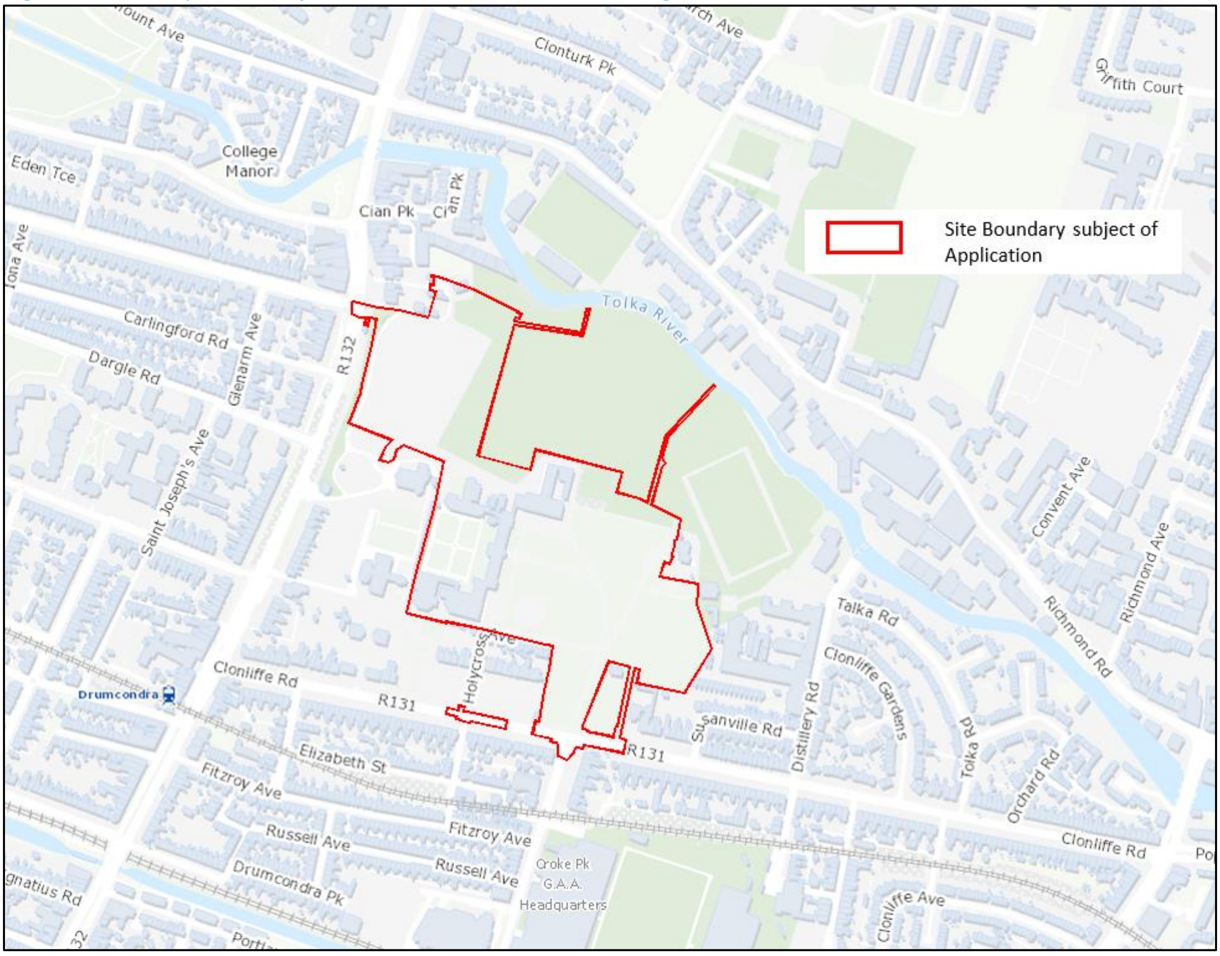
18.3.2.1 Road Network

The majority of the surrounding road network comprises quiet residential streets, but there is one major arterial route in the form of the N1 Drumcondra Road Lower and two other busy routes into the city at Ballybough Road and North Strand Road. Many of the residential streets in Drumcondra are narrow in nature due to restricted carriageway widths and / or on-street parking. There are several busy signalised junctions around the site, such as where the N1 meets the North Circular Road, Clonliffe Road, and Botanic Avenue, as well at where Ballybough Road meets Clonliffe Road.

18.3.2.2 Link Flow Data

As part of the baseline assessment two-way flow counts were undertaken on roads in the vicinity of the Site, in locations agreed with DCC. The surveys were undertaken for 12 hours on a neutral weekday within the school term, on the 25th of February 2020.

Figure 18.1: Proposed Project Site Location & Surrounding Road Network



Traffic data were collected for the following locations:

A. Drumcondra Road Lower, section between Richmond Road and Botanic Avenue;
B. Drumcondra Road Lower, section between Botanic Avenue and Hollybank Road;
C. Drumcondra Road Lower, section between Hollybank Road and St Alphonsus' Road Upper;
D. Drumcondra Road Lower, section between St Alphonsus' Road Upper and Clonliffe Road;
E. Drumcondra Road Lower, section between Clonliffe Road and Whitworth Road;
F. Clonliffe Road, section between Drumcondra Road Lower and Jones' Road;
G. Clonliffe Road, section between Jones' Road and Ballybough Road;
H. Jones Road & Russell Street, section between Clonliffe Road and North Circular Road;
I. North Circular Road, section between Russell Street and Belvedere Road; and
J. North Circular Road, section between Russell Street and Summerhill Parade.

Figure 18.2 illustrates the locations of the sections for which link flow data was collected. A more detailed analysis of the data can be found in the Transport Assessment submitted under separate cover as part of the planning application.

The estimated daily average two-way flows along the roads in the vicinity of the Site, shown above, were calculated and are shown in Table 18.1, below, along with the percentage of heavy goods vehicles (HGVs).

Figure 18.2: Link Flow Locations

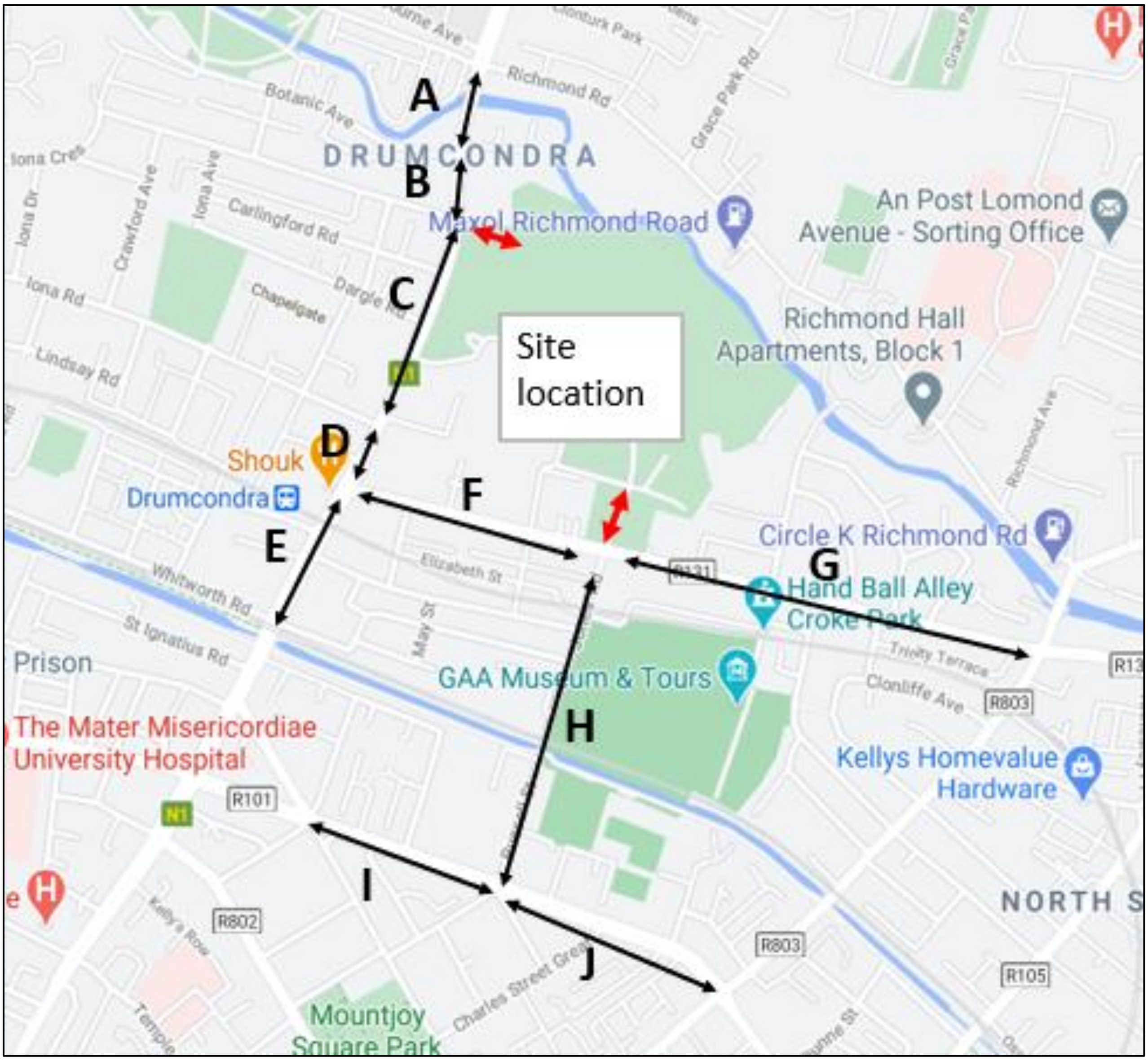


Table 18.1: AADT Two-way Flows for Selected Links, with HGV Percentage

Link	AADT	% HGV
A	27,226	5.2%
B	27,641	5.2%
C	27,032	5.3%
D	28,540	5.0%
E	27,877	5.1%
F	9,932	1.8%
G	10,811	1.9%
H	5,451	2.0%
I	14,297	3.3%
J	15,612	3.3%

The link flow data confirm Drumcondra Road Lower as the route nearest the Site with the highest amount of AADT flow, generally between 27,000 and 29,000 vehicles, and the highest proportion of HGVs, between 5.0% and 5.5%.

18.3.2.3 Public Transport

The site is very well connected by public transport with a wide array of both bus and rail services located nearby. The site sits on one of the core bus corridors into Dublin with a high frequency of services running from North Fingal, Swords, Dublin Airport, and Ballymun into the city, including those listed in Table 18.2.

Table 18.2: Public Bus Services in Immediate Vicinity of Project Site (as of 26/03/21)

Operator	No.	Route
Dublin Bus	1	Santry to Sandymount (via Drumcondra, Parnell Sq. and Ringsend)
Dublin Bus	11	Wadelai Park to Sandyford Business District (via O'Connell St., Ranelagh and Clonskeagh)
Dublin Bus	13	Harristown to Grange Castle (via Ballymun Shopping Centre, Drumcondra Rail Station, O'Connell St., St. James's Hospital, Tyrconnell Rd., Naas Rd. and Clondalkin Village)
Dublin Bus	16	Dublin Airport to Ballinteer (via Santry, Skylon Hotel, Drumcondra Rail Station, O'Connell St., Kelly's Corner, Harold's Cross, Terenure and Grange Rd.)
Dublin Bus	33	Lower Abbey St. to Balbriggan (via Upper Gardiner St., Drumcondra Rail Station, Omni Shopping Centre, Airport Roundabout, Swords Village, Lusk, Rush and Skerries)
Dublin Bus	41	Lower Abbey St. to Swords Manor (via Upper Gardiner St., Drumcondra Rail Station, Omni Shopping Centre, Dublin Airport and Swords Village)
Dublin Bus	41c	Lower Abbey St. to Swords Manor (via Upper Gardiner St., Drumcondra Rail Station, Omni Shopping Centre, Kealy's Pub, Boroimhe, River Valley and Swords Village)
Dublin Bus	44	DCU to Enniskerry (via Larkhill, O'Connell St., Dundrum and Stepaside)
Dublin Bus	70a	Burlington Road to Dunboyne (via O'Connell Bridge, Stoneybatter, Navan Rd., Ashtown and Littlepace)
Bus Éireann	101	Dublin to Drogheda (via Talbot St., Gardiner St., Drumcondra Rail Station, Whitehall, Omni Shopping Centre, Dublin Airport, Swords, Turvey, Ballough, Five Roads, Grooms, Courtlough, Balrothery, Balbriggan, Gormanstown Cross, Huntsman Inn, Bellewstown Cross, Whitecross, Julianstown and Ross na Rí)

Drumcondra railway station is approximately 5 minutes away by foot and is served by services running between the City Centre and Maynooth, Celbridge, Longford, and Sligo. At peak times, there is typically no more than a 10 minute wait for a train to the City Centre. The Luas light rail Phibsborough stop is approximately 30 minutes away by foot (10 minutes by bicycle) and operates between Broombridge and Bride's Glen, stopping in the City Centre and at Ranelagh, Dundrum and Sandyford, among others.

18.3.2.4 Walking Accessibility & Network

The Site is within a convenient walking distance of the city centre and several large employment centres as well as leisure and retail facilities. The Mater and Rotunda Hospitals are within a 20 minute walk of the Site, as is Phibsborough to the west, and O'Connell Street to the south.

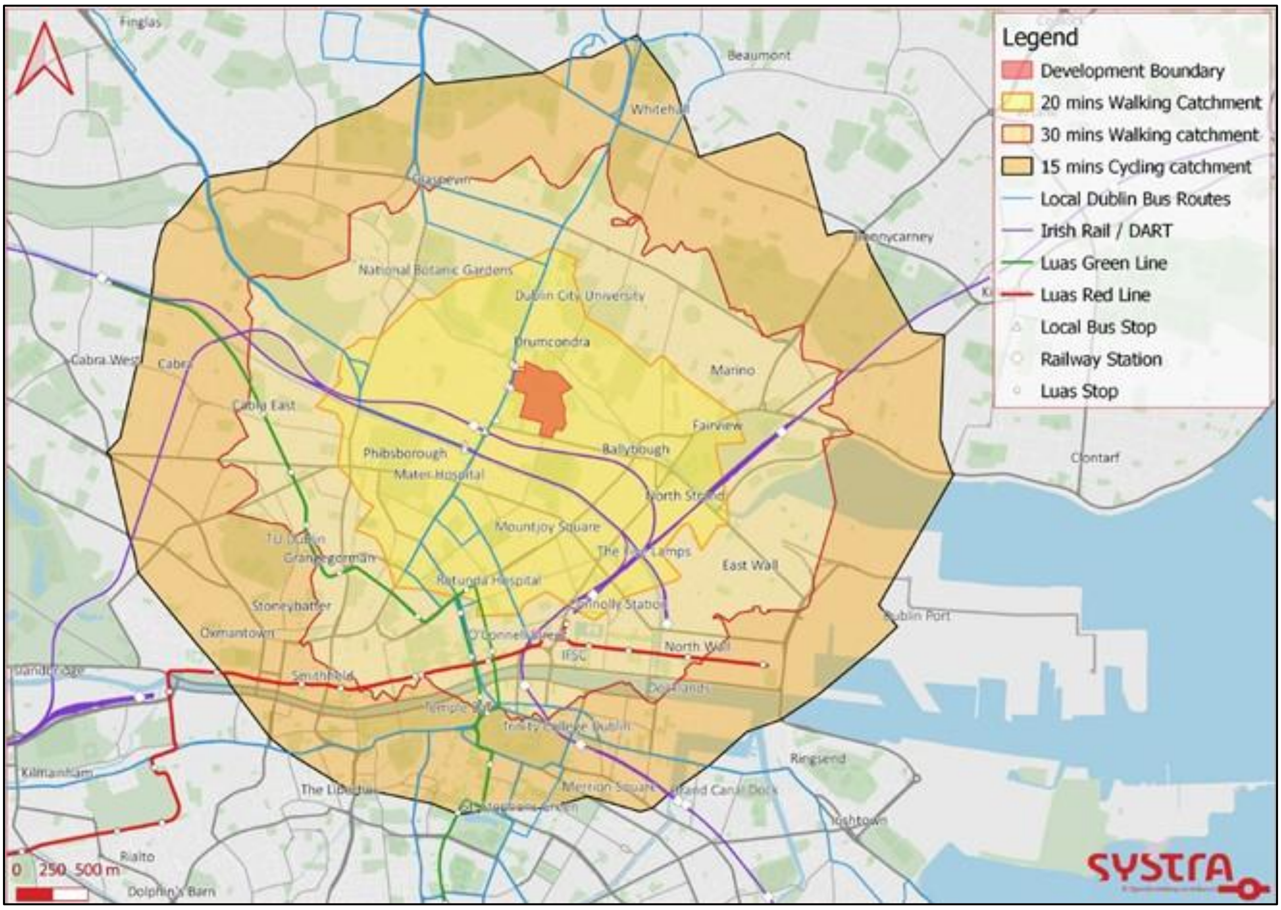
The main pedestrian routes to and from the Site are generally of very good quality with wide footpaths and street lighting. There are formal pedestrian crossing points at the Clonliffe Road / Jones' Road Junction, and along Drumcondra Road Lower at the junctions with Botanic Avenue and Clonliffe Road. There is also a pedestrian island at Holycross Avenue just south of the development along Clonliffe Road but there is no formal crossing point, road markings or signage. Visibility can be poor due to parked cars. This will be improved to facilitate better pedestrian safety, as Holycross Avenue will be one of the primary pedestrian and cycle entrances to the site.

18.3.2.5 Cycling Accessibility & Network

There are cycle lanes provided from Drumcondra Road Lower to the City Centre and to the Docklands. There are currently no cycle lanes along Clonliffe Road or Jones' Road.

In terms of bike sharing infrastructure, there are three main bike sharing schemes within Dublin: Dublin Bikes, BleeperBikes and MOBY Move. Dublin Bikes is a public bike rental scheme powered by several stations around Dublin City, primarily between the Grand and Royal Canals. BleeperBikes and MOBY Move are stationless bike sharing schemes where users park bikes at designated Sheffield stands throughout the city, with the scheme extending well beyond the canals into the north and south of the city. MOBY Move offer high spec fully electric bikes with pedal assist – where a motor activates when the pedals are in motion. While the rider still gets a workout, the motor gives an added boost which makes much longer distances possible by bicycle.

Figure 18.3: Site Location, Public Transport Services and Walking & Cycling Catchment Areas[53]



[53] Development boundary shown is for wider Masterplan area, not proposed Project

There are limited Dublin Bike stands within walking distance of the Site with the nearest a 10 minute walk away. BleeperBike, however, have two designated bike parking racks directly outside the Site access points on Clonliffe Road and Drumcondra Road Lower. There are also two designated MOBY bike share spaces nearby, the closest being a 5 minute walk away at Drumcondra Railway Station, with space for up to 20 bicycles.

Figure 18.3, above, shows the Site location in relation to public transport services as well as walking and cycling catchments.

18.3.3 Road Safety

The Road Safety Authority's (RSA's) online collision map was reviewed to assess any local accidents and safety trends which may impact the proposed Project. The collision map includes all fatal, serious and minor accidents officially recorded between 2005 and 2016. The data for subsequent years is not yet available on the RSA's website. The recorded accidents near the Site are shown in Figure 18.4 – note that the red line boundary shown is that of the wider Masterplan lands and not the proposed Project.

Figure 18.4: RSA Collision Map – Minor, Serious & Fatal Accidents

As demonstrated in the figure above, the majority of accidents across an 11-year period have been minor and no fatal accidents have occurred. No serious accidents have occurred along Clonliffe Road outside the Site.

The serious accidents that have occurred along Drumcondra Road Lower between Clonliffe Road and Hollybank Road are spread out and all occurred overnight (between 23:00 and 07:00) and involved a pedestrian. There are no identifiable accident 'blackspots' in the vicinity of the Site.

18.3.4 Future Transport Infrastructure Improvements

18.3.4.1 Bus Connects

The NTA's planned Bus Connects project will overhaul the current bus system in the Dublin region to create a better public transport network that is more efficient and reliable. There are a variety of measures included in the plan, such as the introduction of a state-of-the-art cashless ticketing system, new bus stops and shelters, and various bus-based Park and Ride sites, all of which should improve patronage.

Core to the plan is a network of 'next generation' bus corridors along the busiest bus routes, to make bus journeys faster, predictable and reliable. The programme has proposed a series of continuous high-quality bus lanes spanning the city. Crucially, the N1 (Drumcondra Road Lower) to the west of the proposed Project is designated as the 'A Spine Route'. In addition, the plan also identifies the need for a series of interchange facilities to facilitate direct connections between the high capacity services on the corridors with additional orbital and local services. The Bus Connects project is, therefore, expected to improve connectivity across the Dublin metropolitan area for residents of the proposed Project, in addition to delivering faster and more reliable bus journeys.

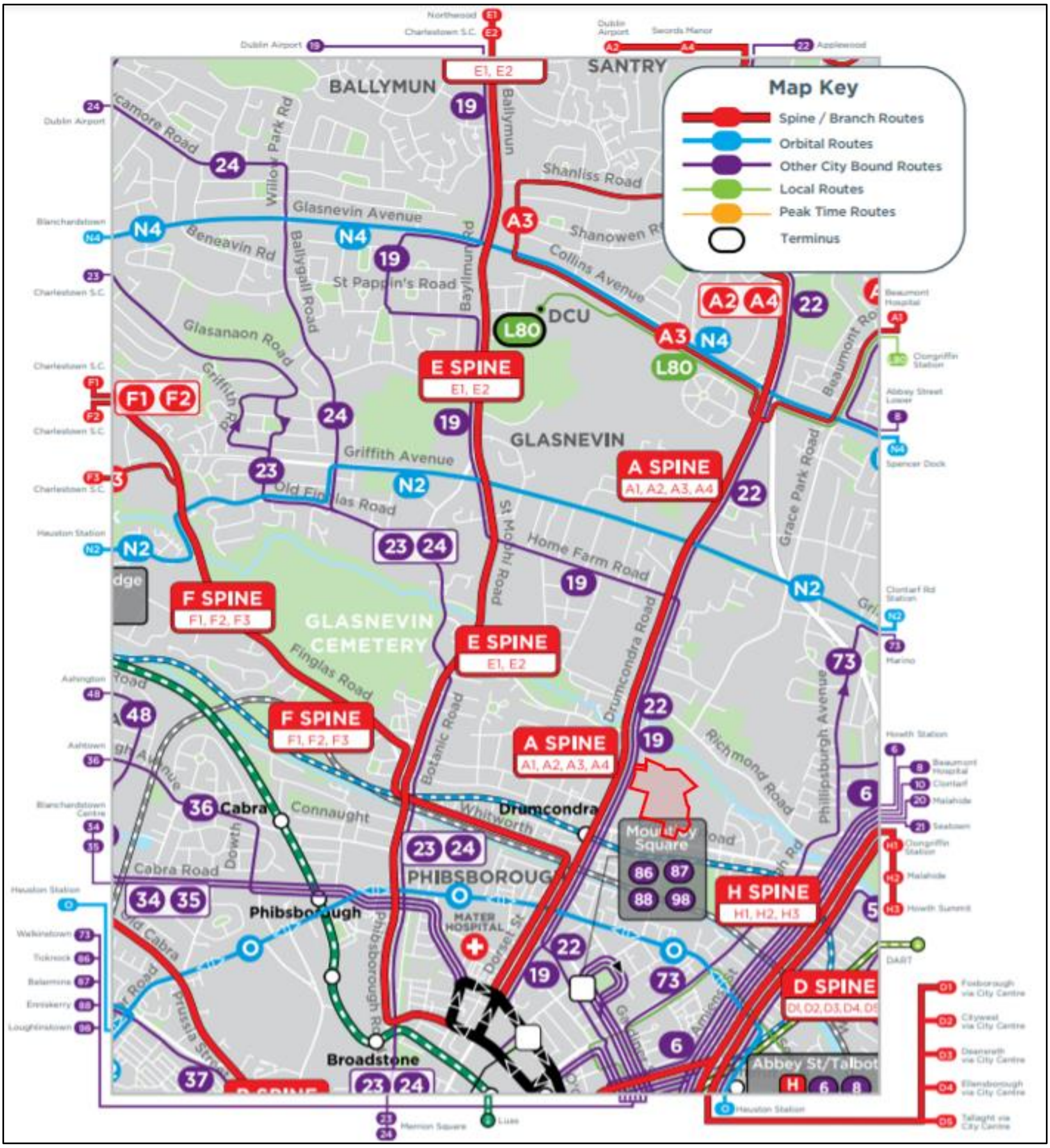
As the Site of the proposed Project is located along the A Spine, routes A1 - A4, travelling southbound, will run direct to the city centre, while services travelling northbound will split into separate routes. The new routes which are expected to serve the proposed Project as a result of the Bus Connects project will be as follows:

- Spine route A1 from Beaumont to Ballycullen
- Spine Route A2 from Dublin Airport to Dundrum
- Spine Route A3 from Shanowen Road to Tallaght
- Spine Route A4 from Swords to Nutgrove
- Local route 82 from Glen Ellan Road to Ballymun
- Local route 94 from Ballymun to Parnell Square

All of the above-listed will be all-day services, running every 10 – 15 minutes. A local map of these planned services, correct as of December 2020, is provided in Figure 18.5, above.

It should be noted that an application for planning permission has not yet been made in respect of the BusConnects project, although delivery of the project is an objective at the national and regional levels, as per the Government's National Development Plan (2018 – 2027) and NTA's Transport Strategy for the Greater Dublin Area (2016 – 2035). As such, it is not known precisely when these new routes will serve the location of the proposed Project.

Figure 18.5: Bus Connects Network Layout in Drumcondra



18.3.4.2 DART+ Programme 2018 – 2027

DART (Dublin Area Rapid Transit) is an electrified commuter rail railway line serving the Dublin coastline. It has operated since 1984, initially only between Bray and Howth, but between Malahide and Greystones since 2000.

A new expansion programme is planned for all other existing Dublin commuter rail lines that will bring them up to the same modern electrified standard. This will deliver a more sustainable, reliable, and faster rail service with increased train frequencies and customer carrying capacity on the following lines:

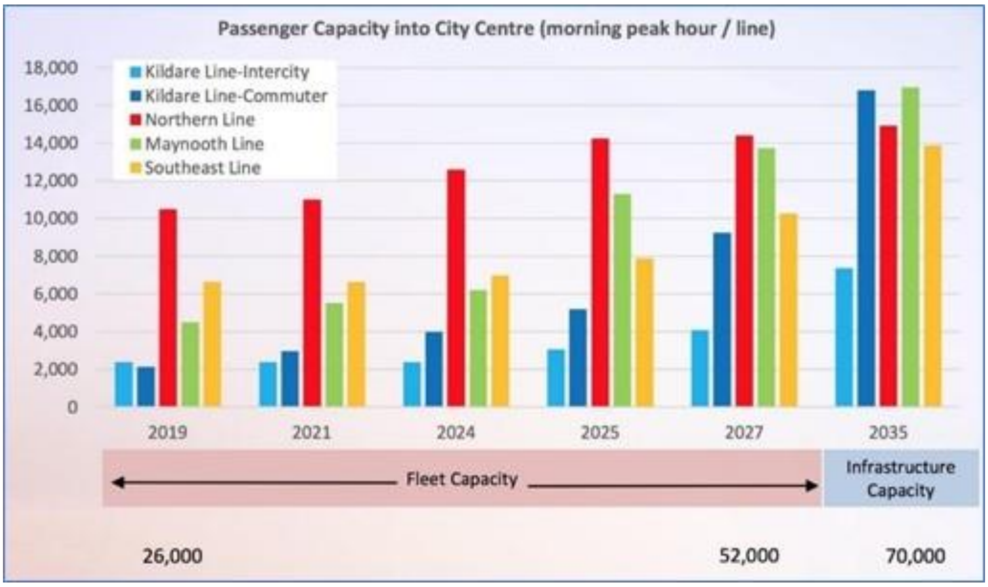
- Northern Commuter – as far as Drogheda
- Western Commuter – as far as Maynooth / M3 Parkway
- Southwestern Commuter – as far as Hazelhatch (Celbridge)

Key to the proposed Project, the local station at Drumcondra is included in the plans as the proposed Project is situated on the Western and Southwestern commuter lines, respectively.

To facilitate these improvements a range of measures are planned, including the removal of some level crossings, additional track, overbridge alterations, improved signalling, new rolling stock, and new depots with maintenance capabilities.

The DART+ programme has a phased delivery schedule designed to meet the projected future passenger demands, shown in Figure 18.6. It should be noted that an application for planning permission has not yet been made in respect of the DART+ project, and as such, it is not known precisely when these planned improvements will benefit the proposed Project.

Figure 18.6: Dublin Commuter Rail Corridor - Capacity Forecast (Source: Irish Rail)



18.3.4.3 Metrolink

As outlined in the NTA's Transport Strategy for the Greater Dublin Area (2016 – 2035), Metrolink is a new 19 km high-frequency automated metro line that is planned to run between Swords Estuary and Charlemont Station via Dublin Airport and the City Centre. There will be a total of 15 new stations, the nearest of which will be just a 20 minute walk from the development site: Glasnevin Junction at Cross Guns Bridge. It is expected that the new line will accommodate 30 trains per hour in each direction, meaning the line will cater for 20,000 passengers per direction per hour.

It should be noted that an application for planning permission has not yet been made in respect of the Metrolink project, and as such, it is not known precisely when this new service will benefit the proposed Project. However, the current timeline for the Project indicates that passenger services could begin in 2027.

18.3.4.4 Greater Dublin Area Cycle Network Plan (2013)

The NTA's Greater Dublin Area Cycle Network Plan sets out a 10-year strategy to expand the urban cycle network from 500 km to 2,480 km. The overarching ambition of the scheme is, by 2021, to increase the numbers who commute by bike to be the same amount as those who commute by bus.

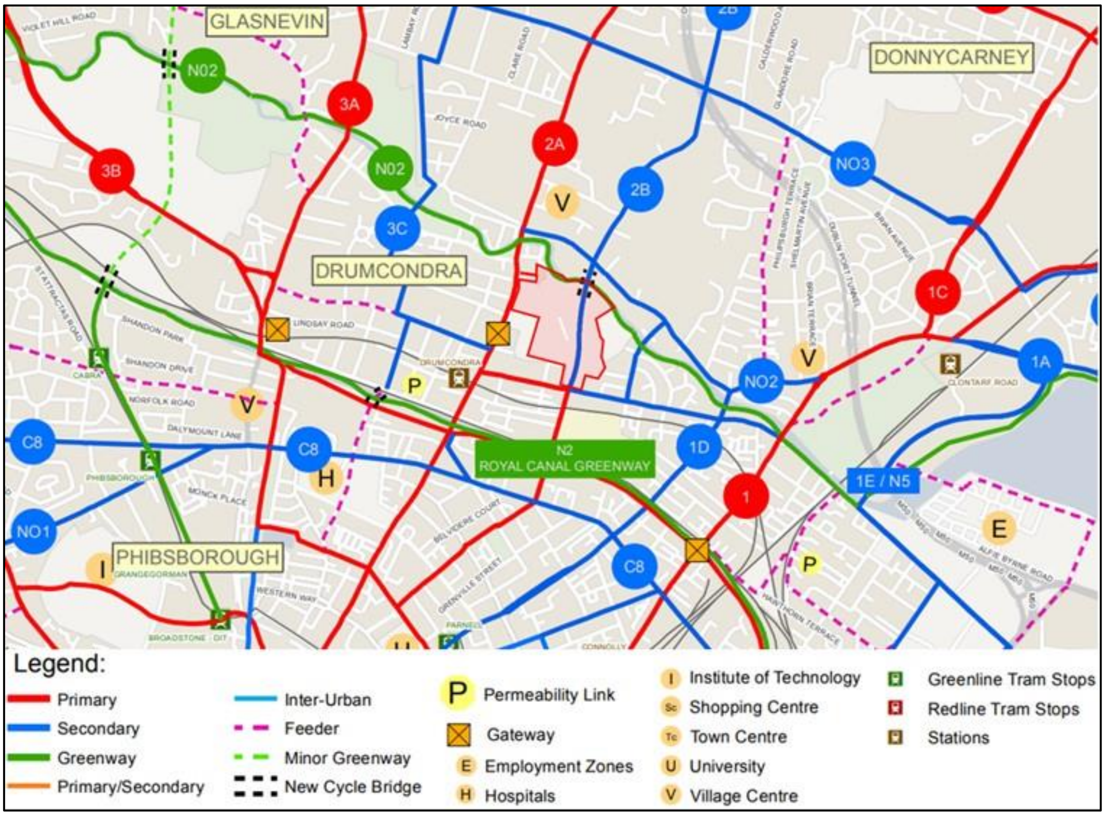
The network will consist of a series of primary, secondary and feeder routes as well as greenways routes. These routes will comprise of a mix of cycle tracks and lanes, cycleways and infrastructure-free cycle routes in low traffic environments. To compliment the investment in the cycle network, the cycle network plans also provide for:

- Sufficient on and off street public cycle parking at key urban destinations such as bus / rail stations, schools and large workplaces.
- The expansion of the bike share scheme in Dublin City and the introduction of similar schemes across the Greater Dublin Area.
- The implementation of a comprehensive cycle route signage programme in conjunction with the development of the cycle network.

Key to the proposed Project, a secondary cycle route (2B) is proposed to link through the site from Grace Park Road to the North across the River Tolka, and through the site connecting to the primary route along Jones' Road, as illustrated in Figure 18.7, below. As part of the Masterplan for the wider Site, a north-south pedestrian and cycle link will fulfil this part of the cycle network. The final link across the River Tolka is expected to be provided at a later date as this relies on the redevelopment of lands north of the river.

As shown in Figure 18.7, the Site of the proposed Project will be very well served by both primary and secondary cycle routes and is located between the proposed Royal Canal and Tolka Valley Greenway routes.

Figure 18.7: GDA Future Cycle Network Plan (Source: NTA)



18.4 Predicted Impacts of the Proposed Project

18.4.1 Assessment Criteria

The EPA draft EIAR guidelines (2017) outline a number of definitions that can be used to describe potential significant effects. This includes definitions for the quality of effects, significance of effects, extent of effects, probability of effects, duration and frequency of effects and the type of effects.

In Ireland, there are currently no guidelines or standards which outline how the effect of traffic and transport should be quantified or described for the purposes of EIA. However, TII's Traffic and Transport Assessment Guidelines (2014) indicate that if the additional traffic flow generated by a new development exceeds 10% of the traffic flow on the existing local network, where there is no existing prolonged congestion, it is considered material in the context of the local network. This threshold is reduced to 5% in situations where the network is experiencing notable congestion.

Similarly, the UK's Institute of Environmental Management and Assessment (IEMA) 'Guidelines for the Environmental Assessment of Road Traffic' (2003) state that only links which experience an increase in traffic of 30% should be considered for more detailed assessment, or 10% in sensitive locations or where HGV traffic increases substantially. As referenced in the IEMA Guidelines, a range of indicators for determining the significance of relief from severance advises that changes in traffic flow of 30%, 60% and 90% are regarded as producing 'slight', 'moderate' and 'substantial' changes, respectively. Additionally, it is generally accepted that traffic flow increases of less than 10% on uncongested roads are 'not significant', given that daily variations in background traffic flow may vary by this amount.

Based on these guidelines, the prevailing traffic levels local to the proposed Project, and professional judgement, a rating of the potential effects has been assigned to the definitions within the EPA guidelines based on potential traffic increases. To ensure the robustness of the assessment these ratings are more conservative than outlined in the IEMA guidelines. This is intended to guide the assessment of the likely effects of the proposed Project. The ratings are detailed below in Table 18.3.

Table 18.3: Rating of Effects Based on Traffic Contribution

Significance of Effects	Traffic Increase
Imperceptible	0 – 2.5%
Not Significant	2.5 – 5%
Slight	5 – 10%
Moderate	10 – 20%
Significant	20 – 30%
Very Significant	30 – 50%
Profound	> 50%

18.4.2 Do-Nothing Scenario

The Holy Cross College lands in Drumcondra represents a significant, but underutilised, body of undeveloped land in North Dublin City. The site sits on lands currently zoned for institutional use and amenity value/green network (banks of the River Tolka). The objective of the development is to ambitiously regenerate the area creating a modern, high-density, mixed-use residential development that respects the heritage and history of the site and surrounding neighbourhoods. It is likely that in the absence of this proposal that a development of a similar nature would be proposed given current National Policy. The National Planning Framework Objective 3a & 3b state that 40% of new homes delivered nationally and 50% within Dublin should be within the built-up footprint of existing settlements boundaries.

The proposed Project sits as part of a wider Site Masterplan for the entire Holy Cross College lands which includes a permitted hotel development (ABP Ref.: PL29N.308193), future proposed GAA pitches and clubhouse. The Hotel application requires the upgrade of the Clonliffe Road / Jones' Road junction and the upgrade of the existing access road from this junction, including a turning facility for coaches to access the hotel. In addition, the future proposed GAA pitches, clubhouse and proposed surface parking to serve the GAA uses will require accommodation works within the site to provide vehicular access for cars and coaches.

18.4.3 Demolition & Construction Phase

The demolition and construction works, as detailed in Chapter 5 (Description of the proposed Project), will be short-term in nature. In total, the construction stage will last approximately 36 months across three phases. The traffic generated on Site, both as a result of construction activity and staff required on Site, will vary during this time, depending on the construction stage and activity, though staff will generally be encouraged to travel to Site by sustainable means.

Only minimum essential Site staff parking will be provided. In parallel with this, parking restrictions and management measures on adjacent streets / residential areas will be reviewed and implemented as necessary in agreement with the local residents and DCC to avoid any site parking overspill issues. In addition, the Contractor will be required to promote travel by sustainable modes of transport.

Access routes for construction vehicles are shown in Figure 18.8, with the Site being accessed via Clonliffe Road (Phases 1 & 3) and Drumcondra Road Lower (Phase 2). The working hours on site will be 07:00 – 19:00 Monday to Friday and 08:00 – 14:00 on Saturdays, meaning the majority of staff will be arrive before busiest morning peak and depart after evening peak. Construction phase access routes for pedestrians are shown in Figure 18.9. Access routes for vehicles and pedestrians associated with ongoing Church / diocesan activities at the Site are shown in Figure 18.10.

Figure 18.8: Construction Vehicle Access – Temporary Road & Internal Routes for Phases 1, 2A - 2C, 3A & 3B

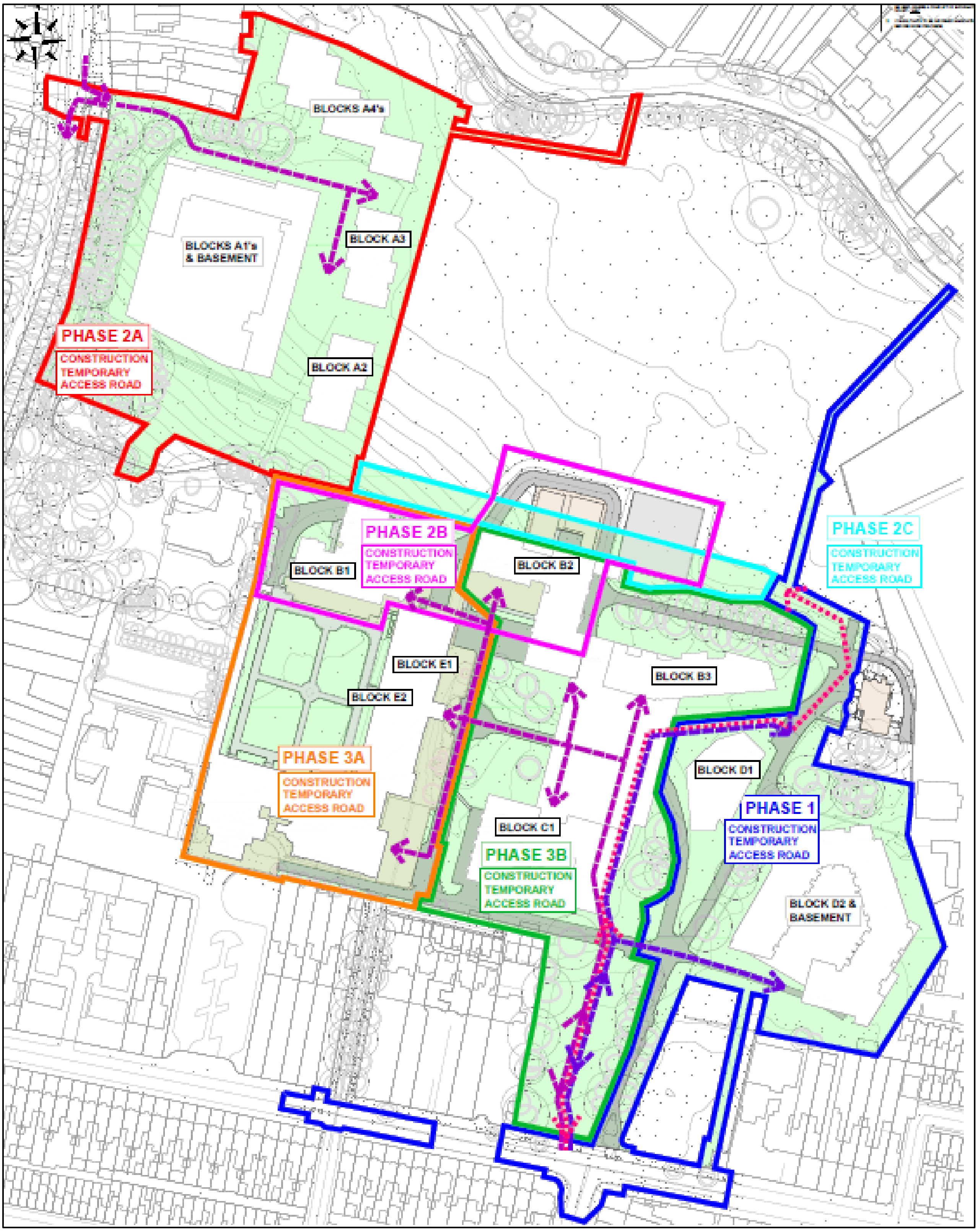


Figure 18.9: Construction Staff Access – Pedestrian Routes for Phases 1, 2A, 2B, 2C, 3A & 3B

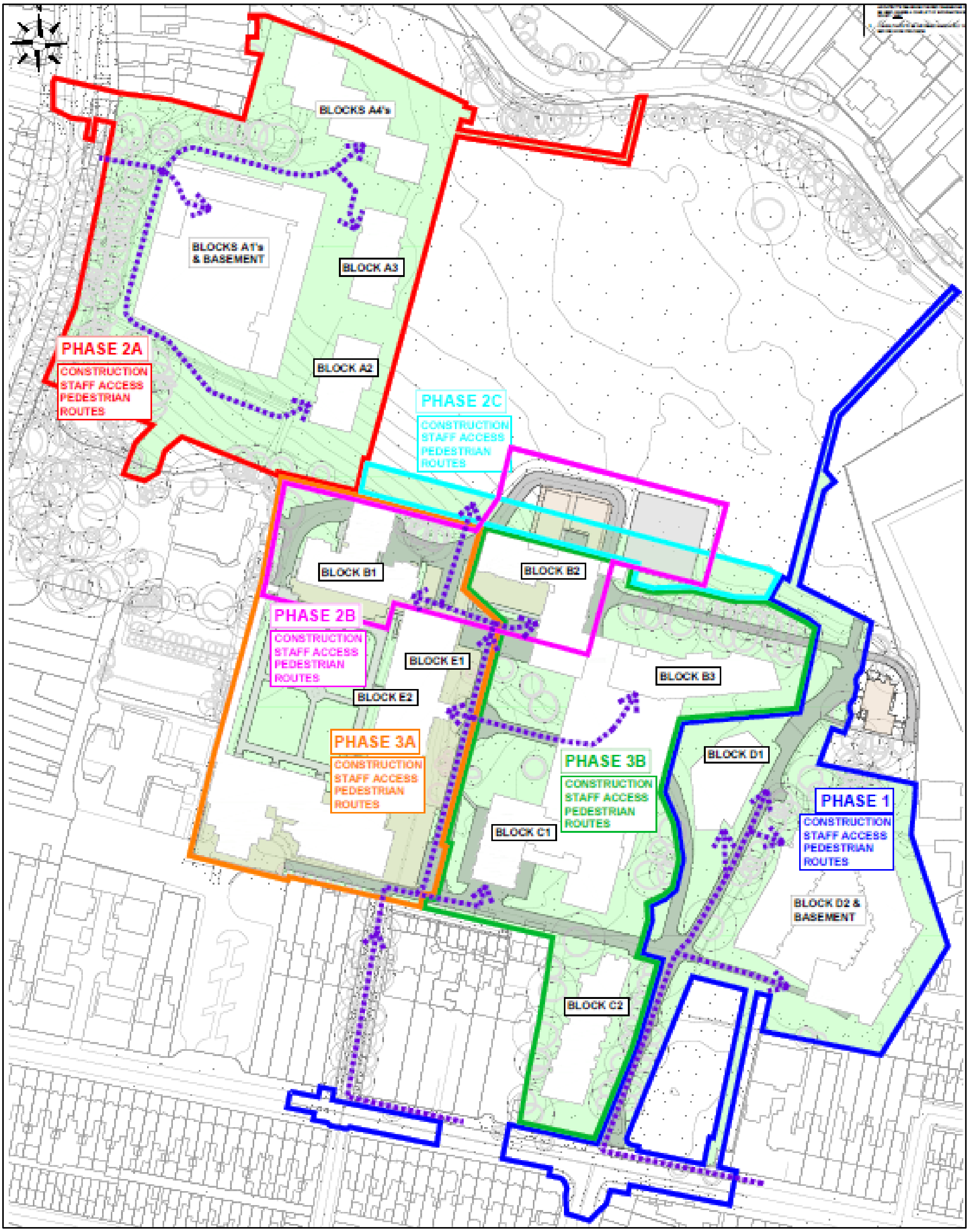
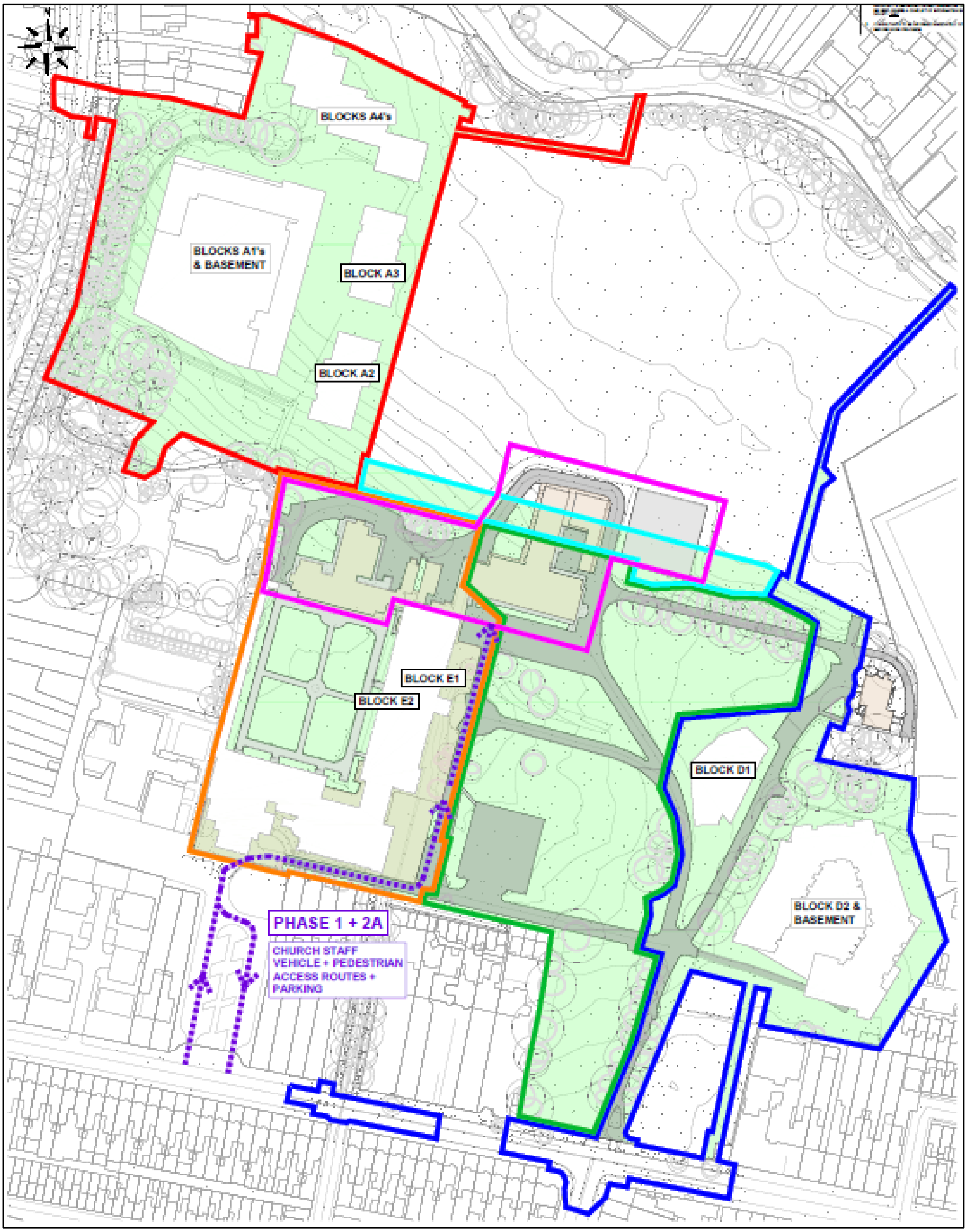


Figure 18.10: Church Staff Vehicle, Pedestrian Routes Access Routes & Parking for Phases 1 & 2A



Heavy Construction Vehicles will enter and exit the Site via the M50, a designated route for HGVs within the DCC HGV Strategy. The number of heavy vehicles will be dependent on the construction activity taking place on site. The average number of HGVs for the construction phase of the proposed Project has been estimated and is outlined in Table 18.4, below.

Table 18.4: Estimated Average Construction Phase Traffic Volumes

Vehicle Type	Average HGV One-Way Trips
Spoil & Hardcore Stone Truck	13,333
HGV (20 tonnes)	3,726
Curtain Sided Trailer	3,318
Concrete Truck	6,875
Miscellaneous Cars / Vans	37,500
Miscellaneous Ancillary Deliveries	22,500
Total	87,253

Based on an estimated overall construction programme duration of 36 months, equating to 750 working days, an average of 116 daily two-way trips are forecast to serve the Site over the entire construction period, of which 66 will be HGV and 50 will be miscellaneous cars / vans. The peak construction period will occur during the dig excavation and construction of podium structures, with a maximum daily trips during the concrete pour days.

It is assumed that all construction traffic entering the site will arrive from either the M50 / N1, as shown in red in Figure 18.11. To exit the site and return to the M50, vehicles exiting the Drumcondra (left in and left out only) and Clonliffe Road site entrances will travel towards Annesley Road. From here the majority of vehicles will turn left towards Fairview and Marino and travel towards the M50 or alternatively travel along East Wall Road to the M1 tunnel.

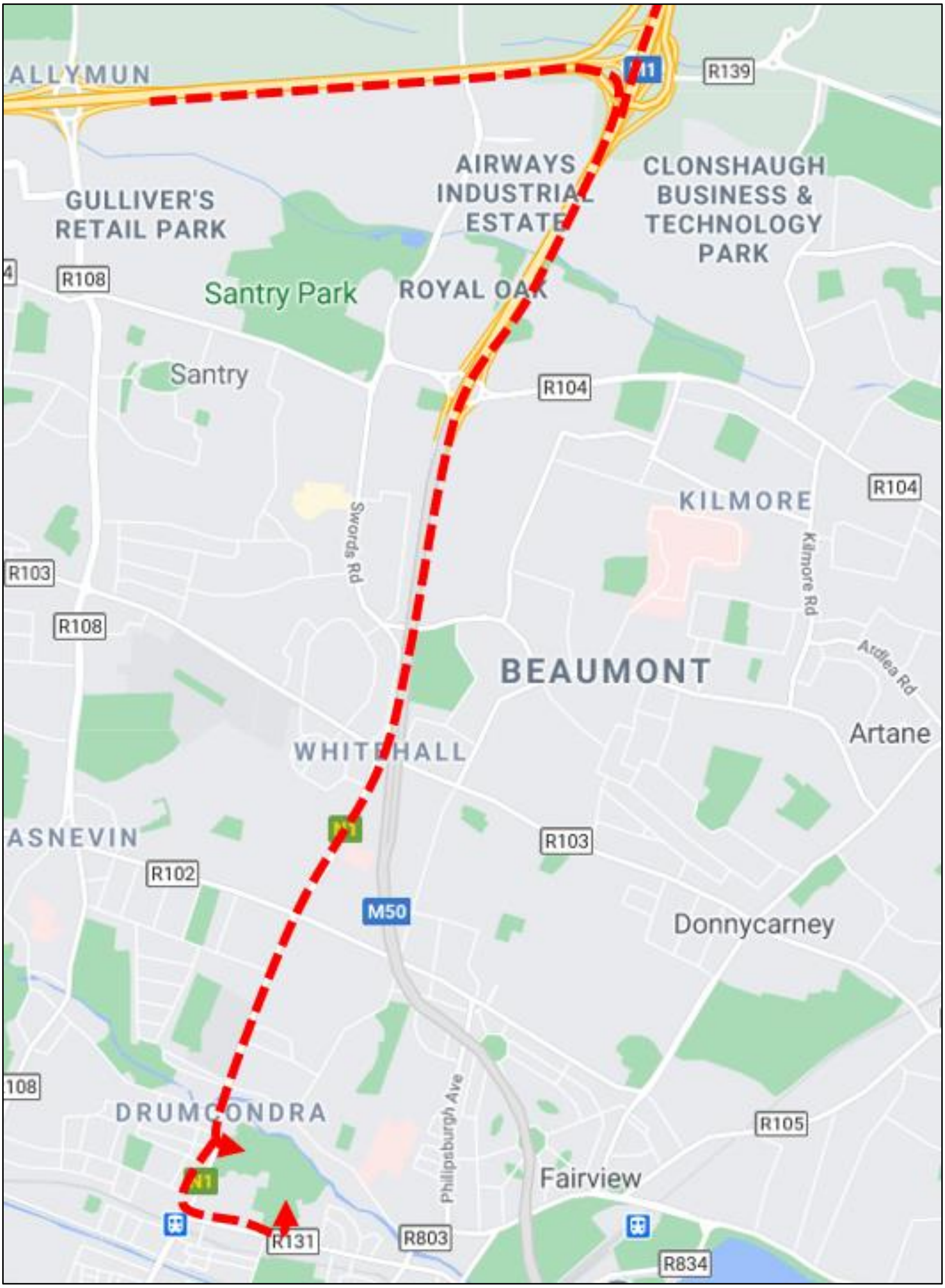
Traffic bound for Blocks A1-A4 will enter via the existing Drumcondra site entrance gateway, with a left in / left out operation.

Traffic bound for Blocks B, C, D and E, will travel further down Drumcondra Road and turn left on to Clonliffe Road, accessing the site from Clonliffe Road / Jones Road access. This junction will need to be signal modified in agreement with DCC Roads / Traffic Section for the duration of construction to facilitate the creation of this temporary site access entrance.

On average this will increase the absolute number of HGVs along Drumcondra Road Lower by 16%, though the percentage of HGVs as a proportion of total vehicles on this route will increase by less than 0.81%. The increase in overall traffic as result of the additional HGVs along these links will be less than 1%. This will have an imperceptible effect based on criteria outlined in Table 18.3. The HGV traffic will be spread throughout the day, with commuting peaks avoided where possible.

In summary, the combined additional light and heavy construction traffic is likely to have a ***negative but slight*** impact on the local road network during the construction phase. The impact will be ***short-term*** in nature and the represents the 'worst case' scenario.

Figure 18.11: Construction HGV Routes to Site



18.4.4 Operational Phase

18.4.4.1 Modelled Hours & Years

The impact of the proposed Project on the local road network during the operational phase has been assessed by modelling the projected traffic flows with and without the proposed Project in place. The proposed Project will likely open in phases. However, for the purposes of this assessment an opening year of 2025 has been assumed.

Based on the traffic surveys presented previously in the baseline assessment, the peak hours of 8:00 – 9:00 and 17:00 – 18:00 have been chosen for assessment as they represent the busiest case in terms of background traffic conditions and traffic from the proposed Project. These peak hours have been assessed for the following forecast years in line with TII Traffic and Transport Assessment Guidelines (2014):

- Opening Year: 2025 (With / Without Development); and
- Opening Year +15 Year Forecast: 2040 (With / Without Development).

18.4.4.2 Person Trip Generation

In line with best practice, the TRICS[54] database has been utilised to obtain people trip rates for the proposed Project, comprising the residential units, crèche and retail space. Additionally, this assessment considers the trip generation potential of the wider Masterplan site. This means that the trip generation of the GAA pitches / clubhouse, and the 200 bedroom hotel have also been included, even though they are not the subject of this application. Testing all trips associated with the wider Masterplan allows for a more robust assessment of the impact of the proposed Project.

This exercise has been undertaken separately for each land use type, given that they have different units of measurement and patterns of people trips. The TRICS categories shown in Table 18.5 have been selected for each element of the proposed Project.

Table 18.5: TRICS Category Selections per Land Use

Land Use	TRICS Main Category	TRICS Sub-Category	Trip Rate Unit
Apartments	03 - Residential	C - Flats Privately Owned	Per 1 dwelling
Creche	04 - Education	D - Nursery	Per 100 m^2
Retail	01 - Retail, Shopping Centre, Local Shops	C - Local Shops	Per 100 m^2
Hotel*	06 - Hotel, Food & Drink	A - Hotel	Per 1 bedroom
Clubhouse*	N/A†	N/A†	N/A*

* Not part of this application †First principles approach

To calculate the trip generation, the trip rates obtained from TRICS have been multiplied up to the relevant number of units to reflect the size of the proposed Project. This has been undertaken for a typical weekday. For the GAA clubhouse, a first principles approach to the trip generation has been used, as TRICS does not hold data for this type of land use, therefore, this site-specific approach is more accurate. The first principles approach has been calculated based on information provided by the GAA for the typical use of the pitches.

[54] TRICS (Trip Rate Information Computer System) is a database of trip rates for developments used in the United Kingdom and Ireland for transport planning purposes, specifically to quantify the trip generation of new developments

The proposed Project's total person trip generation has been calculated between the hours of 07:00 – 21:00 for each land use type (except for the crèche which will close at 19:00), the results are presented in Table 18.6.

Table 18.6 demonstrates that the peak AM hourly period for people trips occurs between 08:00 and 09:00 during which a total of 259 arrivals and 934 departures are predicted by all modes (1,193 two-way people trips). The majority of these trips are generated by the apartments, which is to be expected, given that the largest proportion of the site allocated to residential land use and these people trips are likely to be associated with commuting to the workplace.

The peak PM hourly period for people trips to / from the development occurs between 18:00 and 19:00 during which a total of 772 arrivals and 385 departures are predicted by all modes (1,157 two-way people trips). Again, the majority of these trips are generated by the apartments and this is likely to be associated with commuting home from the workplace. The trips to and from the crèche follow a similar pattern in terms of peak periods as the apartments, which will coincide with the opening and closing times of the facility.

While not the subject of this application, for reference, the level of arrivals and departures generated by hotel remain fairly consistent across the course of the day. The clubhouse trip generation follows the typical times for use of the pitch. It is understood that the peak time for use of the pitches will be at weekends from 09:00 – 16:00, and on weekdays from 19:00 – 21:00. It is noted that at weekends there will be approximately 25 car and 4 coach movements per hour from 08:30 – 16:00.

Table 18.6: Total Weekday Daily People Trip Generation

Time Period	Apartments		Creche		Retail		Hotel*		Clubhouse*		Total Arrivals	Total Departures	Total Two-Way
	Arrive	Depart	Arrive	Depart	Arrive	Depart	Arrive	Depart	Arrive	Depart			
07:00-08:00	117	553	7	1	23	19	9	34	0	0	156	607	763
08:00-09:00	185	868	17	7	38	38	14	21	5	0	259	934	1193
09:00-10:00	206	370	4	2	41	34	26	34	31	0	308	440	749
10:00-11:00	208	284	1	1	42	39	28	26	12	0	291	350	641
11:00-12:00	221	257	3	5	44	45	21	21	2	0	291	328	619
12:00-13:00	305	314	8	8	57	54	17	21	0	0	387	397	784
13:00-14:00	282	277	4	5	52	53	21	16	0	5	359	356	715
14:00-15:00	236	256	2	2	49	51	22	20	0	10	309	339	648
15:00-16:00	416	269	5	4	55	56	18	20	0	35	494	384	878
16:00-17:00	454	304	5	9	47	45	21	21	0	0	527	379	906
17:00-18:00	650	299	8	13	43	48	20	22	0	0	721	382	1103
18:00-19:00	680	314	0	6	45	46	23	19	24	0	772	385	1157
19:00-20:00	502	238	-	-	53	56	26	19	0	0	581	313	894
20:00-21:00	299	175	-	-	45	48	24	18	0	20	368	261	629
							** Not part of this application*						

18.4.4.3 Vehicle Trip Generation

Assuming a 20% car mode share applied to the people trips in Table 18.6 (which is the mode share target for the proposed Project), the weekday daily vehicle trip generation potential of the proposed Project (all land uses) is outlined in Table 18.7, below. This is also based on the intention that 75% of the trips associated with the crèche will be internal from the residential elements of the proposed Project or accessed on foot / bicycle from nearby areas.

Table 18.7: Total Weekday Daily Vehicle Trip Generation

Time Period	Arrivals	Departures	Two-way
07:00-08:00	39	130	170
08:00-09:00	**73**	**183**	**256**
09:00-10:00	101	102	203
10:00-11:00	81	80	161
11:00-12:00	70	76	146
12:00-13:00	86	90	176
13:00-14:00	80	81	161
14:00-15:00	70	82	153
15:00-16:00	103	113	216
16:00-17:00	110	88	199
17:00-18:00	146	93	239
18:00-19:00	**170**	**86**	**256**
19:00-20:00	119	68	187
20:00-21:00	80	74	155

Table 18.7 demonstrates that the proposed Project is expected to generate in the region of 73 arrivals and 183 departures (256 two-way trips) by car in the AM peak hour period between 08:00 and 09:00. In the PM peak hour period between 18:00 and 19:00, in the region of 170 arrivals and 86 departures (256 two-way trips) can be expected by car.

18.4.4.4 Trip Distribution

Overview

As discussed in Section 18.1, the primary vehicular access point will be from Clonliffe Road. Secondary vehicular access will be from Drumcondra Road Lower and only a small proportion of vehicles will utilise this access to reach the residential element of the development. Specifically, 73% of vehicle trips have been allocated to the Clonliffe Road access and the remaining 27% allocated to the Drumcondra Road Lower access. This was calculated using local flows to calculate the likely direction of travel and assigning the movements to the most appropriate access point – taking cognisance of the limitations of a left-in left-out arrangement at Drumcondra Road Lower.

Clonliffe Road Access

The vehicle trip distribution of development trips arriving and departing via the Clonliffe Road Access has been calculated based on the proportion of existing movements at the junction (based on survey data undertaken in February 2020, i.e. pre Covid-19 affecting local travel behaviour). The predicted distribution during the AM and PM peak periods is demonstrated by Figures 18.12 and 18.13, respectively. This distribution has informed the traffic modelling assessment, of which further details are provided later in this section.

Figure 18.12: AM Vehicle Trip Distribution at Clonliffe Road Access

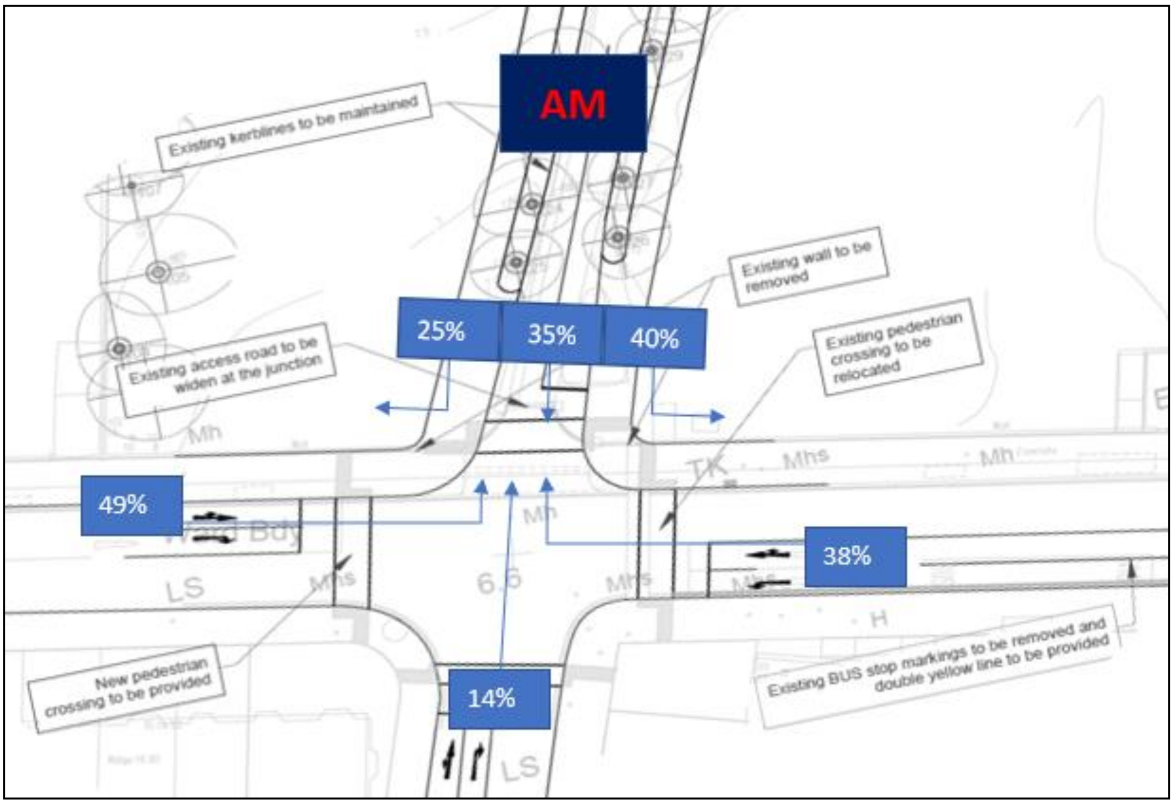
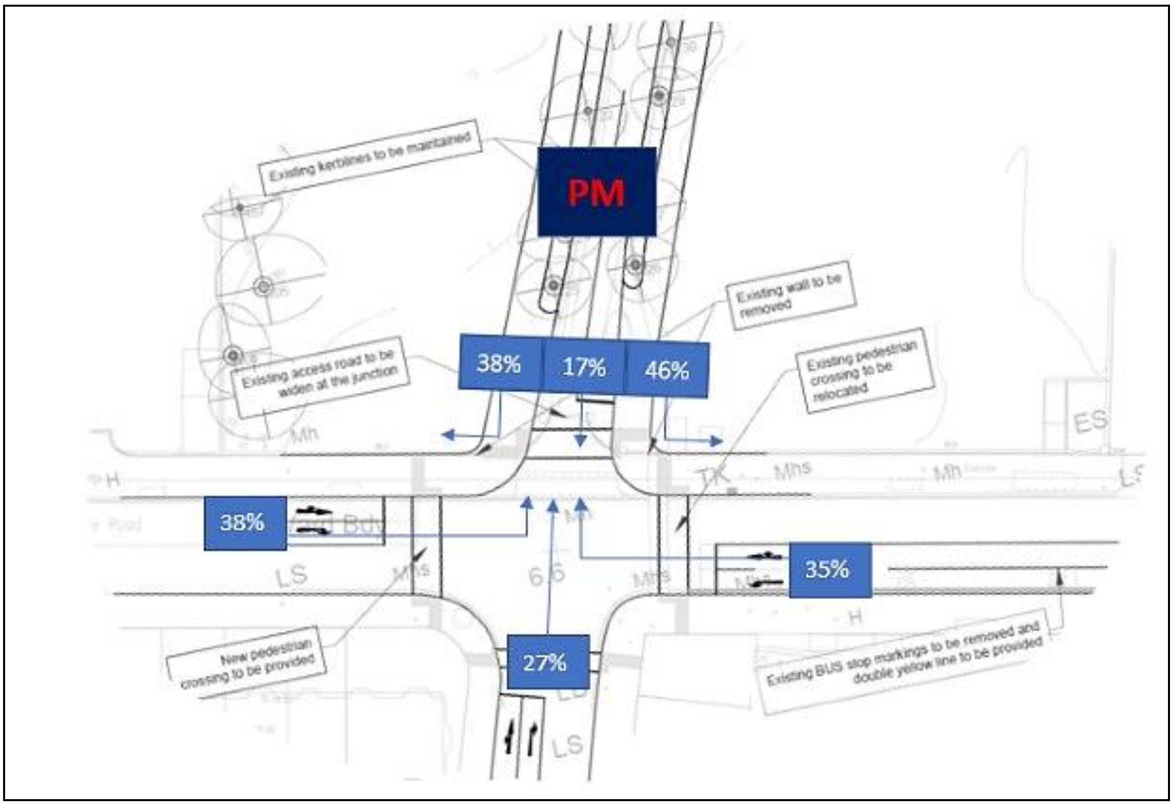


Figure 18.13: PM Vehicle Trip Distribution at Clonliffe Road Access



In the AM peak period, it is assumed that approximately 40% of vehicles departing the Site of the proposed Project will turn left, 35% of vehicle go straight ahead, while 25% of which turn right.

In the same period, it is assumed that 49% of vehicles arriving at the Site will approach from the west along Clonliffe Road, 38% from the east along Clonliffe Road, and 14% from the south along Jones's Road (any variances are due to rounding).

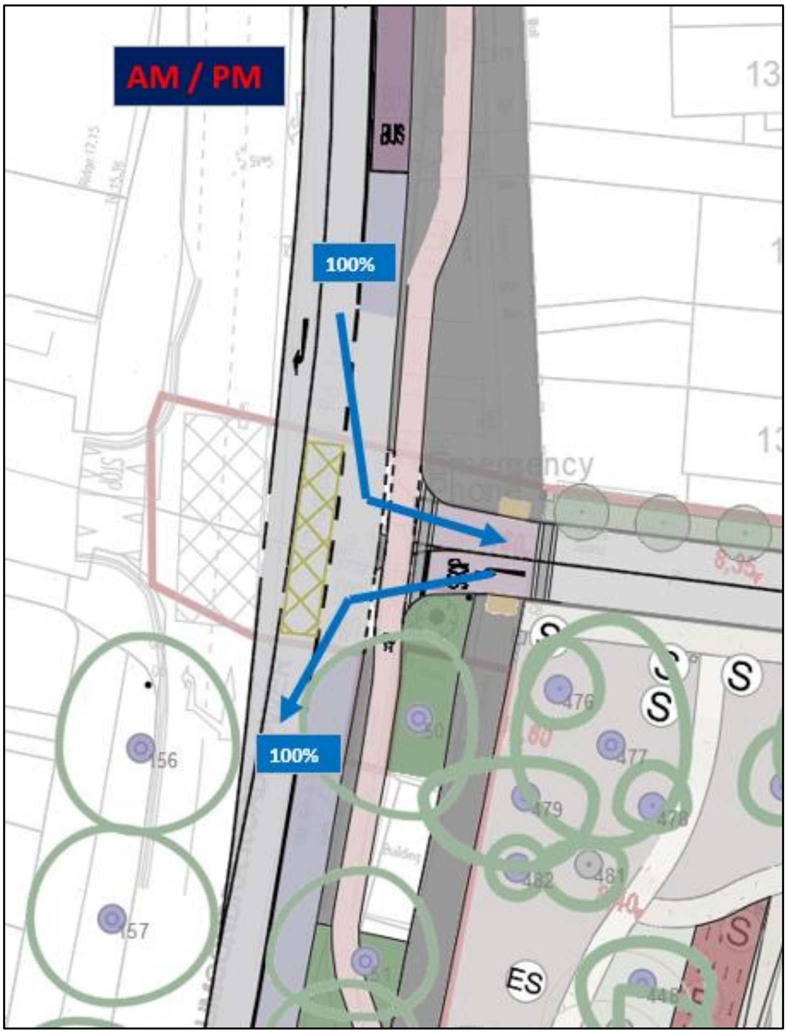
In the PM peak period, it is assumed that approximately 46% of vehicles departing the Site will turn left, 17% will route straight ahead, and 38% will turn right.

In the same period, it is assumed that 38% of vehicles arriving at the development will approach from the west along Clonliffe Road, 35% from the east along Clonliffe Road, and 27% from the south along Jones's Road (any variances are due to rounding).

Drumcondra Road Lower Access

Given that the Drumcondra Road access will be a left-in / left-out arrangement, this dictates the vehicle trip distribution at this junction. As mentioned, only a small proportion of vehicles will utilise this access to reach the residential element of the development (estimated 27%). The vehicles using this access will enter the site from Drumcondra Road Lower North and will leave the site to Drumcondra Road Lower South, as shown schematically on Figure 18.14

Figure 18.14: AM and PM Vehicle Trip Distribution at Drumcondra Access



Development Contribution

The contribution of the proposed Project to traffic flows along each link and through each junction has been estimated for the locations indicated on the map in Figure 18.14.

The development contribution to the future year link flows for the AM and PM Peak periods are provided below in Tables 18.8 and 18.9, respectively, for the locations outlined. As shown, the contribution of the proposed Project to overall traffic is low in both peaks with the highest contribution at 10.2% along Jones's Road, south of the proposed Project, in the evening peak. Based on the criteria outlined this will have a moderate effect on this link. It is noted that Jones's Road is a minor road with a low level of traffic. All other links show an effect falling into either the imperceptible, not significant or slight categories. The contribution on most links is less than 5% of total hourly traffic volumes in both peak periods, which will have a ***not significant*** impact on the local road network.

Figure 18.14: Development Contribution Locations[53]

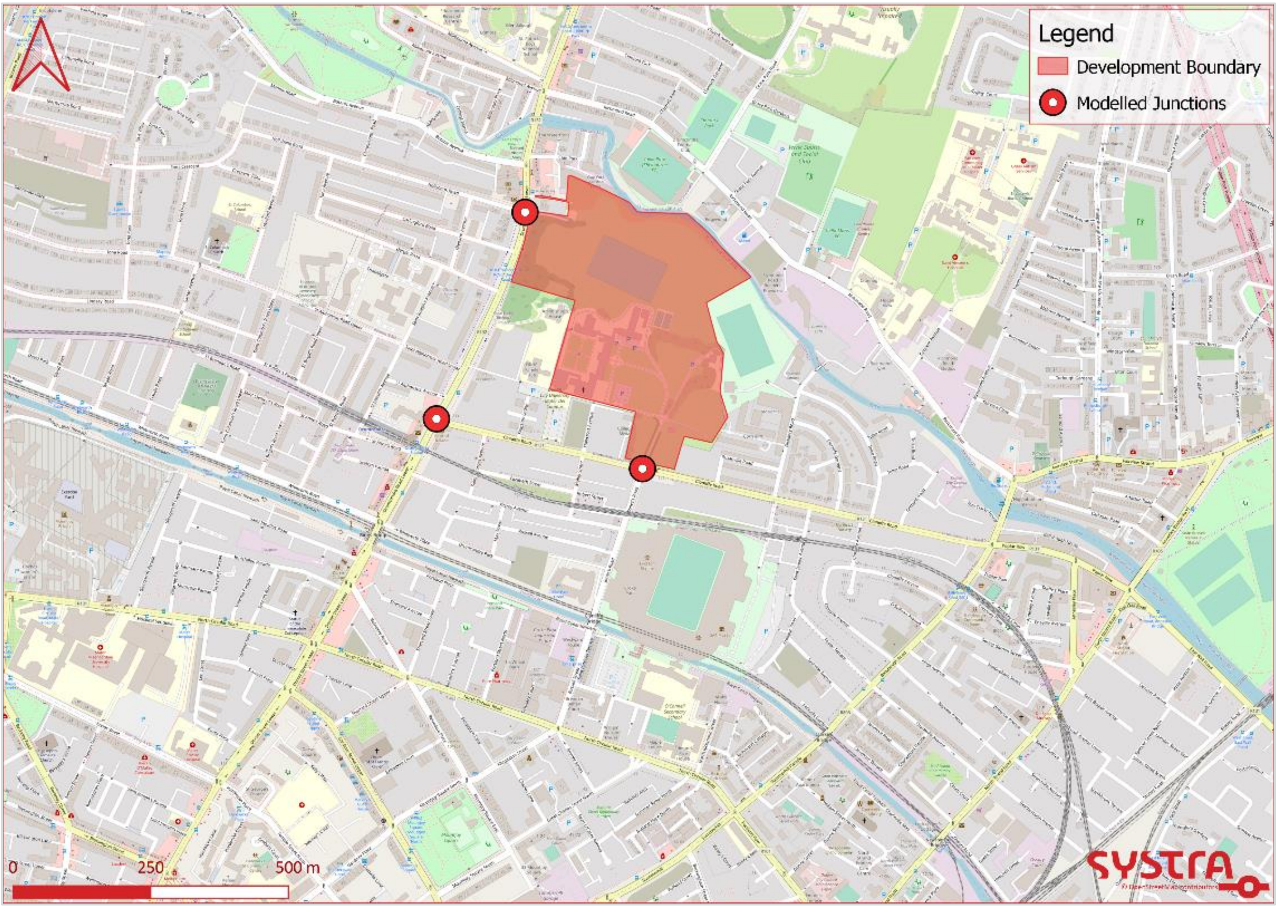


Table 18.8: AM Peak Selected Link Flows – Development Contribution

Location	Base 2020	AM - Do Minimum Flows		Development Flows	Development Contribution	
		2025	2040		2025	2040
Drumcondra Road Lower, section between Botanic Avenue and Hollybank Road	2204	2381	2601	35	1.5%	1.4%
Drumcondra Road Lower, section between Hollybank Road and St Alphonsus' Road Upper	2152	2335	2550	65	2.8%	2.6%
Drumcondra Road Lower, section between St Alphonsus' Road Upper and Clonliffe Road	2363	2562	2889	67	2.6%	2.3%
Drumcondra Road Lower, section between Clonliffe Road and Whitworth Road	2314	2509	2829	92	3.6%	3.2%
Clonliffe Road, section between Drumcondra Road Lower and Jones' Road	883	958	1080	60	6.2%	5.5%
Clonliffe Road, section between Jones' Road and Ballybough Road	1018	1104	1244	74	6.7%	5.9%
Jones Road & Russell Street, section between Clonliffe Road and North Circular Road	550	596	672	54	9.0%	8.0%

Table 18.9: PM Peak Selected Link Flows – Development Contribution

Location	Base 2020	PM - Do Minimum Flows		Development Flows	Development Contribution	
		2025	2040		2025	2040
Drumcondra Road Lower, section between Botanic Avenue and Hollybank Road	1928	2082	2275	57	2.7%	2.5%
Drumcondra Road Lower, section between Hollybank Road and St Alphonsus' Road Upper	1865	2014	2201	35	1.7%	1.6%
Drumcondra Road Lower, section between St Alphonsus' Road Upper and Clonliffe Road	2068	2242	2528	36	1.6%	1.4%
Drumcondra Road Lower, section between Clonliffe Road and Whitworth Road	2116	2294	2586	82	3.6%	3.2%
Clonliffe Road, section between Drumcondra Road Lower and Jones' Road	745	808	911	71	8.8%	7.8%
Clonliffe Road, section between Jones' Road and Ballybough Road	856	928	1047	72	7.8%	6.9%
Jones Road & Russell Street, section between Clonliffe Road and North Circular Road	393	426	480	44	10.2%	9.1%

18.4.4.5 Modelling Results

Clonliffe Road / Primary Development Access / Jones's Road 4-arm Signalised Junction

The assessment of the primary access junction has been undertaken using the LinSig modelling software package. The analysis results for the operation of the junction during the AM and PM peak periods in each scenario are shown in Table 18.10.

Table 18.10: LinSig Results – Primary Development Access Junction

Movement	AM		PM	
	DoS*	MMQ†	DoS*	MMQ†
2020 Base				
Jones' Rd Left Right Ahead	48.2 : 48.2%	3.0	48.2 : 48.2%	3.6
Clonliffe Rd (East) Ahead Left Right	70.2 : 70.2%	9.1	71.6 : 71.6%	8.5
Clonliffe Rd (West) Ahead Right Left	65.2 : 65.2%	9.8	59.0 : 59.0%	7.8
Access Rd Right Left Ahead	-	-	-	-
Overall PRC‡	28.2%		25.6%	
Projected 2025 Base				
Jones' Rd Left Right Ahead	54.6 : 54.6%	3.4	47.5 : 47.5%	3.8
Clonliffe Rd (East) Ahead Left Right	44.7 : 44.7%	4.0	45.4 : 45.4%	5.2
Clonliffe Rd (West) Ahead Right Left	54.2 : 54.2%	7.5	48.3 : 48.3%	7.0
Access Rd Right Left Ahead	-	-	-	-
Overall PRC‡	64.7%		86.2%	
2025 Base + Proposed Project				
Jones' Rd Left Right Ahead	60.0 : 60.0%	3.4	55.6 : 55.6%	4.1
Clonliffe Rd (East) Ahead Left Right	59.2 : 59.2%	6.5	57.4 : 57.4%	7.1
Clonliffe Rd (West) Ahead Right Left	60.2 : 60.2%	9.2	48.4 : 48.4%	7.3
Access Rd Right Left Ahead	51.5%	3.2	23.0%	1.3
Overall PRC‡	49.4%		56.9%	
Projected 2040 Base				
Jones' Rd Left Right Ahead	61.5 : 61.5%	3.9	53.4 : 53.4%	4.4
Clonliffe Rd (East) Ahead Left Right	50.5 : 50.5%	4.7	51.1 : 51.1%	6.0
Clonliffe Rd (West) Ahead Right Left	61.0 : 61.0%	9.5	54.4 : 54.4%	8.3
Overall PRC‡	46.3%		65.4%	
2040 Base + Proposed Project				
Jones' Rd Left Right Ahead	70.3 : 70.3%	4.2	64.4 : 64.4%	4.9
Clonliffe Rd (East) Ahead Left Right	70.4 : 70.4%	8.2	65.5 : 65.5%	8.4
Clonliffe Rd (West) Ahead Right Left	66.3 : 66.3%	11.2	52.8 : 52.8%	8.4
Access Rd Right Left Ahead	61.5%	3.6	27.0%	1.3
Overall PRC‡	27.8%		37.4%	
* Degree of Saturation † Mean Maximum Queue ‡ Practical Reserve Capacity				

The results of the LinSig modelling assessment demonstrate that the junction operates within practical capacity in all scenarios. In the 2020 AM and PM base scenarios (without development traffic), the PRC of the junction as a whole is 28.2% and 25.6%, respectively, which leaves sufficient capacity to accommodate trips associated with the proposed Project. The overall delay is 10.7 PCU/hr in the AM and 9.9 PCU/hr in the PM, which is a minimal amount of delay.

When Project traffic is added in the projected 2025 opening year scenario, the PRC of the junction as a whole is 49.4% and 56.9% in the AM and PM peak periods, respectively. The overall delay increases slightly from the 2020 base scenario to 16.4 PCU/hr in the AM and 11.6 PCU/hr in the PM, which is an increase of 5.7 PCU/hr and 1.7 PCU/hr, respectively.

The results demonstrate that the proposed Project access arm of the junction will operate comfortably within its practical capacity in all future year scenarios, with a maximum degree of saturation in the 2040 AM Base with development scenario of 66.6%. In this scenario, the overall PRC of the junction is 27.8%. Therefore, the junction as a whole operates within capacity.

Drumcondra Road / Clonliffe Road 3-arm Signalised Junction

The assessment of the Drumcondra Road / Clonliffe Road junction has been undertaken using LinSig, and the analysis results for the operation of the junction during the AM and PM peak periods in each scenario are shown in Table 18.11.

Table 18.11: LinSig Results – Drumcondra Road / Clonliffe Road Junction

Movement	AM		PM	
	DoS*	MMQ†	DoS*	MMQ†
2020 Base				
Drumcondra Road (South) Ahead	74.6%	20.7	57.7%	12.7
Drumcondra Road (South) Right Ahead	63.1%	8.3	57.8 : 57.6%	10.3
Clonliffe Rd (West) Left Right	73.4% : 73.4%	6.4	61.8 : 61.8%	6.2
Drumcondra Road (North) Left Ahead	73.2% : 73.2%	16.4	61.1 : 61.1%	11.6
Drumcondra Road (North) Ahead	65.4%	17.7	52.6%	12.1
Overall PRC‡	20.7%		45.7%	
Projected 2025 Base				
Drumcondra Road (South) Ahead	54.9%	13.9	43.3%	9.8
Drumcondra Road (South) Right Ahead	88.1 : 88.1%	27.7	63.2 : 63.2%	13.5
Clonliffe Rd (West) Left Right	89.1 : 89.1%	10.1	72.4 : 72.4%	9.1
Drumcondra Road (North) Left Ahead	87.7 : 87.7%	11.4	71.9 : 71.9%	14.2
Drumcondra Road (North) Ahead	33.4%	6.5	48.6%	10.7
Overall PRC‡	1.0%		24.3%	
2025 Base + Proposed Project				
Drumcondra Road (South) Ahead	35.3%	7.1	50.4%	10.9
Drumcondra Road (South) Right Ahead	93.1%	14.1	75.2%	15.9
Clonliffe Rd (West) Left Right	93.3 : 93.3%	14.9	75.4 : 75.4%	10.0
Drumcondra Road (North) Left Ahead	93.1 : 93.1%	32.5	74.8 : 74.8%	17.1
Drumcondra Road (North) Ahead	57.6%	14.6	49.7%	11.4
Overall PRC‡	-3.7%		19.3%	
* Degree of Saturation † Mean Maximum Queue ‡ Practical Reserve Capacity				

The results demonstrate that all arms of the junction currently operate within practical capacity during the 2020 Base AM and PM scenarios. The highest Degree of Saturation (DoS) is found on the Drumcondra Road South arm for the ahead movement in the AM at 74.6% and an associated MMQ of 20.7 PCUs. The overall PRC of the junction is 20.7% in the AM and 45.7% in the PM. The total traffic delay is 24.66 PCU/hr and 20.6 PCU/hr in the AM and PM peak periods, respectively. Therefore, the junction operates within practical capacity.

The results indicate that the junction continues to operate within its practical capacity in the projected 2025 opening year scenario without Project traffic. When Project traffic is added, the Drumcondra Road North arm (ahead and left-turn movements), the Clonliffe Road arm, the Drumcondra Road North arm and the Drumcondra Road South arm for the right-turn and ahead movements show a DoS of above 93%, exceeding the practical capacity of these arms / lanes by 3%. However, this remains within the theoretical capacity of the junction, and the increase in MMQ reported is minimal. Between the projected 2025 base and 2025 base with Project scenarios, the MMQ on the worst affected arm (Clonliffe Road) only increases by 4.8 PCU/hr, which is a relatively small amount. It is therefore not considered that infrastructural improvements are necessary to address this anticipated small change in the operation of the junction.

Representative modelling results in the 2040 base and 2040 base with Project scenarios are not available for this junction. This is because the planned Bus Connects Core Bus Corridor (CBC) No. 2, 'A Spine Route', which will run between Swords and the City Centre, and which will have a major impact on the capacity of this junction, precluded the possibility of any meaningful traffic modelling for this junction. The Bus Connects proposals involve the reallocation of carriageway space to accommodate dedicated bus lanes and cycle lanes along Drumcondra Road, which will reduce the number of lanes for general traffic. This will result in the junction operating over capacity in the 2040 Base and 2040 Base plus proposed Project scenarios. However, it should be noted that the Bus Connects scheme aims to see a significant modal shift from car-based modes to public transport use and cycling. It is considered that this modal shift will mitigate against the impacts of the Bus Connects scheme on the operation of the junction such that no further infrastructural improvements at this junction will be required to support the proposed Project.

Drumcondra Road / Secondary Development Access / Hollybank Road 4-arm Priority Junction

The assessment of the secondary access junction has been undertaken using the VISSIM modelling software package. The analysis results for the operation of the junction during the AM and PM peak periods in each scenario are shown in Table 18.12.

Table 18.12 indicates that in the 2025 base scenario, the longest queues are experienced on the Hollybank Road arm with a 72 m long queue and associated delay is 22 seconds in the AM. The results demonstrate that with development traffic, the queue length remains the same in the 2025 base plus Project scenario and the delay is only marginally increased (by one second). In the PM scenario, delays do not exceed 14 seconds in the 2025 base plus Project scenario, which is a negligible increase from the base scenario.

Similarly, in the 2040 base and 2040 base plus Project scenarios, the difference is negligible; queue lengths are only increased by 1 – 2 m and delays by one second with the addition of development traffic. It is, therefore, considered that no further improvement measures are required at this junction to support the proposed Project.

Table 18.12: VISSIM Results – Secondary Development Access Junction

Movement From	Movement To	AM		PM	
		Max. Queue (m)	Delay (s)	Max. Queue (m)	Delay (s)
2025 Base					
Drumcondra Road South	Hollybank Rd	2	3.0	22	3.0
	Drumcondra Rd N	1	0.0	14	0.0
Hollybank Road	Drumcondra Rd N	72	18.0	27	10.0
	Drumcondra Rd S	71	22.0	25	13.0
Drumcondra Road North	Development	37	1.0	44	1.0
	Hollybank Rd	37	0.0	44	0.0
	Drumcondra Rd S	13	4.0	11	3.0
Site of Proposed Project	Drumcondra Rd S	0	0.0	0	0.0
2025 Base + Proposed Project					
Drumcondra Road South	Hollybank Rd	3	3.0	22	3.0
	Drumcondra Rd N	2	0.0	14	0.0
Hollybank Road	Drumcondra Rd N	72	19.0	26	10.0
	Drumcondra Rd S	71	23.0	25	14.0
Drumcondra Road North	Development	37	2.0	48	2.0
	Hollybank Rd	37	1.0	48	1.0
	Drumcondra Rd S	23	3.0	21	3.0
Site of Proposed Project	Drumcondra Rd S	13	9.0	11	9.0
2040 Base					
Drumcondra Road South	Hollybank Rd	17	3.0	9	3.0
	Drumcondra Rd N	11	1.0	5	1.0
Hollybank Road	Drumcondra Rd N	86	30.0	28	11.0
	Drumcondra Rd S	85	38.0	27	18.0
Drumcondra Road North	Development	13	1.0	4	1.0
	Hollybank Rd	13	0.0	4	0.0
	Drumcondra Rd S	12	4.0	15	3.0
Site of Proposed Project	Drumcondra Rd S	0	0.0	0	0.0
2040 Base + Proposed Project					
Drumcondra Road South	Hollybank Rd	16	3.0	9	3.0
	Drumcondra Rd N	11	1.0	5	1.0
Hollybank Road	Drumcondra Rd N	87	31.0	28	10.0
	Drumcondra Rd S	86	37.0	26	17.0
Drumcondra Road North	Development	9	1.0	3	1.0
	Hollybank Rd	9	0.0	3	0.0
	Drumcondra Rd S	14	4.0	12	3.0
Site of Proposed Project	Drumcondra Rd S	13	9.0	11	9.0

18.4.4.6 Internal Road Network / Public Realm Improvements

As detailed in Chapter 5 (Description of the Proposed Project), the proposal includes a network of internal roads and public realm areas that will promote and prioritise walking and cycling and will prohibit through-traffic for non-residents. This is expected to result in a ***slight, positive, local and long-term*** impact on pedestrians and cyclists during the operational phase.

18.5 Mitigation Measures

18.5.1 Mitigation by Design

There are a number of measures which have been included from the outset in the design of the proposed Project to reduce any potential negative impacts on the local transport network arising from additional traffic generated during the construction and operational phases. The most significant of these measures is the parking ratio of 0.3 car parking spaces per residential unit, compared with 1.3 bicycle parking spaces per unit. This has been factored into the assessment herein.

The car parking ratio is significantly below the maximum standard of 1 per unit, as set out in the Dublin City Development Plan (2016 – 2022), and results in a significantly lower number of car trips generated. The Development Plan's standard for cycle parking allocation is 1 per unit, lower than the proposed ratio of 1.3. The additional cycle spaces provided should allow more residents to travel sustainably by bicycle rather than private car. In addition, there are a number of on-site facilities which will to a certain degree negate the need for external travel, including outdoor exercise areas, residential amenity areas, a shop and a crèche.

The proposed Project's public realm and internal road network have also been designed to limit the impact of traffic on the local road network. The routes through the site will be delivered as shared streets and mature tree-lined paths, interwoven with footpaths and green links, to ensure a pleasant and safe environment for walking and cycling. It will not be possible for car traffic to cut through the development from Drumcondra Road to Clonliffe Road, to ensure internal streets are as calm as possible.

The internal network has been designed to limit car speeds and promote the priority of walking and cycling. Facilitating walking and cycling forms a key part of the Mobility Management Plan for the Site which is achieved by the access strategy, including the number of pedestrian and cycle only entrances.

18.5.2 Construction Phase

A preliminary Construction Management Plan (CMP) has been developed for the proposed Project and submitted as part of this application under separate cover. The CMP measures shall include the following:

- Construction Site personnel shall be encouraged to arrive before 7:30 and leave after 18:00.
- Limited parking shall be provided on site for staff (to minimise overspill onto surrounding network) but the majority of Site personnel will be required to arrive via public transport, walking, cycling or other alternative to private car.
- A Traffic Management Coordinator (TMC) and Community Liaison Officer (CLO) shall be appointed for the duration of the construction phase (can be same person).
- A Construction Travel Plan shall be developed by appointed Contractor, addressing access to / from the Site for construction personnel and detailing how more sustainable mobility modes (e.g. carpooling, public transport use, walking and cycling) will be promoted, and individual private car use minimised, among construction personnel.
- Bike parking shall be provided on-site, and area(s) shall be made available allowing for the storage and drying of cycling gear.
- Haulage routes to / from Site shall be along designated HGV routes agreed with DCC.
- Wheel wash facilities shall be provided to minimise track-out onto surrounding road network.

- Road cleaning and sweeping shall be carried out, as needed, along section of South Circular Road adjacent to the Site.
- Construction signage shall be erected at all entrances and exits.
- HGVs carrying soil shall be fully sheeted.
- HGVs shall be inspected for dirt and mud before exiting onto the public road network.
- A good practice construction material management protocol shall be implemented, controlling the timing of deliveries.
- Entrances and exits to the Site shall be manned by flag men during deliveries.

The implementation and monitoring of the CMP will be managed by the appointed Construction Manager.

18.5.3 Operational Phase

The principal mitigation measure during the operational phase will be the implementation of the Mobility Management Plan (MMP), submitted as part of this application under separate cover, which is intended to reduce the need for car travel among on-site residents and workers during the operational phase. The measures included in the MMP shall address (but not be limited to) the following topics:

- Appointment of a Mobility Manger;
- Welcome travel pack to be provided to new residents and workers; with details of local transport network, maps of local amenities, details of on-site facilities, incentivises for sustainable travel (taster tickets) and initial subsidised use of Car Club;
- Marketing and travel information and personalised travel planning to be provided by Mobility Manager;
- Walking and cycling challenges and relevant promotional events; and
- Details of 20 on-site GoCars exclusively for the use of residents.

18.6 Residual Impacts

18.6.1 Demolition & Construction Phase

The residual impact of the construction phase of the proposed Project in terms of traffic and transport will be ***negative, not significant, local and short-term***. The measures outlined in Section 18.5.2 will help alleviate the impact of the additional traffic and limit the impact to outside the busier peak hours. The measures, including wheel washing and dust mitigation, will also ensure the standard of the public road network is maintained in terms of dust and dirt from construction traffic.

18.6.2 Operational Phase

With the mitigation measures in place, the residual impacts of the proposed Project on traffic will be ***negative, not significant, local and a long-term*** impact on road users due to additional traffic on the local road network. In terms of walking and cycling a slight, positive, local and long-term impact will occur due to the provision of an internal road network / public realm that is highly permeable and safe for these users. The proposed Project Site is ideally situated to have a very low car mode share and, with the supporting measures identified in the MMP in place, car traffic may be lower than that assumed in the modelling assessment. However, even with a higher car mode share modelled, the residual impact will be slight. The delays for traffic on the local network are generally minor with no significant delays modelled as result of the additional traffic flows.

18.6.3 Summary

Table 18.13 summarises the predicted residual effects on traffic and transport during the demolition and construction phase of the proposed Project.

Table 18.13: Summary of Residual Demolition & Construction Phase Effects on Traffic & Transport

Effect	Quality	Significance	Extent	Probability	Duration	Type
Additional construction traffic from proposed Project	Negative	Not significant	Local	Likely	Short-term	Direct

Table 18.14 summarises the predicted residual effects during the operational phase of the proposed Project.

Table 18.14: Summary of Residual Operational Phase Effects on Traffic & Transport

Effect	Quality	Significance	Extent	Probability	Duration	Type
Additional traffic volumes from proposed Project	Negative	Not Significant	Local	Likely	Long-Term	Direct
Additional traffic volumes from Masterplan (Hotel and GAA pitches/clubhouse)	Negative	Not Significant	Local	Likely	Long-Term	Cumulative
Improved pedestrian and cycling connectivity due to internal road network / public realm.	Positive	Slight	Local	Likely	Long-Term	Direct

18.7 Monitoring

18.7.1 Demolition & Construction Phase

The construction phase will be monitored by the appointed Site Manager and regular progress reports will be prepared. The Site Manager will ensure the mitigation measures outlined above are implemented and adhered to.

18.7.2 Operational Phase

A Mobility Manager will be appointed from within the management company to ensure the implementation of the Mobility Management Plan, as detailed in Section 18.5.3, above. They will also be responsible for the undertaking of travel surveys of residents and workers and act as a point of contact for residents for all mobility and access related issues.

18.8 Cumulative Impacts

As indicated in Section 18.4.4.2, the Transport Assessment considers the trip generation potential of the wider Masterplan site, including the trip generation of the GAA pitches/clubhouse, and the 200 bedroom hotel. The traffic generated by the wider masterplan is considered as cumulative impact.

Table 18.15: Summary of Cumulative Impacts on Traffic & Transport

Effect	Quality	Significance	Extent	Probability	Duration	Type
Additional traffic volumes from Masterplan (Hotel and GAA pitches/clubhouse)	Negative	Not Significant	Local	Likely	Long-Term	Cumulative

18.9 Difficulties Encountered in Compiling this Chapter

The GAA design team have provided initial drawings of the surface car parking for visitors of the future proposed GAA pitches / clubhouse, which includes 48 no. car parking spaces and 2 no. coach set down spaces. However, final drawings indicating the internal car parking layout and the tie-in with the proposed Project's internal road network have not been finalised at the time of preparing this Chapter. Notwithstanding this, the anticipated number of car parking spaces has been included in the overall trip generation for the Masterplan. Furthermore, it is anticipated that any potential modification to the GAA surface car parking design will be minor and will not have an impact on the overall conclusions of the transport assessment.

18.10 Conclusion

In conclusion, the residual impact of the construction phase of the proposed Project in terms of traffic and transport will be ***negative, not significant, local and short-term***.

During the operational phase, the residual traffic impacts on the surrounding network as a result of the development at the Holy Cross College Lands will be ***negative, not significant, local and a long-term*** impact on road users due to additional traffic on the local road network. This is a result of the highly accessible nature of the site by walking, cycling and public transport and the sustainable parking strategy proposed. The car mode share for the site is expected to be less than 20% as a result of the site's location and proximity to faster and more sustainable modes. In addition, a number of supporting measures have been identified to further decrease the number of car trips and thus lessen the impact on the wider network. These include car sharing, increased cycle parking, subsidised travel/sustainable travel incentives, personalised travel planning and appointment of an on-site mobility manager.

In terms of walking and cycling ***a slight, positive, local and long-term*** impact will occur due to the provision of an internal road network / public realm that is highly permeable and safe for these users.

18.11 References

- Department of Housing, Planning & Local Government & Department of Transport (2013). *Design Manual for Urban Roads and Streets.*
- Transport Infrastructure Ireland (TII) (2014). *Traffic and Transport Assessment Guidelines*.
- TII (2016). *Project Appraisal Guidelines for National Roads Unit 5.3 - Travel Demand Projections.*
- TII (2016). *Project Appraisal Guidelines for National Roads Unit 5.1- Construction of Transport Models.*
- Dublin City Council (2016). *Dublin City Development Plan 2016 – 2022.*
- EPA (2017). *Guidelines on the Information to be contained in Environmental Impact Assessment Reports.*
- IEMA (2003). *Guidelines for the Environmental Assessment of Road Traffic.*

19 Material Assets – Waste

19.1 Introduction

This Chapter of the EIAR comprises an assessment of the likely impact of the proposed Project on the waste generated from the development as well as identifying proposed mitigation measures to minimise any associated impacts.

This Chapter was prepared by Chonaill Bradley of AWN Consulting. Chonaill Bradley is a Senior Environmental Consultant in the Environment Team at AWN. He holds a BSc in Environmental Science. He is an Associate Member of the Institute of Waste Management (CIWM). Chonaill has over seven years' experience in the environmental consultancy sector.

A site-specific Construction and Demolition Waste Management Plan (C&D WMP) has been prepared by AWN Consulting Ltd to deal with waste generation during the demolition, excavation and construction phases of the proposed Project and has been included as Appendix 19.1. The C&D WMP was prepared in accordance with the *'Best Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects'* document produced by the National Construction and Demolition Waste Council (NCDWC) in conjunction with the Department of the Environment, Heritage and Local Government in July 2006.

A separate Operational Waste Management Plan (OWMP) has also been prepared for the operational phase of the proposed Project and is included as Appendix 19.2 of this Chapter.

These documents will ensure the sustainable management of wastes arising at the Project Site in accordance with legislative requirements and best practice standards.

19.2 Methodology

The assessment of the impacts of the proposed Project, arising from the consumption of resources and the generation of waste materials, was carried out taking into account the methodology specified in relevant guidance documents, along with an extensive document review to assist in identifying current and future requirements for waste management; including national and regional waste policy, waste strategies, management plans, legislative requirements and relevant reports. A summary of the documents reviewed, and the relevant legislation is provided in the C&D WMP and in the OWMP provided in Appendices 19.1 and 19.2.

This Chapter is based on the proposed Project, as described in Chapter 5 (Description of the Proposed Project) and considers the following aspects:

- Legislative context;
- Construction phase (including demolition, site preparation and excavation); and
- Operational phase.

A desktop study was carried out which included the following:

- Review of applicable policy and legislation which creates the legal framework for resource and waste management in Ireland;
- Description of the typical waste materials that will be generated during the Construction and Operational phases; and
- Identification of mitigation measures to prevent waste generation and promote management of waste in accordance with the waste hierarchy.

Estimates of waste generation during the construction and operational phases of the proposed Project have been calculated. The waste types and estimated quantities are based on published data by the EPA in the *National Waste Reports and National Waste Statistics*, data recorded from similar previous developments, Irish and US EPA waste generation research as well as other available research sources.

Predicted impacts in relation to waste management have been characterised herein in accordance with the definitions set out in Table 3.3 of the EPA 2017 *Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports*.

Mitigation measures are proposed to minimise the effect of the proposed Project on the environment during the construction and operational phases, to promote efficient waste segregation and to reduce the quantity of waste requiring disposal. This information is presented in Section 19.5.

A detailed review of the existing ground conditions on a regional, local and site-specific scale are presented in Chapter 9 of this EIAR (Land, Soils, Geology and Hydrogeology). Chapter 9 also discusses the environmental quality of any soils which will have to be excavated to facilitate construction of the proposed Project.

19.2.1 Legislation and Guidance

Waste management in Ireland is subject to EU, national and regional waste legislation, which defines how waste materials must be managed, transported and treated. The overarching EU legislation is the Waste Framework Directive (2008/98/EC) which is transposed into national legislation in Ireland. The cornerstone of Irish waste legislation is the Waste Management Act 1996 (as amended). European and national waste management policy is based on the concept of 'waste hierarchy', which sets out an order of preference for managing waste (prevention > preparing for reuse > recycling > recovery > disposal) (Figure 19.1).

Figure 19.1: Waste Hierarchy (Source: European Commission)

The Irish government issues policy documents which outline measures to improve waste management practices in Ireland and help the country to achieve EU targets in respect of recycling and disposal of waste. The most recent policy document, *Waste Action Plan for a Circular Economy – Waste Management Policy in Ireland*, was published in 2020 and shifts focus away from waste disposal and moves it back up the production chain. The move away from targeting national waste targets is due to the Irish and international waste context changing in the years since the launch of the previous waste management plan, *A Resource Opportunity,* in 2012. The need to embed climate action in all strands of public policy aligns with the goals of the European Green Deal.

The strategy for the management of waste from the construction phase is in line with the requirements of the *Best Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects*, published by the Department of Environment, Heritage and Local Government (DoEHLG) in 2006. The guidance document, *Construction and Demolition Waste Management: A Handbook for Contractors and Site Managers* (FÁS & Construction Industry Federation, 2002), was also consulted in the preparation of this assessment.

There are currently no Irish guidelines on the assessment of operational waste generation, and guidance is taken from industry guidelines, plans and reports including the *Eastern-Midlands Region (EMR) Waste Management Plan 2015 – 2021*, *BS 5906:2005 Waste Management in Buildings – Code of Practice*, the Dublin City Council (DCC) Waste Management (Storage, Presentation and Segregation of Household and Commercial Waste) Bye-Laws 2018, the EPA National Waste Database Reports 1998 – 2018 and the EPA National Waste Statistics Web Resource.

19.2.2 Terminology

Note that the terminology used herein is generally consistent with the definitions set out in Article 3 of the Waste Framework Directive. Key terms are defined as follows:

Waste - Any substance or object which the holder discards or intends or is required to discard.

Prevention - Measures taken before a substance, material or product has become waste, that reduce:

a) the quantity of waste, including through the re-use of products or the extension of the life span of products;
b) the adverse impacts of the generated waste on the environment and human health; or
c) the content of harmful substances in materials and products.

Reuse - Any operation by which products or components that are not waste are used again for the same purpose for which they were conceived.

Preparing for Reuse - Checking, cleaning or repairing recovery operations, by which products or components of products that have become waste are prepared so that they can be re-used without any other pre-processing.

Treatment - Recovery or disposal operations, including preparation prior to recovery or disposal.

Recovery - Any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy. Annex II of the Waste Framework Directive sets out a non-exhaustive list of recovery operations.

Recycling - Any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations.

Disposal - Any operation which is not recovery even where the operation has as a secondary consequence the reclamation of substances or energy. Annex I sets out a non-exhaustive list of disposal operations.

19.3 Baseline Environment

A detailed description of the proposed Project is provided in Chapter 5 (Description of the Proposed Project).

In terms of waste management, the receiving environment is largely defined by DCC as the local authority responsible for setting and administering waste management activities in the area. This is governed by the requirements set out in the *EMR Waste Management Plan 2015 – 2021*, which sets out the following targets for waste management in the region:

- A 1% reduction per annum in the quantity of household waste generated per capita over the period of the plan;
- Achieve a recycling rate of 50% of managed municipal waste by 2020; and
- Reduce to 0% the direct disposal of unprocessed residual municipal waste to landfill (from 2016 onwards) in favour of higher value pre-treatment processes and indigenous recovery practices.

The Regional Plan sets a specific target for C&D waste of "*70% preparing for reuse, recycling and other recovery of construction and demolition waste*" (excluding natural soils and stones and hazardous wastes) to be achieved by 2020.

The National Waste Statistics update published by the EPA in August 2020 identifies that Ireland's current progress against this C&D waste target is at 77% and our progress against 'Preparing for reuse and recycling of 50% by weight of household derived paper, metal, plastic & glass (includes metal and plastic estimates from household WEEE)' is at 51%. Both of these targets are required to be met by 12 December 2020 in accordance with the requirements of the Waste Framework Directive; however, the EPA are yet to confirm that these were met.

The Dublin City Development Plan 2016 – 2022 also sets policies and objectives for the DCC area which reflect those set out in the regional waste management plan.

In terms of physical waste infrastructure, DCC no longer operates any municipal waste landfill in the area. There are a number of waste permitted and licensed facilities located in the Eastern-Midlands Waste Region for management of waste from the construction industry as well as municipal sources. These include soil recovery facilities, inert C&D waste facilities, hazardous waste treatment facilities, municipal waste landfills, material recovery facilities, waste transfer stations and two waste-to-energy facilities.

19.3.1 Characteristics of the Proposed Project

A full description of the proposed Project can be found in Chapter 5 (Description of the Proposed Project). The characteristics of the proposed Project that are relevant in terms of waste management are summarised below.

19.3.1.1 Demolition Phase

There will be a quantity of waste materials generated from the demolition of some of the existing buildings and hardstanding areas on site, as well as from the excavation of the building foundations.

Further detail on the waste materials likely to be generated during the demolition works are presented in the project-specific C&D WMP in Appendix 19.1. The C&D WMP provides an estimate of the main waste types likely to be generated during the C&D phase of the proposed Project. The reuse, recycling / recovery and disposal rates have been estimated using the EPA National Waste Reports and these are summarised in Table 19.1.

Table 19.1: Estimated off-site Reuse, Recycle and Disposal Rates for Demolition Waste

Waste Type	Tonnes	Reuse		Recycle / Recovery		Disposal	
		%	Tonnes	%	Tonnes	%	Tonnes
Glass	324.0	0	0.0	85	275.4	15	48.6
Concrete, Bricks, Tiles, Ceramics	1836.0	30	550.8	65	1193.4	5	91.8
Plasterboard	144.0	30	43.2	60	86.4	10	14.4
Asphalts	36.0	0	0.0	25	9.0	75	27.0
Metals	540.0	5	27.0	80	432.0	15	81.0
Slate	288.0	0	0.0	85	244.8	15	43.2
Timber	432.0	10	43.2	60	259.2	30	129.6
Asbestos	5.0	0	0.0	0	0.0	100	5.0
Total	3605.0		664.2		2500.2		440.6

19.3.1.2 Construction Phase

During the construction phase, waste will be produced from surplus materials such as broken or off-cuts of timber, plasterboard, concrete, tiles, bricks, etc. Waste from packaging (cardboard, plastic, timber) and oversupply of materials may also be generated. The appointed Contractor will be required to ensure that oversupply of materials is kept to a minimum and opportunities for reuse of suitable materials is maximised.

In addition, topsoil, subsoil, clay and made ground will require excavation to facilitate site levelling, construction of foundations, along with the installation of underground services. The Project Quantity Surveyors (Linesite) have estimated that c. 100,000 m^3 of material will require excavation. It is envisaged that the majority of this material will be removed off-site in with only c. 30,000 m^3 of material expected to be kept for on-site reuse. These estimates will be refined prior to commencement of construction.

If the material that requires removal from Site is deemed to be a waste, removal and reuse / recycling / recovery / disposal of the material will be carried out in accordance with the Waste Management Act 1996 (as amended), the Waste Management (Collection Permit) Regulations 2007 (as amended) and the Waste Management (Facility Permit & Registration) Regulations 2007 (as amended). The volume of waste requiring recovery / disposal will dictate whether a Certificate of Registration (COR), permit or licence is required for the receiving facility. Alternatively, the material may be classed as by-product under Article 27 classification (European Communities (Waste Directive) Regulations 2011, S.I. No. 126 of 2011). For more information in relation to the envisaged management of by-products, refer to the C&D WMP (Appendix 19.1).

In order to establish the appropriate reuse, recovery and / or disposal route for the soils and stones to be removed off-site, it will first need to be classified. Waste material will initially need to be classified as hazardous or non-hazardous in accordance with the EPA publication *Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous* (2019). Environmental soil analysis will be carried out prior to removal of the material on a number of the soil samples in accordance with the requirements for acceptance of waste at landfills (Council Decision 2003/33/EC Waste Acceptance Criteria). This legislation sets limit values on landfills for acceptance of waste material based on properties of the waste, including potential pollutant concentrations and leachability. It is anticipated that the surplus material will be suitable for acceptance at either inert or non-hazardous soil recovery facilities / landfills in Ireland or, in the unlikely event of hazardous material being encountered, be transported for treatment / recovery or exported abroad for disposal in suitable facilities.

Waste will also be generated from construction phase workers e.g. organic / food waste, dry mixed recyclables (waste paper, newspaper, plastic bottles, packaging, aluminium cans, tins and Tetra Pak cartons), mixed non-recyclables and, potentially, sewage sludge from temporary welfare facilities provided on-site during the Construction phase. Waste printer / toner cartridges, waste electrical and electronic equipment (WEEE) and waste batteries may also be generated in small volumes from site offices.

Further detail on the waste materials likely to be generated during the excavation and construction works are presented in the project-specific C&D WMP (Appendix 19.1). The C&D WMP provides an estimate of the main waste types likely to be generated during the Construction phase of the proposed Project. These are summarised in Table 19.2.

Table 19.2: Estimated off-site Reuse, Recycle and Disposal Rates for Construction Waste

Waste Type	Tonnes	Reuse		Recycle / Recovery		Disposal	
		%	Tonnes	%	Tonnes	%	Tonnes
Mixed C&D	2261.8	10	226.2	80	1809.4	10	226.2
Timber	1919.1	40	767.6	55	1055.5	5	96.0
Plasterboard	685.4	30	205.6	60	411.2	10	68.5
Metals	548.3	5	27.4	90	493.5	5	27.4
Concrete	411.2	30	123.4	65	267.3	5	20.6
Other	1028.1	20	205.6	60	616.8	20	205.6
Total	6853.8		1555.8		4653.8		644.3

19.3.1.3 Operational Phase

As noted in Section 19.1, an OWMP has been prepared for the proposed Project and is included as Appendix 19.2. The OWMP provides a strategy for segregation (at source), storage and collection of all wastes generated within the building during the operational phase including dry mixed recyclables (DMR), organic waste and mixed non-recyclable waste (MNR), as well as providing a strategy for management of waste glass, batteries, WEEE, printer / toner cartridges, chemicals, textiles, waste cooking oil and furniture.

The total estimated waste generation for the proposed Project for the main waste types, based on the AWN waste generation model (WGM), is presented in Table 19.3, below, and is based on the uses and areas as advised by the Project Architects. Further unit breakdowns can be found in Appendix 19.2.

Table 19.3: Estimated Waste Generation During Operational Phase

Waste Type	Waste Volume (m^3/week)	
	Residential Units (Combined)	Commercial Units (Combined)
Organic Waste	21.61	0.17
DMR	158.30	4.01
Glass	4.18	0.08
MNR	87.73	1.85
Total	**259.43**	**6.12**

The residents and tenants will be required to provide and maintain appropriate waste receptacles within their units to facilitate segregation at source of these waste types. The location of the bins within the units will be at the discretion of the residents. As required, the residents and tenants will need to bring these segregated wastes from their units to their allocated Waste Storage Areas (WSAs). WSAs can be viewed on the plans submitted with the application under separate cover.

The OWMP seeks to ensure that the proposed Project contributes to the targets outlined in the *EMR Waste Management Plan 2015 – 2021* and the DCC (Storage, Presentation and Segregation of Household and Commercial Waste) Bye-Laws 2018.

Mitigation measures proposed to manage impacts arising from wastes generated during the operational phase of the proposed Project are summarised below.

19.4 Predicted Impacts of the Proposed Project

This section details the potential waste effects associated with the proposed Project.

19.4.1 Construction Phase

The proposed Project will generate a range of non-hazardous and hazardous waste materials during site demolition, excavation and construction. General housekeeping and packaging will also generate waste materials, as well as typical municipal wastes generated by construction employees, including food waste. Waste materials will be required to be temporarily stored on-site pending collection by a waste contractor. If waste material is not managed and stored correctly, it is likely to lead to litter or pollution issues at the Project Site and in adjacent areas. The indirect effect of litter issues is the presence of vermin in areas affected. In the absence of mitigation, the effect on the local and regional environment is likely to be ***short-term, significant*** and ***negative***.

The use of non-permitted waste contractors or unauthorised waste facilities will give rise to inappropriate management of waste, resulting in indirect negative environmental impacts, including pollution. It is essential that all waste materials are dealt with in accordance with regional and national legislation, as outlined previously, and that time and resources are dedicated to ensuring efficient waste management practices. In the absence of mitigation, the effect on the local and regional environment is likely to be ***Long-term, significant*** and ***negative***.

Wastes arising will need to be taken to suitably registered / permitted / licenced waste facilities for processing and segregation, reuse, recycling, recovery, and / or disposal, as appropriate. There are numerous licensed waste facilities in the EMR which can accept hazardous and non-hazardous waste materials, and acceptance of waste from the Project Site would be in line with daily activities at these facilities. At present, there is sufficient capacity for the acceptance of the likely C&D waste arisings at facilities in the region. The majority of construction materials are either recyclable or recoverable. However, in the absence of mitigation, the effect on the local and regional environment is likely to be ***short-term, significant*** and ***negative***.

There is a quantity of excavated material which will need to be excavated to facilitate the proposed Project. A detailed review of the existing ground conditions on a regional, local site-specific scale are presented in Chapter 9. It is anticipated that c. 70,000 m^3 of excavated material will need to be removed off-site, however it is envisaged that c. 30,000 m^3 tonnes of excavated material will be reused on-site. Correct classification and segregation of the excavated material is required to ensure that any potentially contaminated materials are identified and handled in a way that will not impact negatively on workers as well as on water and soil environments, both on and off-site. However, in the absence of mitigation, the effect on the local and regional environment is likely to be ***short-term, significant*** and ***negative***.

19.4.2 Operational Phase

The potential impacts on the environment of improper, or a lack of, waste management during the operational phase would be a diversion from the priorities of the waste hierarchy which would lead to small volumes of waste being sent unnecessarily to landfill. In the absence of mitigation, the effect on the local and regional environment is likely to be ***Long-term, significant*** and ***negative***.

The nature of the development means the generation of waste materials during the operational phase is unavoidable. Networks of waste collection, treatment, recovery and disposal infrastructure are in place in the region to manage waste efficiently from this type of development. Waste which is not suitable for recycling is typically sent for energy recovery. There are also facilities in the region for segregation of municipal recyclables which is typically exported for conversion in recycled products (e.g. paper mills and glass recycling).

If waste material is not managed and stored correctly, it is likely to lead to litter or pollution issues at the Project Site and in adjacent areas. The knock-on effect of litter issues is the presence of vermin in affected areas. However, in the absence of mitigation, the effect on the local and regional environment is likely to be ***Short-term, significant*** and ***negative***.

Waste contractors will be required to service the proposed Project on a regular basis to remove waste. The use of non-permitted waste contractors or unauthorised facilities will give rise to inappropriate management of waste and result in negative environmental impacts or pollution. It is essential that all waste materials are dealt with in accordance with regional and national legislation, as outlined previously, and that time and resources are dedicated to ensuring efficient waste management practices. However, in the absence of mitigation, the effect on the local and regional environment is likely to be ***Long-term, significant*** and ***negative***.

19.4.3 Do Nothing Scenario

If the proposed Project was not to go ahead (i.e. in the Do-Nothing scenario) there would be no demolition, excavation or construction or operational waste generated at this Site. There would, therefore, be a *neutral* effect on the environment in terms of waste.

19.5 Mitigation Measures

This section outlines the measures that will be employed in order to reduce the amount of waste produced, manage the wastes generated responsibly and handle the waste in such a manner as to minimise the effects on the environment.

19.5.1 Construction Phase

The following mitigation measures will be implemented during the construction phase of the proposed Project:

As previously stated, a project specific C&D WMP has been prepared in line with the requirements of the requirements of the *Best Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects* (DoEHLG, 2006), and is included as Appendix 19.1. Adherence to the high-level strategy presented in this C&D WMP will ensure effective waste management and minimisation, reuse, recycling, recovery and disposal of waste material generated during the demolition, excavation and construction phases of the proposed Project.

- Prior to commencement, the appointed Contractor(s) will be required to refine / update the C&D WMP (Appendix 19.1) in agreement with DCC, or submit an addendum to the C&D WMP to DCC, detailing specific measures to minimise waste generation and resource consumption, and provide details of the proposed waste contractors and destinations of each waste stream.
- The Contractor will be required to fully implement the C&D WMP throughout the duration of the proposed construction and demolition phases.

A quantity of topsoil, sub soil, clay and made ground which will need to be excavated to facilitate the proposed Project. Project Engineers have estimated that c. 70,000 m^3 of excavated material will need to be removed off-site, however it is envisaged that c. 30,000 m^3 excavated material will be reused on-site. Correct classification and segregation of the excavated material is required to ensure that any potentially contaminated materials are identified and handled in a way that will not impact negatively on workers as well as on water and soil environments, both on and off-site.

In addition, the following mitigation measures will be implemented:

- Building materials will be chosen with an aim to 'design out waste';
- On-site segregation of waste materials will be carried out to increase opportunities for off-site reuse, recycling and recovery. The following waste types, at a minimum, will be segregated:
    - Concrete rubble (including ceramics, tiles and bricks);
    - Plasterboard;
    - Metals;
    - Glass; and
    - Timber.
- Left over materials (e.g. timber off-cuts, broken concrete blocks / bricks) and any suitable construction materials shall be re-used on-site, where possible;
- All waste materials will be stored in skips or other suitable receptacles in designated areas of the site;
- Any hazardous wastes generated (such as chemicals, solvents, glues, fuels, oils) will also be segregated and will be stored in appropriate receptacles (in suitably bunded areas, where required);
- A Waste Manager will be appointed by the main Contractor(s) to ensure effective management of waste during the demolition, excavation and construction works;

- All construction staff will be provided with training regarding the waste management procedures;
- All waste leaving site will be reused, recycled or recovered, where possible, to avoid material designated for disposal;
- All waste leaving the site will be transported by suitably permitted contractors and taken to suitably registered, permitted or licenced facilities; and
- All waste leaving the site will be recorded and copies of relevant documentation maintained.
- Nearby sites requiring clean fill material will be contacted to investigate reuse opportunities for clean and inert material, if required.

These mitigation measures will ensure that the waste arising from the construction phase of the proposed Project is dealt with in compliance with the provisions of the Waste Management Act 1996, as amended, associated Regulations and the Litter Pollution Act 1997, and the *EMR Waste Management Plan 2015 – 2021*. It will also ensure optimum levels of waste reduction, reuse, recycling and recovery are achieved and will promote more sustainable consumption of resources.

19.5.2 Operational Phase

As previously stated, a project specific OWMP has been prepared and is included as Appendix 19.2.

- The Operator / Buildings Manager of the Site during the operational phase will be responsible for ensuring – allocating personnel and resources, as needed – the ongoing implementation of this OWMP, ensuring a high level of recycling, reuse and recovery at the Site of the proposed Project.

In addition, the following mitigation measures will be implemented:

- The Operator / Buildings Manager will ensure on-Site segregation of all waste materials into appropriate categories, including (but not limited to):
  - Organic waste;
  - Dry Mixed Recyclables;
  - Mixed Non-Recyclable Waste;
  - Glass;
  - Waste electrical and electronic equipment (WEEE);
  - Batteries (non-hazardous and hazardous);
  - Cooking oil;
  - Light bulbs;
  - Cleaning chemicals (pesticides, paints, adhesives, resins, detergents, etc.);
  - Furniture (and from time to time other bulky waste);
  - Abandoned bicycles; and
  - Healthcare waste from the medical centre and pharmacy.
- The Operator / Buildings Manager will ensure that all waste materials will be stored in colour coded bins or other suitable receptacles in designated, easily accessible locations. Bins will be clearly identified with the approved waste type to ensure there is no cross contamination of waste materials;
- The Operator / Buildings Manager will ensure that all waste collected from the Site of the proposed Project will be reused, recycled or recovered, where possible, with the exception of those waste streams where appropriate facilities are currently not available; and
- The Operator / Buildings Manager will ensure that all waste leaving the Site will be transported by suitable permitted contractors and taken to suitably registered, permitted or licensed facilities.

These mitigation measures will ensure the waste arising from the proposed Project during the operational phase is dealt with in compliance with the provisions of the Waste Management Act 1996, as amended, associated Regulations, *the Litter Pollution Act 1997*, the *EMR Waste Management Plan 2015 – 2021* and the DCC Waste Management (Storage, Presentation and Segregation of Household and Commercial Waste) Bye-Laws 2018. It will also ensure optimum levels of waste reduction, reuse, recycling and recovery are achieved.

19.6 Residual Impacts

The implementation of the mitigation measures outlined in Section 19.5 will ensure that high rates of waste prevention, reuse, recovery and recycling are achieved at the Site of the proposed Project during the construction and operational phases. It will also ensure that European, National and Regional legislative waste requirements with regard to waste are met and that associated targets for the management of waste are achieved.

19.6.1 Construction Phase

A carefully planned approach to waste management as set out in Section 19.5 and adherence to the C&D WMP during the construction phase will ensure that the effect on the environment will be ***short-term***, ***imperceptible*** and ***neutral***.

19.6.2 Operational Phase

During the operational phase, a structured approach to waste management as set out in Section 19.5 and adherence to the OWMP will promote resource efficiency and waste minimisation. Provided the mitigation measures are implemented and a high rate of reuse, recycling and recovery is achieved, the predicted effect of the operational phase on the environment will be ***long-term, imperceptible*** and ***neutral***.

19.6.3 Conclusion

Assuming the full and proper implementation of the mitigation measures set out herein and in the C&D WMP (Appendix 19.1) and the OWMP (Appendix 19.2), no likely significant negative effects are predicted to occur as a result of the construction or operation of the proposed Project.

19.7 Monitoring

The management of waste during the construction phase will be monitored by the Contactor's appointed Waste Manager to ensure compliance with the above-listed mitigation measures, and relevant waste management legislation and local authority requirements, including maintenance of waste documentation.

The management of waste during the operational phase will be monitored by the Operator / Buildings Manager to ensure effective implementation of the OWMP internally and by the nominated waste contractor(s).

19.7.1 Construction Phase

The objective of setting targets for waste management is only achieved if the actual waste generation volumes are calculated and compared. This is particularly important during the demolition, excavation and construction works, where there is a potential for waste management objectives to become secondary to other objectives, i.e. progress and meeting construction schedule targets. The C&D WMP specifies the need for a Waste Manager to be appointed, who will have responsibility for monitoring the actual waste volumes being generated and ensuring that contractors and sub-contractors are segregating waste as required. Where targets are not being met, the Waste Manager will identify the reasons for this and work to resolve any issues. Recording of waste generation during the construction phase of the proposed Project will enable better management of waste contractor requirements and identify trends. The data should be maintained to advise on future projects.

19.7.2 Operational Phase

During the operational phase, waste generation volumes should be monitored by the Operator / Buildings Manager against the predicted waste volumes outlined in the OWMP. There may be opportunities to reduce the number of bins and equipment required in the WSAs, where estimates have been too conservative. Reductions in bin and equipment requirements will improve efficiency and reduce waste contactor costs.

19.8 Interactions

This section discusses interactions between this Chapter and other specialist environmental topics considered in this EIAR.

19.8.1 Land, Soils, Geology & Hydrogeology

During the construction phase, excavated soil, stone, clay and made ground (c. 100,000 m^3) will be generated from the excavations required to facilitate site levelling, construction of the basements and construction of new foundations. It is estimated that c. 70,000 m^3 of excavated material will need to be removed off-site. However, it is envisaged that c. 30,000 m^3 material will be reused on-site. Where material has to be taken off-site, it will be taken for reuse or recovery, where practical, with disposal as a last resort. Adherence to the mitigation measures in Chapter 19 and the requirements of the C&D WMP (Appendix 19.1), will ensure the effect is ***long-term***, ***imperceptible*** and ***neutral.***

19.8.2 Traffic & Transportation

Local traffic and transportation will be impacted by the additional vehicle movements generated by removal of waste from the Site during the construction and operational phases of the proposed Project. The increase in vehicle movements as a result of waste generated during the construction phase will be *temporary* in duration. There will be an increase in vehicle movements in the area as a result of waste collections during the operational phase but these movement will be imperceptible in the context of the overall traffic and transportation increase. Traffic-related impacts during the construction and operational phases are addressed in Chapter 18 (Traffic and Transportation). Provided the mitigation measures detailed in Chapter 18 and the requirements of the OWMP (included as Appendix 19.2) are adhered to, the predicted effects are ***short to long-term, imperceptible*** and ***neutral***.

19.8.3 Population & Human Health

The potential impacts on human beings are in relation to incorrect management of waste during construction and / or operation, which will result in littering and presence of vermin – with associated negative health and visual impacts on human health and residential amenity. A carefully planned approach to waste management and adherence to the project specific C&D WMP and OWMP (Appendices 19.1 and 19.2, respectively), will ensure appropriate management of waste and avoid any negative impacts on the local population. The effects should be ***long-term***, ***imperceptible*** and ***neutral***.

19.9 Cumulative Impacts

19.9.1 Construction Phase

If multiple permissions remain in place for both residential and commercial developments within the vicinity of the proposed Project. In a worst-case scenario, multiple developments in the area could be developed concurrently or overlap in the construction phase. Due to the high number of waste contractors in the Dublin region there would be sufficient contractors available to handle waste generated from a large number of these sites simultaneously, if required. Similar waste materials would be generated by all the developments.

Other developments in the area will be required to manage waste in compliance with national and local legislation, policies and plans which will mitigate against any potential cumulative effects associated with waste generation and waste management. As such the effect will be ***short-term, not significant*** and ***neutral***.

19.9.2 Operational Phase

There are existing residential and commercial developments close by, along with the multiple permissions remaining in place and the potential for more future development in the area. All of the current and potential developments will generate similar waste types during their operational phases. Authorised waste contractors will be required to collect waste materials segregated, at a minimum, into recyclables, organic waste and non-recyclables. An increased density of development in the area is likely improve the efficiencies of waste collections in the area.

Other developments in the area will be required to manage waste in compliance with national and local legislation, policies and plans which will minimise/mitigate any potential cumulative impacts associated with waste generation and waste management. As such the effect will be a long-term, imperceptible and neutral.

19.10 Summary

The implementation of the mitigation measures outlined in Section 19.5 will ensure that high rates of waste prevention, reuse, recovery and recycling are achieved at the Site of the proposed Project during the construction and operational phases. It will also ensure that European, National and Regional legislative waste requirements with regard to waste are met and that associated targets for the management of waste are achieved.

19.10.1 Construction Phase

A carefully planned approach to waste management as set out in Section 19.5 and adherence to the C&D WMP during the construction phase will ensure that the effect on the environment will be ***short-term***, ***imperceptible*** and ***neutral***.

19.10.2 Operational Phase

During the operational phase, a structured approach to waste management as set out in Section 19.5 and adherence to the OWMP will promote resource efficiency and waste minimisation. Provided the mitigation measures are implemented and a high rate of reuse, recycling and recovery is achieved, the predicted effect of the operational phase on the environment will be ***long-term, imperceptible*** and ***neutral***.

19.10.3 Conclusion

Assuming the full and proper implementation of the mitigation measures set out herein and in the C&D WMP (Appendix 19.1) and the OWMP (Appendix 19.2), no likely significant negative effects are predicted to occur as a result of the construction or operation of the proposed Project.

19.11 References

- Waste Management Act 1996 (No. 10 of 1996) as amended. Sub-ordinate and associated legislation include:
  - European Communities (Waste Directive) Regulations 2011 (S.I. No. 126 of 2011) as amended.
  - Waste Management (Collection Permit) Regulations 2007 (S.I. No. 820 of 2007) as amended.
  - Waste Management (Facility Permit and Registration) Regulations 2007 (S.I No. 821 of 2007) as amended.
  - Waste Management (Licensing) Regulations 2000 (S.I No. 185 of 2000) as amended.
  - European Union (Packaging) Regulations 2014 (S.I. No. 282 of 2014) as amended.
  - Waste Management (Planning) Regulations 1997 (S.I. No. 137 of 1997) as amended.
  - Waste Management (Landfill Levy) Regulations 2015 (S.I. No. 189 of 2015).
  - European Union (Waste Electrical and Electronic Equipment) Regulations 2014 (S.I. No. 149 of 2014).
  - European Union (Batteries and Accumulators) Regulations 2014 (S.I. No. 283 of 2014) as amended.
  - Waste Management (Food Waste) Regulations 2009 (S.I. No. 508 of 2009) as amended.
  - European Union (Household Food Waste and Bio-waste) Regulations 2015 (S.I. No. 191 of 2015).
  - Waste Management (Hazardous Waste) Regulations 1998 (S.I. No. 163 of 1998) as amended.
  - Waste Management (Shipments of Waste) Regulations 2007 (S.I. No. 419 of 2007) as amended.
  - The European Communities (Transfrontier Shipment of Hazardous Waste) Regulations 1988 (S.I. No. 248 of 1988).
  - European Communities (Shipments of Hazardous Waste exclusively within Ireland) Regulations 2011 (S.I. No. 324 of 2011).
  - European Union (Properties of Waste which Render it Hazardous) Regulations 2015 (S.I. No. 233 of 2015) as amended.
- BS 5906:2005 Waste Management in Buildings – Code of Practice.
- Council Decision 2003/33/EC, establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC.
- Department of Communications, Climate Action and Environment (DCCAE), Waste Action Plan for the Circular Economy - Ireland's National Waste Policy 2020-2025 (2020).
- Department of Environment and Local Government (DELG) (1998). *Waste Management – Changing Our Ways, A Policy Statement*.
- Department of Environment, Communities and Local Government (DECLG) (2012*). A Resource Opportunity - Waste Management Policy in Ireland*.
- Dublin City Council (DCC), Dublin City Council Development Plan 2016-2022 (2015)
- DCC, Dublin City Council (Storage, Presentation and Segregation of Household and Commercial Waste) Bye-Laws (2018)
- Department of Environment, Heritage and Local Government (DEHLG) (2020). *Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities.*

- Department of Environment, Heritage and Local Government (DEHLG) (2006). *Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects.*
- Eastern-Midlands Region Waste Management Plan 2015-2021 (2015).
- Environmental Protection Agency (EPA). National Waste Database Reports 1998-2012.
- EPA (2015). *Waste Classification-List of Waste & Determining if Waste is Hazardous or Non-Hazardous*.
- EPA and Galway-Mayo Institute of Technology (GMIT) (2015). *EPA Research Report 146-A Review of Design and Construction Waste Management Practices in Selected Case Studies-Lessons Learned.*
- FÁS and the Construction Industry Federation (CIF) (2002). *Construction and Demolition Waste Management-a handbook for Contractors and Site Managers.*
- Forum for the Construction Industry-Recycling of Construction and Demolition Waste.
- Litter Pollution Act 1997 (S.I. No. 12 of 1997) as amended.
- PDA 2000 (S.I. No. 30 of 2000), as amended.
- Protection of the Environment Act 2003, (No. 27 of 2003) as amended.

20 Material Assets – Services

20.1 Introduction

This Chapter of the EIAR was prepared by Brady Shipman Martin and assesses the potential impacts of the proposed Holy Cross College Strategic Housing Development (SHD) ('the proposed Project' hereafter) on ownership, access and services / utilities infrastructure.

Material assets are resources that are valued and intrinsic to the Site of the proposed Project and the surrounding area. Material assets may be of either natural or human origin and the value may arise for economic or cultural reasons. This Chapter considers and assesses the effects of the proposed Project on the material assets, including the existing major utilities within and around the Site during the construction and operational phases.

In relation to material assets, the EPA 2017 Draft EIAR Guidelines state that:

> *"The meaning of this factor is less clear than others. In Directive 2011/92/EU it included architectural and archaeological heritage. Directive 2014/52/EU includes those heritage aspects as components of cultural heritage. Material assets can now be taken to mean built services and infrastructure. Traffic is included because in effect traffic consumes roads infrastructure. Sealing of agricultural land and effects on mining or quarrying potential come under the factors of land and soils."*

Based on this interpretation of what constitute 'material assets', and considering that impacts on agricultural land are not relevant in this case, impacts on material assets have been assessed throughout this EIAR, but particularly in the following other EIAR Chapters:

Table 20.1 Preceding EIAR Chapters Where Impacts on Material Assets are Assessed

Chapter	Material Asset
Chapter 7 (Population & Human Health)	▪ Community amenities and facilities ▪ Housing
Chapter 9 (Land, Soils, Geology & Hydrogeology)	▪ Quarrying
Chapter 10 (Hydrology)	▪ Water supply infrastructure ▪ Wastewater drainage and treatment infrastructure
Chapter 14 (Cultural Heritage – Architectural Heritage)	▪ Built environment
Chapter 15 (Cultural Heritage – Archaeology)	▪ Built environment
Chapter 18 (Traffic & Transportation)	▪ Transport infrastructure
Chapter 19 (Material Assets – Waste)	▪ Waste management infrastructure

This leaves the following outstanding material assets to be addressed herein:

- Ownership and access;
- Gas supply;
- Electricity supply; and
- Telecommunications and broadband.

Gas supply, electricity supply, telecommunications and broadband infrastructure are referred to collectively as 'services / utilities infrastructure' hereafter.

20.2 Methodology

The potential impacts to material assets as a result of the proposed Project were assessed through a desktop study of available information. The methodology is consistent with the following relevant guidance:

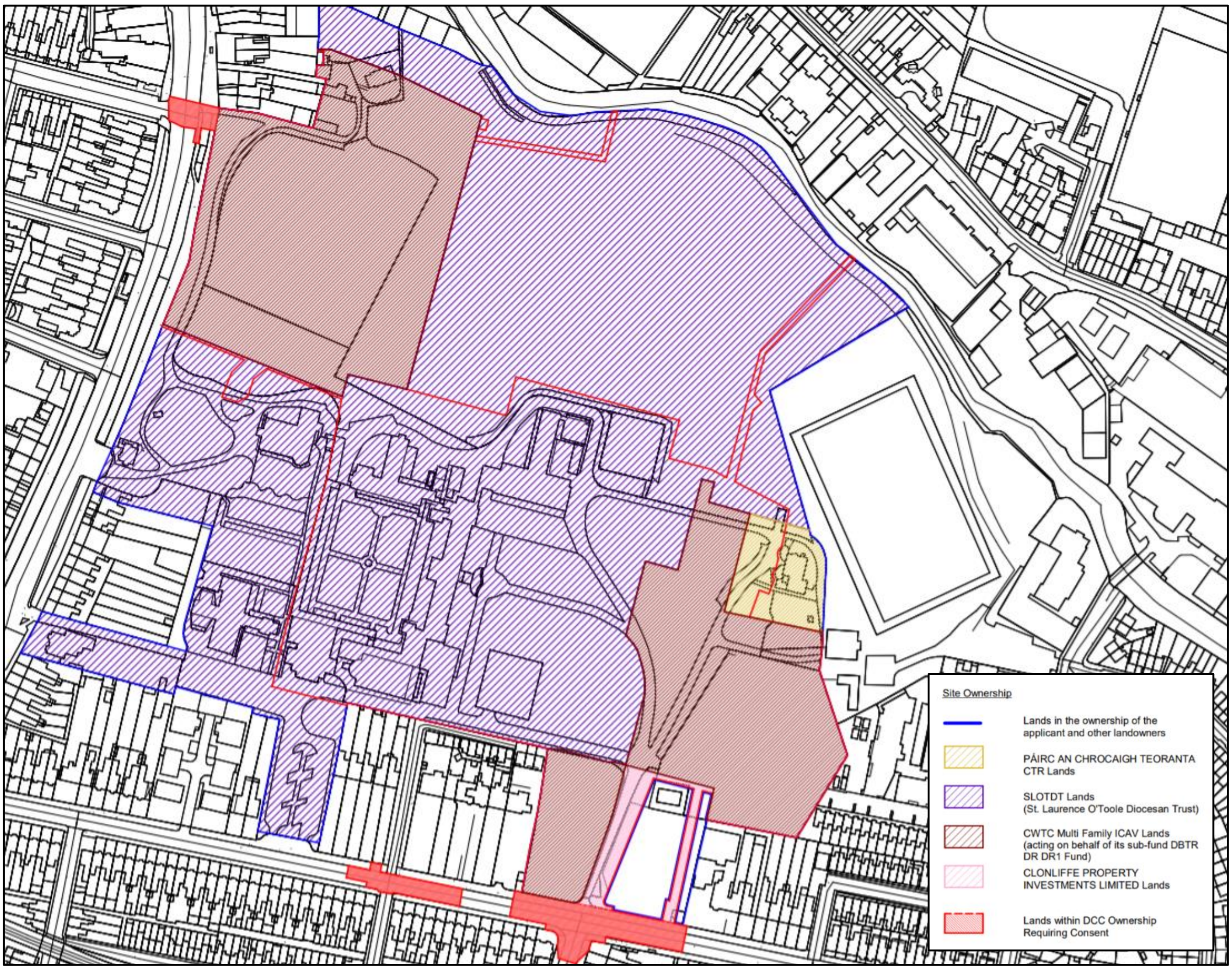
- EPA (2017). *Draft Guidelines on the Information to be Contained in EIARs*;
- EPA (2015). *Draft Advice Notes on Current Practice in the Preparation of Environmental Impact Statements*; and
- National Roads Authority (NRA) (2008). *Environmental Impact Assessment of National Road Schemes - A Practical Guide*.

Receptors were assessed for sensitivity, magnitude and significance to provide an appropriate and adequate assessment of how they could be impacted by the construction and operational phases of the proposed Project. The characteristic of an impact relate to the quality, significance and duration of the impact and are defined in Table 3.3 of the EPA 2017 Draft EIAR Guidelines.

20.3 Baseline Environment

20.3.1 Ownership and Access

Figure 20.1: Land Ownership



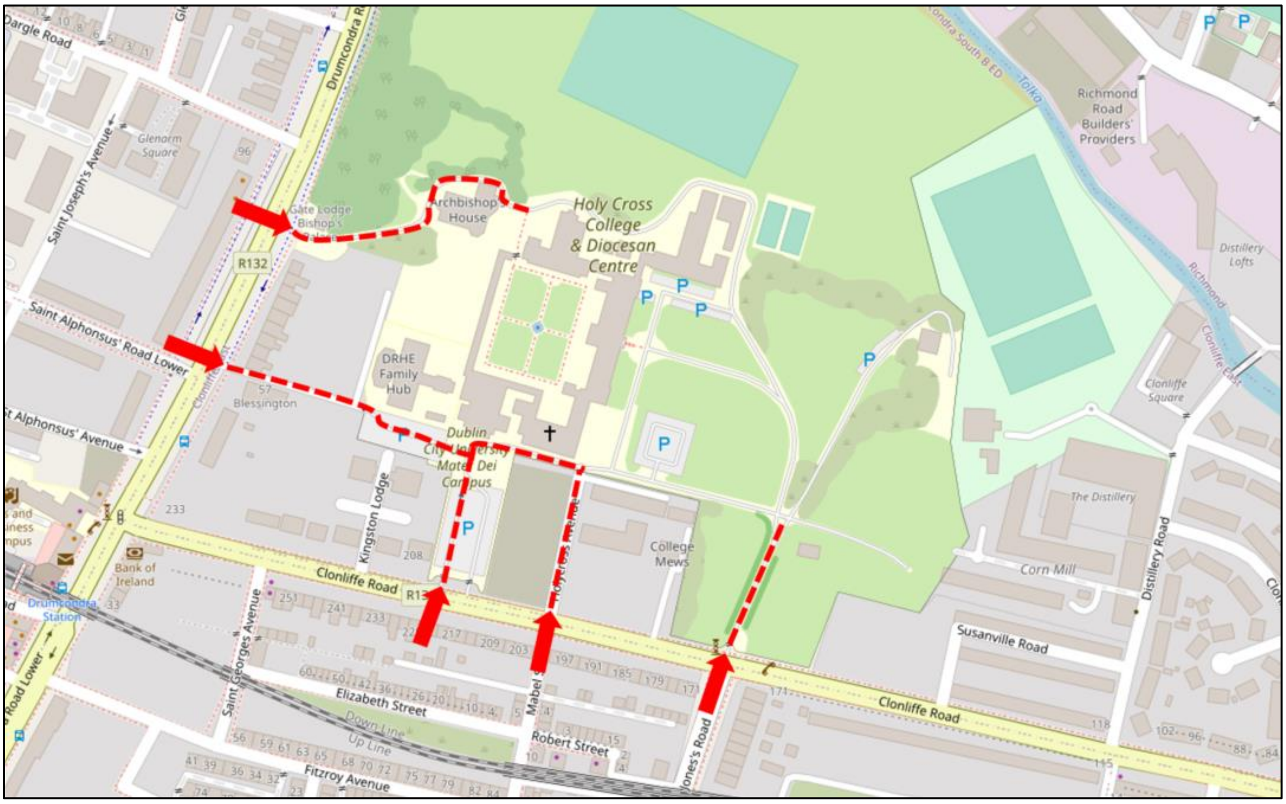
The Holy Cross College Lands were acquired by the Archdiocese in 1859. College facilities were subsequently developed, which housed a seminary for the Catholic Church in Ireland and administration offices for the Archdiocese and various diocesan activities. The seminary ceased operation in 2000 but the buildings still accommodate administration offices for the Archdiocese, the various diocesan activities and offices for some charitable organisations (Crosscare and DePaul). These activities are vacating the properties.

The Archdiocese (St. Laurence O'Toole Diocesan Trust (SLOTDT – labelled 'SLOT' on Figure 20.1, above)) has since entered into an agreement with Cumann Lúthchleas Gael / the Gaelic Athletic Association (GAA) to acquire these lands, who have subsequently entered into an agreement to onward sell these to Hines Real Estate Ireland (through the applicant CWTC Multi Family ICAV acting on behalf of its sub-fund DBTR DR1 Fund). The Archdiocese will retain the Archbishop's House and surrounding lands and lands in the south-west corner of the Holy Cross College property, which includes the Mater Dei building, a Family Hub, and a large surface car park. These lands are included in the wider Masterplan.

The Red House (Dublin City Council Registered Protected Structure Reference Number 1902 and Recorded Monument Ref. No. 018-019) and curtilage is owned by Páirc an Chrócaigh Teoranta Cuideachta Faoi Theorainn Ráthaíochta / GAA as well as the land at the south eastern corner of the Holy Cross College lands which has been subject to an approval by An Bord Pleanála for a 2 to 7 storey 200 room hotel. The land parcel to the north of the Holy Cross College lands, former grass playing pitches, are operated by the GAA and are due to be formally acquired by the GAA from the Archdiocese of Dublin. The GAA plans to build two playing pitches on this land parcel, with a club house and carpark.

The lands are currently accessed via two entrances on Drumcondra Road and three entrances on Clonliffe Road, as illustrated in Figure 20.2, below. It should be noted that, since March 2020, the Project Site has been closed to the public, with restricted access to essential staff and visitors only.

Figure 20.2: Site Access – Existing



20.3.2 Services / Utilities Infrastructure

As expected given the urban location and the ongoing (albeit limited) use of the Site, the Project Site is served by gas, electricity and telecommunications infrastructure, with broadband infrastructure situated in close proximity / at the periphery of the Site but not connected to the Site or its buildings directly. Utilities infrastructure on the Site is less dense than it is in the immediate surrounding areas, because of open nature of the Site, with large undeveloped, greenfield areas and scattered buildings.

Details of the existing electricity, gas, telecommunications and broadband infrastructure have been obtained from the various utility providers / authorities, as illustrated in Figures 20.3 – 20.6, below.

20.3.2.1 Electricity Supply

Figure 20.3: Existing Electricity Supply Infrastructure (Electricity Supply Board, 2020)

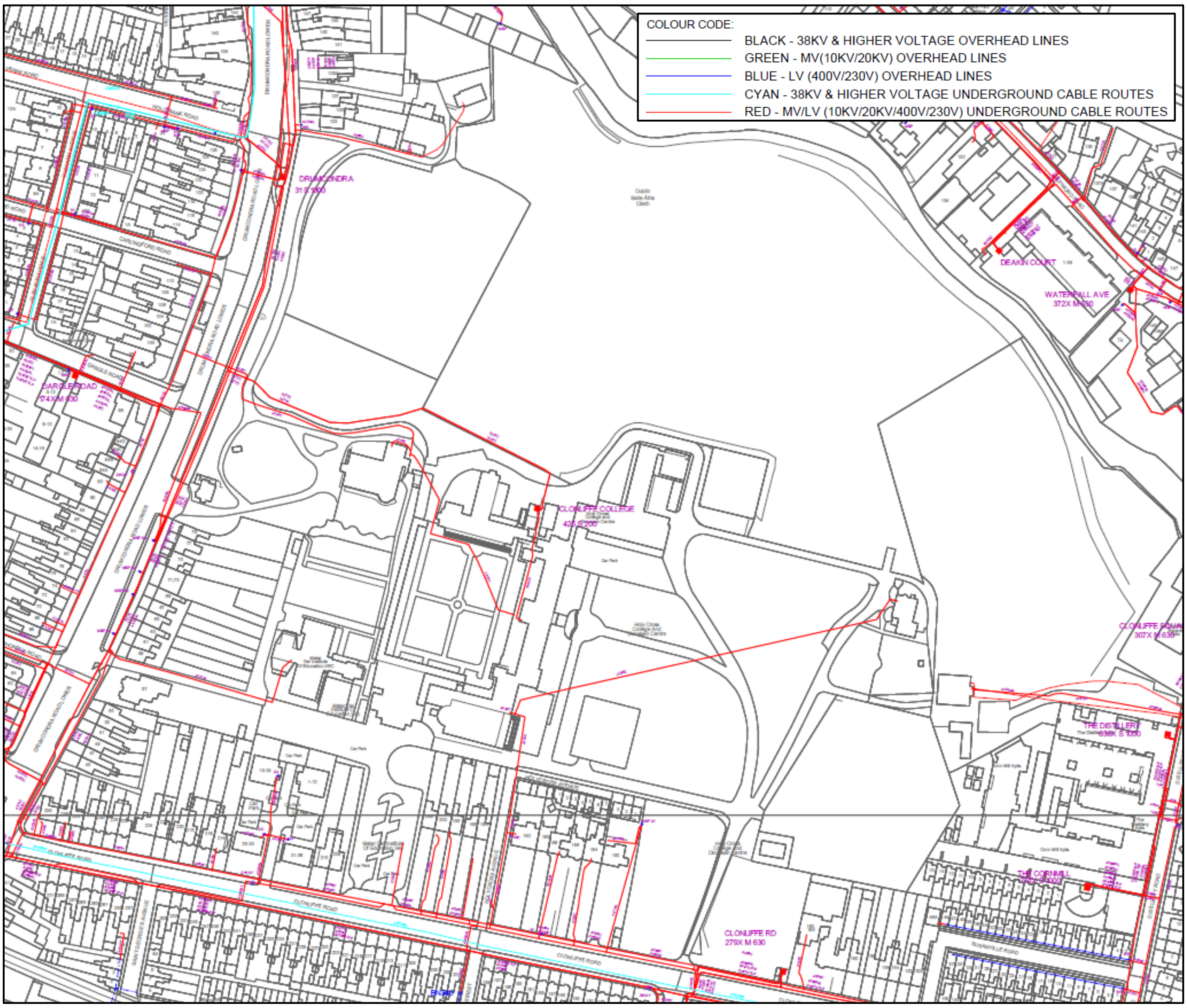
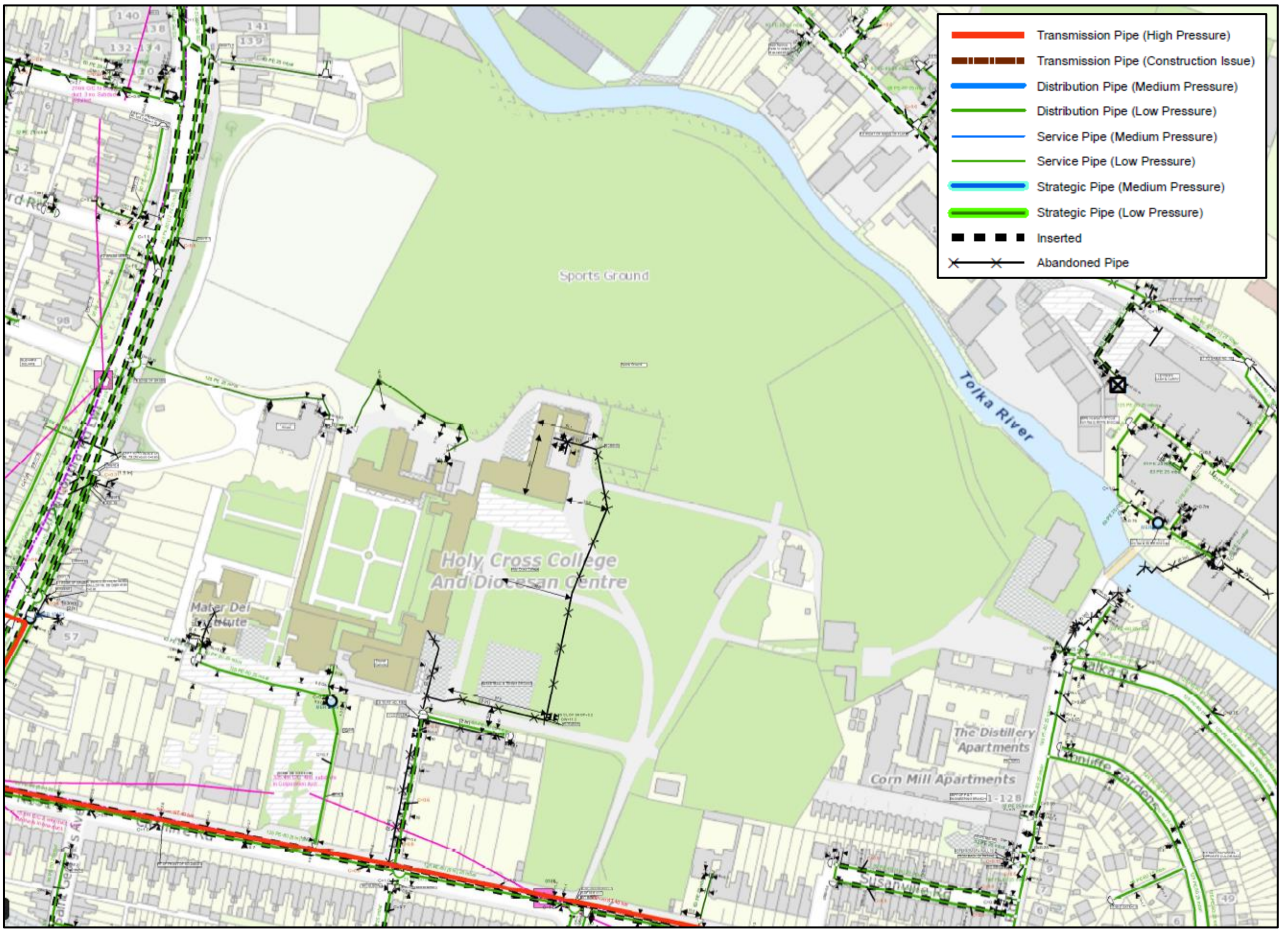


Figure 20.3 shows that the existing buildings on the Site are served by MV / LV underground cables, fed from both the Drumcondra Road and Clonliffe Road. There are also higher voltage (38 KV) cables under Clonliffe Road, where works are proposed. There is an existing oil-filled ESB substation on the Site at present.

20.3.2.2 Gas Supply

Figure 20.4 shows the existing on-Site gas supply infrastructure, as provided by Gas Networks Ireland (GNI). The existing gas infrastructure is comprised of low pressure service pipes and abandoned pipes. The existing live feed enters the Project Site via Drumcondra Road Lower and passes alongside the Archbishop's House and under the gates to the rear of the Palace. The remainder of the on-Site gas infrastructure (marked 'abandoned' on Figure 20.4) has been confirmed to be dead. As shown in Figure 20.4, there is a high pressure (40 bar) GNI transmission main under Clonliffe Road where it passes within the Project boundary.

Figure 20.4: Existing Gas Supply Infrastructure (Gas Networks Ireland, 2020)



20.3.2.3 Telecommunications & Broadband

Figure 20.5, below, shows that the Site is fed telecommunications infrastructure from Drumcondra Road via the Archbishop's House. Figure 20.6 shows the existing broadband infrastructure in the vicinity, as provided by Virgin Media. There is currently no broadband connectivity at the Site.

Figure 20.5: Existing Telecommunications Connection to the Project Site (left: Eir, 2020)

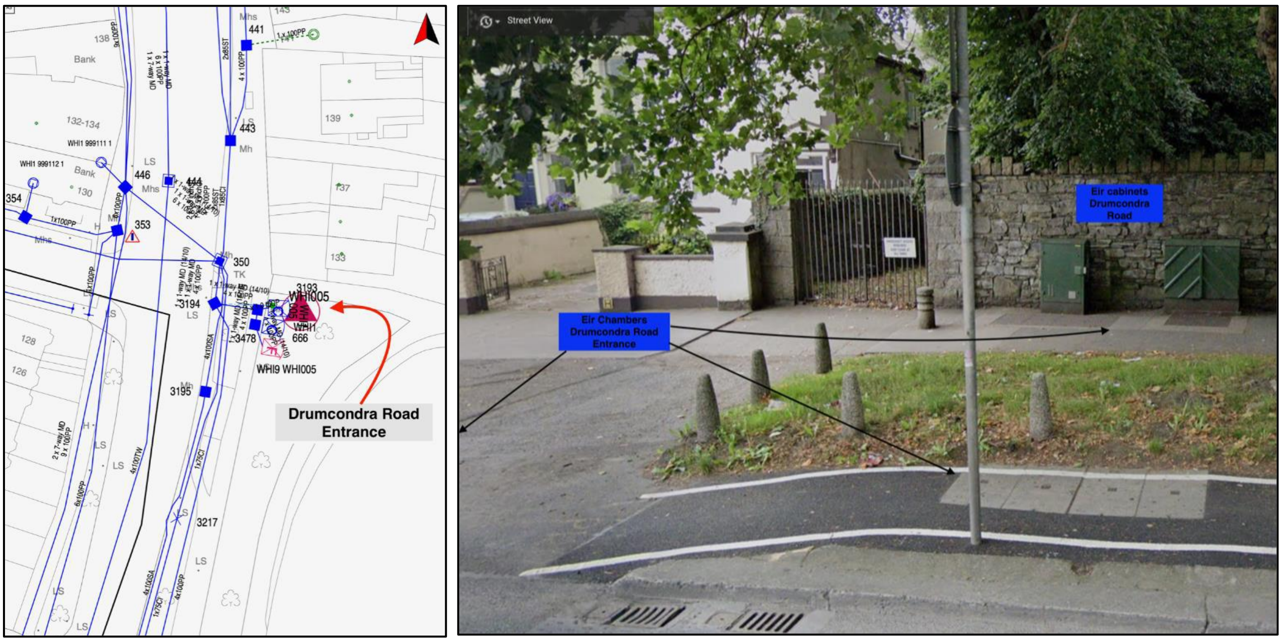
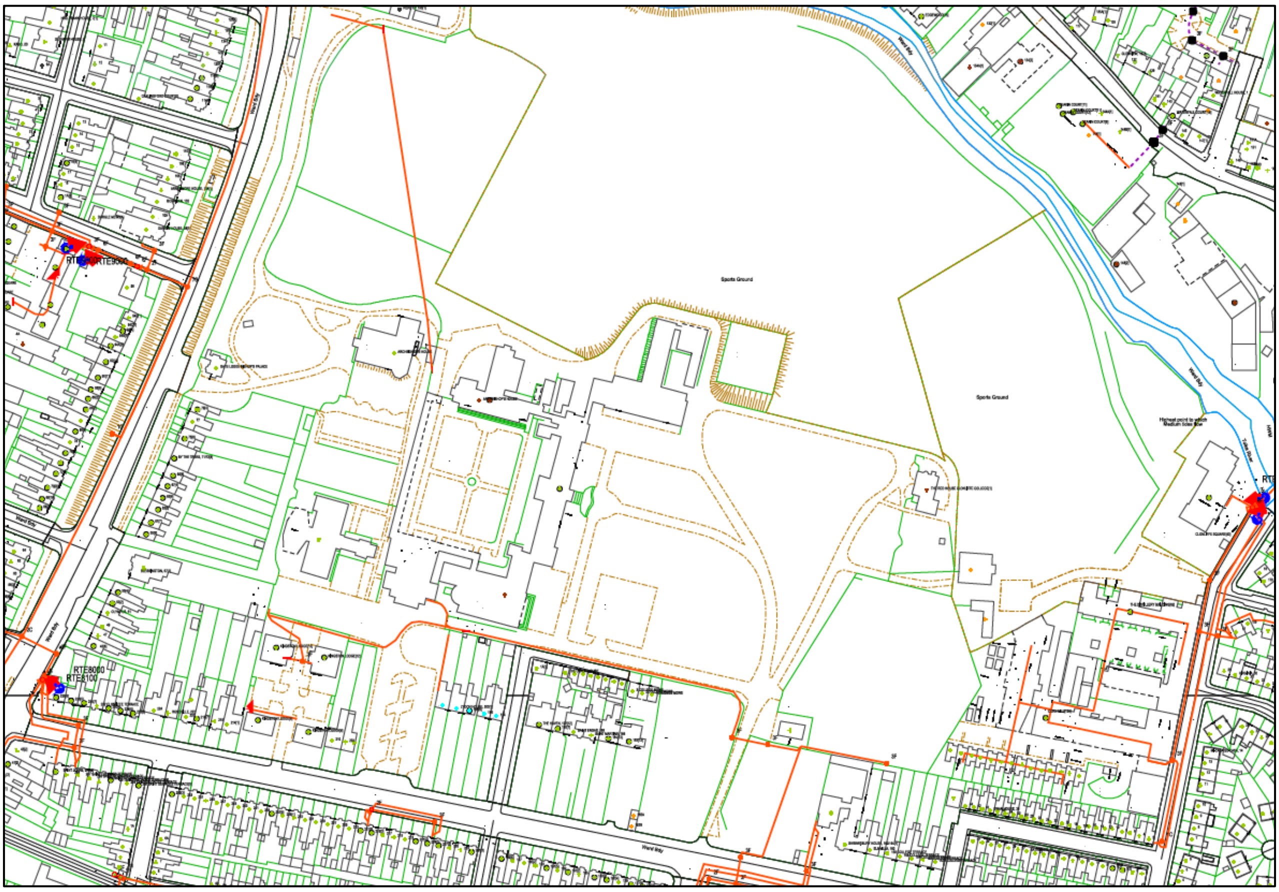


Figure 20.6: Existing Broadband Supply Infrastructure (shown in red) (Virgin Media, 2020)



20.4 Predicted Impacts of the Proposed Project

20.4.1 Do-Nothing Impact

As discussed in Chapter 4 (Consideration of Alternatives), the Do-Nothing scenario might entail:

a) A continuation of the existing status and use of the lands and buildings (i.e. very limited use by the Catholic Archdiocese and charitable organisations); or
b) Development (likely residential) under the scope of a separate application / proposal, at some point in the future.

In the event of scenario (a), there would be no impacts on ownership, access or utilities. The baseline scenario, as described above, would be maintained at the Site.

The latter scenario (b) is considered somewhat more likely, considering the nature of the lands, their zoning status, and the ongoing trends and policies in relation to housing and residential development at the national and regional levels. It is not possible to assess the likely impacts of scenario (b), as the nature and scale of any potential future proposals for the Site (in the absence of the proposed Project) are not known.

20.4.2 Construction Phase

20.4.2.1 Ownership and Access

Construction works are likely to take place over a c. 36 month period (three years). During this time, there will be no severance of land, loss of rights of way or amenities as a result of the proposed Project. As illustrated in Figures 5.8 – 5.11 in Chapter 5 (Description of the Proposed Project), access to the site by persons associated with diocesan activities will be maintained during the construction phase. The layout and internal road network of the proposed Project has been designed to tie-in with (and thereby facilitate) permitted and future proposed developments in the immediate vicinity, including the permitted hotel development off Clonliffe Road (ABP Ref.: PL29N.308193), the future proposed GAA pitches and clubhouse, and a potential future bridge traversing the River Tolka to the north of the Site.

The proposed works will be carried out on lands under the ownership of the Applicant and on lands within the wider site with the approval of the other landowners. Works on lands identified under the control of Dublin City Council will also be carried out in consultation and agreement with them. As such, there will be no compulsory purchase of private property under the scope of a Compulsory Purchase Order (CPO).

No significant impacts are predicted to occur in relation to ownership or access as a result of the proposed Project.

20.4.2.2 Services / Utilities Infrastructure

In order to facilitate the proposed Project, removals, upgrades and diversions of existing utilities infrastructure will be required during the construction phase. These may be summarised as follows:

- Existing ESB substation to be removed and new substation to be provided at different location on Site. Electricity supply infrastructure to be upgraded / diverted / replaced, as needed.
- It is envisaged that the existing telecommunications infrastructure will be terminated at the Archbishop's House and removed from façades of buildings on-Site, with new infrastructure installed to serve the proposed Project. It is possible that some existing telecommunications infrastructure on Clonliffe Road may need to be diverted to facilitate the construction of the temporary Site access at this location. Some diversions / relocations of overhead cables are also envisaged.

- The proposed Project will not require any gas connections as the proposed heating system will utilise heat pumps. Therefore, the existing gas infrastructure is to be carefully removed and isolated at the Site boundary to the rear of the Archbishop's House.
- Addition of broadband infrastructure to the Site.

All utilities works (i.e. removals, replacements, diversions and additions) shall be carried out in consultation with and in accordance with the relevant requirements of the respective service providers / authorities (i.e. the ESB, GNI, Eir, Virgin Media and any others of relevance). These works will be carried out so as to avoid / minimise interruptions of service which might affect local residents and / or businesses. Additionally, all utilities works will be carried out in a manner which does not impede other developments on the wider Holy Cross College lands, such as the permitted hotel development (ABP Ref.: PL29N.308193) and the future proposed GAA playing pitches and clubhouse. The GAA has been consulted in relation to the proposed Project's utilities infrastructure to ensure that the infrastructure does not prejudice the future development potential of their lands.

No significant impacts are predicted to occur in relation to services / utilities infrastructure as a result of the proposed Project.

20.4.3 Operational Phase

20.4.3.1 Ownership and Access

During the operational phase, there will be no severance of land, loss of rights of way or amenities.

Vehicular access to the proposed Project from the local road network will be provided from the following two points, as illustrated in Figure 20.5, below:

- Primary access: from Clonliffe Road via an upgraded 4-arm signalised crossroads junction between Clonliffe Road, Jones's Road and the proposed Project. It is anticipated that the majority of vehicles to the development will utilise this access; and
- Secondary access: from Drumcondra Road Lower via a new left-in/left-out arrangement creating a 4-arm priority crossroads junction between Drumcondra Road, Hollybank Road and the proposed Project. Only a small proportion of vehicles will utilise this access to reach the residential element of the development.

The secondary access from Drumcondra Road will be for car park / delivery / crèche / retail and servicing / emergency access and access to the site only. The primary access from Clonliffe Road will provide access into all vehicular-designated areas of the site.

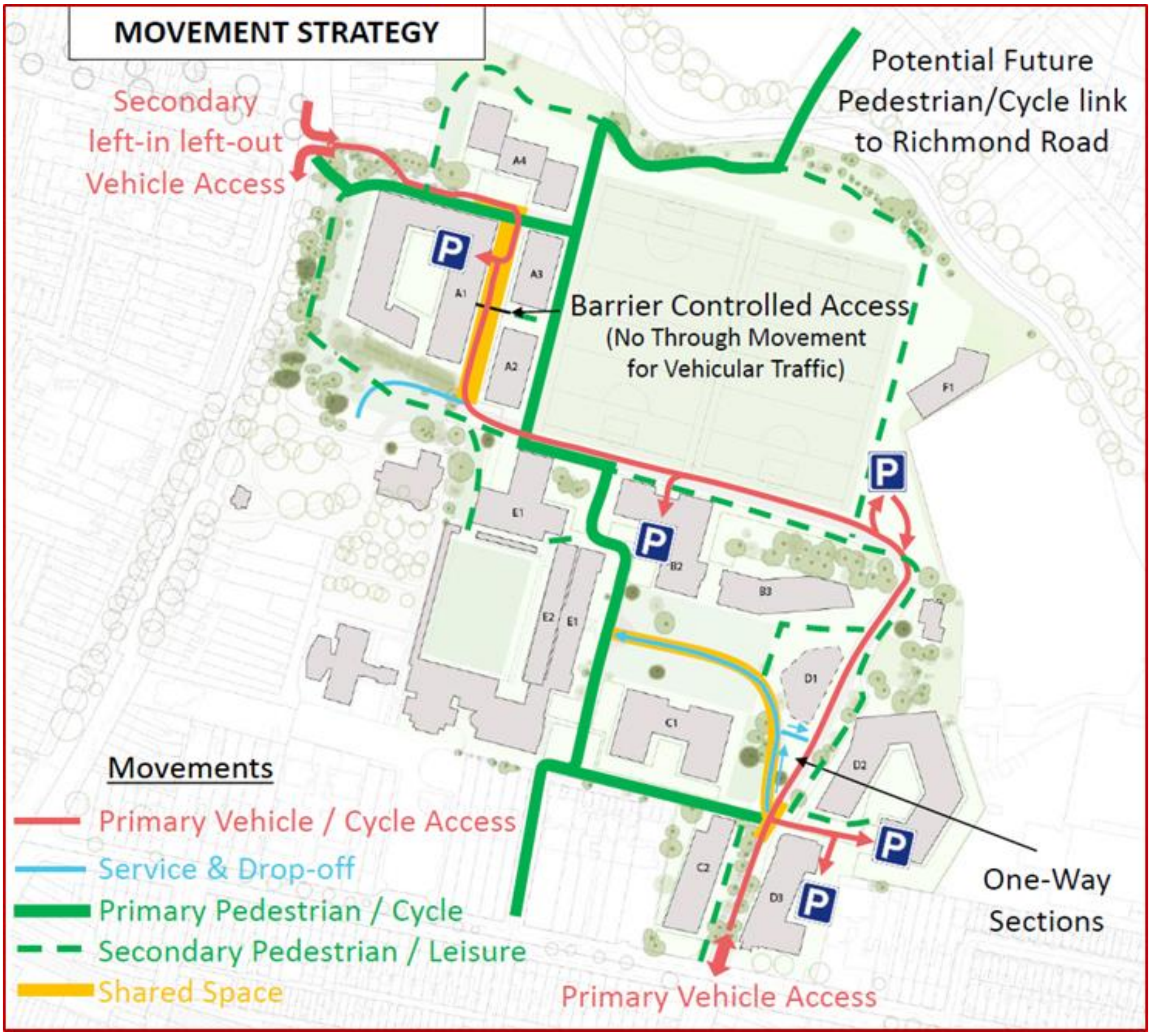
There will also be a pedestrian / cyclist access point via Holy Cross Avenue.

Circulation through the site has been designed so that it will not be possible for car traffic to cut through the development between Drumcondra Road and Clonliffe Road to avoid creating a 'rat run'. A barrier system will be installed within a 'home-zone' between blocks A1 and A2. This will serve the dual purpose of calming traffic and controlling through movements.

It is envisaged that the internal road network of the proposed Project will ultimately tie-in with a future proposed bridge over the River Tolka (as indicated in Figure 20.5, below), and with a proposed riverside walk as part of the wider Masterplan for the Holy Cross College site.

Overall, the completion of the proposed Project will increase permeability across the Site for pedestrians and cyclists, resulting in a ***positive, moderate, long-term impact*** in terms of access.

Figure 20.5: Proposed Access Strategy for Masterplan Lands



The proposed SHD Project is a BTR scheme and, as such, will remain owned and operated by an institutional entity for a minimum period of not less than 15 years and that similarly no individual residential units are sold or rented separately for that period; as required by Special Planning Policy Requirement 7 of the Sustainable Urban Housing: Design Standards for New Apartments 2020.

No significant impacts are predicted to occur in relation to ownership or access as a result of the operational phase of the proposed Project.

20.4.3.2 Services / Utilities Infrastructure

Maintenance of utilities infrastructure on the Site will be carried out during the operational phase, as per the relevant requirements of the various utility providers / authorities. The on-Site utilities infrastructure will be sufficient to provide for the operation of the proposed Project and ***no significant impacts*** on services or the infrastructure itself are predicted to occur as a result of the operational phase.

20.5 Mitigation Measures

20.5.1 Construction Phase

As stated above, no significant impacts are predicted to occur in relation to services as a result of the construction or operation of the proposed Project. However, in order to avoid / minimise impacts insofar as practicable, the following mitigation measures shall be implemented during the construction phase:

- The exact locations of all on-Site services (underground and overhead, where applicable) will be confirmed, e.g. using slit trenches at key areas, prior to the commencement of works.
- In planning and executing the proposed works, due reference shall be had to the GNI *Guidelines for Designers and Builders – Industrial and Commercial (Non-Domestic) Sites* (2018) and the Health & Safety Authority (HSA) *Code of Practice for Avoiding Danger from Underground Services* (2016).
- There is a 40 bar GNI transmission main and a high voltage (38 KV) ESB transmission circuit under Clonliffe Road where it passes within the Project boundary. As such, this is a particularly high risk area for works, and close liaison will be required with GNI and the ESB in relation to association works. In relation to the gas main, separations that are greater than those for lesser pressure mains will need to be used in this area, as specified by GNI.
- All possible precautions shall be taken to avoid unplanned disruptions to any services / utilities during the proposed works.
- Consultation with the relevant services providers shall be undertaken in advance of works. This will ensure all works are carried out to the relevant standards and ensure safe working practices are implemented - i.e. for live electricity lines and gas mains.
- There will be an interface established between the Contractor and the relevant utilities service providers / authorities during the construction phase of the proposed Project. This interface will be managed in order to ensure a smooth construction schedule with no / minimal disruption to the local residential and business community.
- All infrastructure is to be installed and constructed to the relevant codes of practice and guidelines.
- All mitigation measures in relation to Site access / egress and construction traffic management set out in Chapter 18 of this EIAR and in the finalised Construction Management Plan (refer to preliminary Construction Management Plan prepared by DCON Safety Consultants and submitted under separate cover as part of this application) shall be fully implemented by the Site contractors.
- Prior to the operational phase of the proposed Project, utilities infrastructure connections (wastewater, water supply, gas and electricity) will be tested by a suitable qualified person under the supervision of DCC. The proposed Project water supply will be tested to the satisfaction of DCC and Irish Water prior to the connection to the public potable water.

20.5.2 Operational Phase

As stated above, no significant impacts are predicted to occur in relation to services as a result of the construction or operation of the proposed Project. However, in order to avoid / minimise impacts insofar as practicable, the following mitigation measures shall be implemented during the operational phase:

- Any necessary maintenance and / or upgrades of on-Site utilities infrastructure during the operational phase of the proposed Project, will be carried out in accordance with the specifications of the relevant service providers and facilitated by the buildings / estate manager.

20.6 Residual Impacts

No significant residual impacts in relation to services are anticipated to occur as a result of the proposed Project.

20.7 Monitoring

Monitoring will be provided for by each utility company with an overseeing responsibly by the appointed Contractor during the construction phase. Any monitoring of the built services required during the operational phase will be as advised by the relevant services provider and facilitated by the buildings / estate manager.

20.8 Interactions

Generally speaking, this Chapter can interact with Chapter 7 (Population & Human Health), in that impacts on ownership, access and / or utilities have the potential to affect the local population, e.g. by resulting in service interruptions or impeding access to a residence or business. However, in this case, since no significant impacts are predicted in relation to ownership, access or utilities infrastructure, there is no potential for associated impacts on the local community to arise (i.e. no interactions are expected to occur).

As noted in Section 20.1, the understanding of what constitutes a material asset is broad, and impacts on material assets have been assessed throughout this EIAR, but particularly in Chapters 7, 10, 14, 15, 18 and 19.

20.9 Cumulative Impacts

The effects of the proposed Project in relation to ownership, access and utilities will generally not be felt outside the Project Site, which limits the potential for cumulative impacts to arise.

The exception would be in relation to access, since the positive impact of increased permeability across the area will benefit the population in the surrounding areas. At present, there is no access to the Project Site or across the Project Site for the general public. As discussed previously, the internal road network of the proposed Project has been designed to tie-in with the other permitted and proposed future elements of the Holy Cross College Masterplan – the hotel and the GAA pitches / clubhouse namely. It has also been designed to tie-in with a potential future bridge traversing the River Tolka to the north of the Site, although this has not been formally proposed. The proposed Project in combination with one or more of these projects would significantly enhance permeability across the area, with associated positive impacts on the local community (see Figure 20.5, above).

The list of plans and projects set out in Chapter 22 have been considered in terms of their potential to result in significant negative cumulative impacts in combination with the proposed Project, and no potential pathway was identified by which cumulative impacts could occur on ownership, access or utilities.

In short, no significant negative cumulative impacts are predicted to occur as a result of the proposed Project in combination with other existing / proposed plans or projects.

20.10 References

- EPA (2017). *Draft Guidelines on the Information to be Contained in EIARs*.
- EPA (2015). *Draft Advice Notes on Current Practice in the Preparation of Environmental Impact Statements*.
- GNI (2018). *Guidelines for Designers and Builders – Industrial and Commercial (Non-Domestic) Sites*.

- HSA (2016). *Code of Practice for Avoiding Danger from Underground Services*.
- NRA (2008). *Environmental Impact Assessment of National Road Schemes - A Practical Guide*.

21 Interactions

21.1 Introduction

This Chapter has been prepared by Brady Shipman Martin, summarising the key interactions identified and addressed in the preceding Chapters of this EIAR.

As a requirement of the Planning Regulations and the EPA Draft EIAR Guidelines (2017), not only are the individual significant impacts required to be considered when assessing the impact of a proposed Project on the environment, but so must the inter-relationships between these factors be identified and assessed. This Chapter of the EIAR addresses these interactions in respect of the proposed Project.

Article 3 of the EIA Directive states:

> *"The environmental impact assessment shall identify, describe and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of a project on the following factors:*
>
> a) *population and human health;*
> b) *biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;*
> c) *land, soil, water, air and climate;*
> d) *material assets, cultural heritage and the landscape; and*
> e) *the interaction between the factors referred to in points (a) to (d).*[55]*"*

The EPA Draft Guidelines (2017) point out that interactions should be addressed, where relevant, in the corresponding specialist EIAR chapters, with an 'interactions matrix' and brief text provided by way of summary:

> *"The interactions between impacts on different environmental factors should be addressed as relevant throughout the EIAR. For example, where it is established in the Hydrology section that there will be an increase in suspended solids in discharged surface waters during construction, then the Biodiversity section should assess the effect of that on sensitive aquatic receptors. […] It is general practice to include a matrix to show where interactions between effects on different factors have been addressed. […] This is typically accompanied by brief text describing the interactions."* (Section 3, p. 56)

A matrix of interactions is provided in Table 21.1, below, summarising where effects / impacts in relation to one EIAR topic (the source) have been found to directly or indirectly result in effects / impacts in relation to another EIAR topic (the receptor).

A brief description of these interactions is presented in Section 21.2, below. Note that this Chapter provides an overview of the potential impacts which have been considered in relation to interactions in this EIAR. It does not repeat the characterisation of any associated impacts, or reiterate any mitigation measures that have been prescribed in relation to same. These are discussed in the corresponding specialist EIAR Chapters, as identified below.

[55] Emphasis added.

Table 21.1: Interactions Matrix

Receptor / Source	Population & Human Health	Biodiversity	Land, Soils, Geology & Hydrogeology	Hydrology	Air Quality & Climate	Noise & Vibration	Landscape & Visual	Architectural Heritage	Archaeology	Microclimate –Daylight / Sunlight	Microclimate – Wind	Traffic & Transportation	Material Assets – Waste	Material Assets – Services
Population & Human Health							✓							
Biodiversity														
Land, Soils, Geology & Hydrogeology		✓		✓	✓								✓	
Hydrology		✓	✓											
Air Quality & Climate	✓			✓										
Noise & Vibration	✓													
Landscape & Visual	✓	✓						✓						
Architectural Heritage														
Archaeology														
Microclimate – Daylight / Sunlight														
Microclimate – Wind														
Traffic & Transportation	✓				✓	✓								
Material Assets – Waste	✓		✓									✓		
Material Assets – Services														

21.2 Summary of Interactions

Interactions addressed in this EIAR are discussed under the headings of the corresponding receptor topics / media, below.

21.2.1 Population & Human Health

Population and human health is an EIA topic which tends to interact with numerous other environmental topics / media addressed elsewhere in the EIAR. Where the potential for impacts on population and human health has been identified as a result of such interactions, these have been addressed comprehensively in Chapter 7 (Population & Human Health). In respect of the proposed Project, the noteworthy interactions with population and human health and other topics / media, in the absence of mitigation, are summarised as follows:

Air Quality & Climate (Chapter 11)

- Potential for nuisance impacts due to dust-generating activities of proposed works.

Noise & Vibration (Chapter 12)

- Potential for nuisance and disturbance due to noisy elements of proposed works;
- Potential for nuisance and disturbance due to vibration emanating from construction site;
- Potential for nuisance and disturbance due to construction traffic noise;
- Potential for nuisance and disturbance due to noisy plant, services, deliveries, etc., during operational phase; and
- Potential for nuisance and disturbance due to additional traffic during operational phase.

Landscape & Visual (Chapter 13)

- Potential for negative impacts on townscape and visual amenity due to presence of construction site; and
- Impacts on visual amenity and townscape during the operational phase due to completion of proposed Project.

Traffic & Transportation (Chapter 18)

- Potential for negative impacts on journey characteristics due to additional (construction) traffic on road network during proposed works;
- Potential for reduced parking availability in surrounding area due to demand from construction personnel;
- Potential for nuisance and disturbance due to construction traffic noise;
- Potential for negative impacts on journey characteristics due to additional traffic on road network during the operational phase; and
- Potential for nuisance and disturbance due to operational traffic noise.

Material Assets – Waste (Chapter 19)

- Potential for negative impacts due to improper waste management during construction phase; and
- Potential for negative impacts due to improper on-Site waste management during operational phase.

21.2.2 Biodiversity (Flora & Fauna)

Where the potential for impacts on biodiversity has been identified as a result of interactions with other EIAR topics, these have been addressed comprehensively in Chapter 8 (Biodiversity). In respect of the proposed Project, the noteworthy interactions with biodiversity and other topics / media, in the absence of mitigation, are summarised as follows:

Land, Soils, Geology & Hydrogeology (Chapter 9)
Potential for negative impacts on aquatic ecology due to discharge of sediment-laden run-off.

Hydrology (Chapter 10)
Potential for negative impacts on aquatic ecology due to unmitigated water quality impacts.

Landscape & Visual (Chapter 13)

- Potential negative impacts on ecology (e.g. bat roosts, bird nests, foraging habitat) due to tree felling and vegetation removal; and
- Positive impacts on ecology due to proposed landscape planting.

21.2.3 Land, Soils, Geology & Hydrogeology

Where the potential for impacts on land, soils, geology and hydrogeology has been identified as a result of interactions with other EIAR topics, these have been addressed comprehensively in this EIAR. In respect of the proposed Project, the noteworthy interactions with land, soils, geology and hydrogeology and other topics / media, in the absence of mitigation, are summarised as follows:

Hydrology (Chapter 10)
Surface water run-off may have the limited potential to enter soil and groundwater.

Material Assets – Waste (Chapter 19)
Potential negative impacts on soil due to excavation and removal of c. 70,000 m^3 of material during Site preparation.

21.2.4 Hydrology

Where the potential for impacts on hydrology has been identified as a result of interactions with other EIAR topics, these have been addressed comprehensively in this EIAR. In respect of the proposed Project, the noteworthy interactions with hydrology and other topics / media, in the absence of mitigation, are summarised as follows:

Land, Soils, Geology & Hydrogeology (Chapter 9)
As discussed above, there is a potential interaction between hydrology (Chapter 10) and land, soils, geology and hydrogeology (Chapter 9), wherein the latter is the receptor, due to the potential for contaminated surface water run-off to enter soil and groundwater, in the absence of mitigation.

Due to the potential for sediment-laden surface water run-off to arise, there is also a potential interaction between these two topics wherein hydrology (surface water) is the receptor. This has been addressed in comprehensively in the respective specialist chapters.

Air Quality & Climate (Chapter 11)
Climate change has the potential to increase flood risk over time.

21.2.5 Air Quality & Climate

Where the potential for impacts on air quality and climate has been identified as a result of interactions with other EIAR topics, these have been addressed comprehensively in this EIAR. In respect of the proposed Project, the noteworthy interactions with air quality and climate and other topics / media, in the absence of mitigation, are summarised as follows:

Land, Soils, Geology & Hydrogeology (Chapter 9)
Potential dust generation due to works /activities involving soils, e.g. excavation, trackout.

Traffic & Transportation (Chapter 18)

Increased vehicular emissions due to increased volumes of traffic during construction and operational phases.

21.2.6 Noise & Vibration

Noise and vibration (Chapter 12) interacts with traffic and transportation (Chapter 18), in that increased traffic volumes during the construction and operational phases have the potential to increase background noise levels. This has been addressed in Chapter 12.

21.2.7 Landscape & Visual

The principal interaction between landscape and visual (Chapter 13) and other EIAR topics – wherein landscape and visual amenity is the receptor rather than the source – is with population and human health (Chapter 7), since the introduction of of a new residential community to the Site (i.e. the residents of the proposed Project during the operational phase) will have a significant positive effect, enlivening the landscape setting of the proposed Project.

21.2.8 Cultural Heritage – Architectural Heritage

The principal interaction between architectural heritage (Chapter 14) and other EIAR topics is with landscape and visual (Chapter 13), since changes in the landscape / townscape character of the Site and its surrounds have the potential to affect the setting of the architectural heritage assets on-Site. This has been addressed in Chapter 14.

21.2.9 Traffic & Transportation

The principal interaction between traffic and transportation (Chapter 18) and other EIAR topics – wherein traffic and transportation is the receptor rather than the source – is with waste (Chapter 19), since traffic volumes during the construction phase will be affected by waste transportation movements from the Site. This is addressed in Chapter 19 (Material Assets – Waste) and in Chapter 18 – although not explicitly in the latter.

21.2.10 Material Assets – Waste

The principal interaction between waste (Chapter 19) and other EIAR topics – wherein waste is the receptor rather than the source – is with land, soils, geology and hydrogeology (Chapter 9), since waste / by-product (c. 70,000 m^3) will be generated as a result of the need to excavate soil, stone, clay and made ground to facilitate site levelling, construction of basements and foundations. This has been addressed in Chapters 9 and 19.

22 Cumulative Impacts

22.1 Introduction

This Chapter has been prepared by Brady Shipman Martin, and considers the potential cumulative impacts on the environment of the proposed Project with other developments in the locality.

The EU *Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions* (1999) define cumulative impacts as "*Impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project*" (p. iii). Similarly, the EPA Draft EIAR Guidelines (2017), define cumulative effects as *"The addition of many minor or significant effects, including effects of other projects, to create larger, more significant effects"* (Section 3, p. 52).

The EPA Draft EIAR Guidelines (2017) further state that:

> *"While a single activity may itself result in a minor impact, it may, when combined with other impacts (minor or significant), result in a cumulative impact that is collectively significant. For example, effects on traffic due to an individual industrial project may be acceptable however it may be necessary to assess the cumulative impacts taking account of traffic generated by other permitted or planned projects. It can also be prudent to also have regard to the likely future environmental loadings arising from the development of zoned lands in the immediate environs of the proposed project."* (Section 3, p. 54)

Cumulative impacts of the proposed Project and other committed development in the area can be assessed by taking account of the existing baseline environment and the predicted impacts associated with the operation of the proposed Project in-combination with predicted impacts of any other proposed plans and projects in the area.

The potential for cumulative impacts to occur as a result of the proposed Project in combination with other proposed plans and Projects in the area has been assessed in the various specialist Chapters of this EIAR. This Chapter provides an account of the plans and projects that have been scoped in to the cumulative impact assessment.

22.2 Methodology

Cumulative impacts were assessed by looking at the committed and in progress developments for which planning has been received within the area of influence of the Site. Considering the nature and scale of the proposed Project, and its likely impacts as assessed herein, a search for plans and projects that may have the potential to result in cumulative impacts was carried out, with the following principal sources consulted:

- Dublin City Council Planning Portal;
- Dublin City Development Plan (2016 – 2022);
- Masterplan for Holy Cross College lands; and
- An Bord Pleanála website.

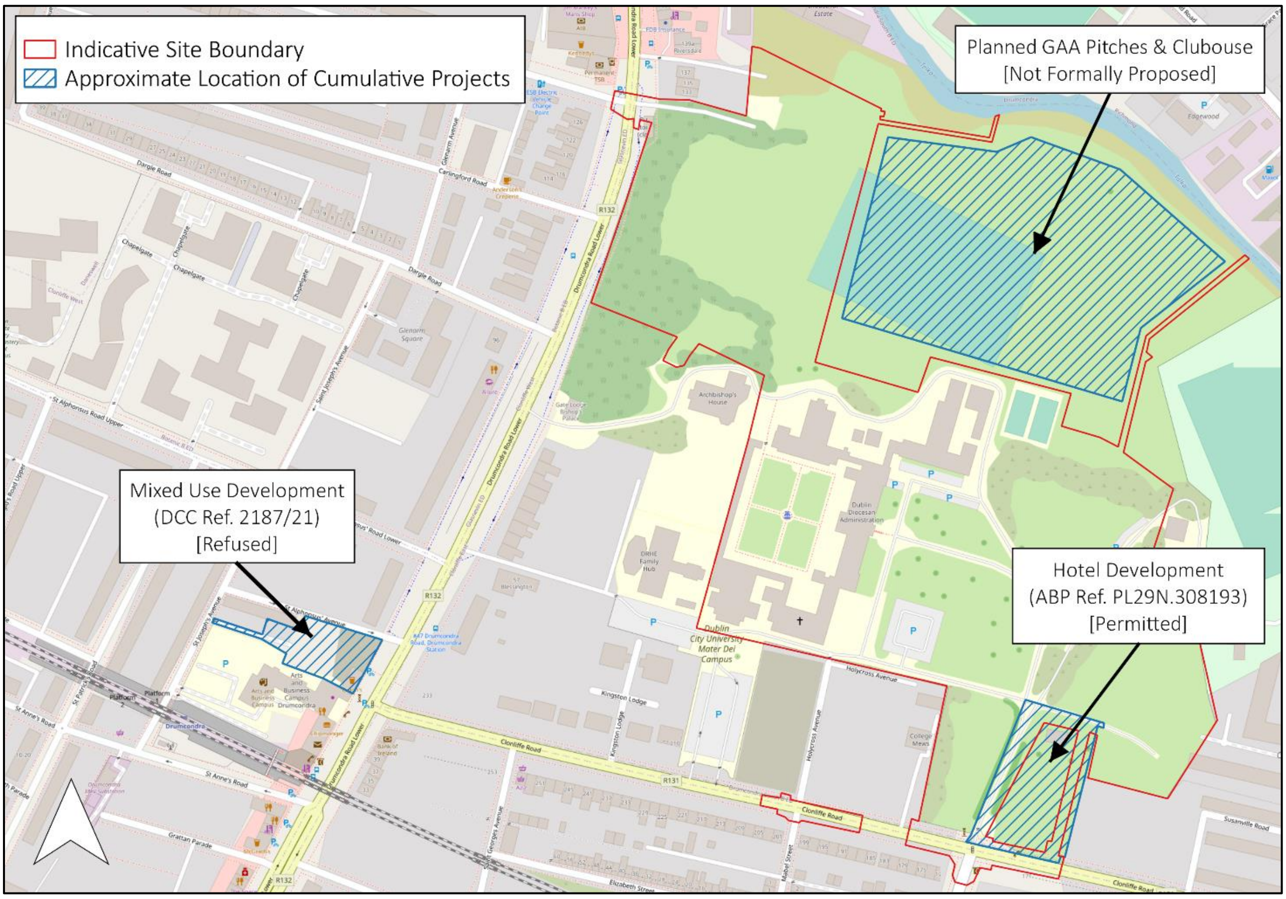
22.3 Projects

Following a review of the above sources, the following projects were identified:

- Hotel (ABP Ref.: PL29N.308193);

- GAA pitches and clubhouse (not formally proposed); and
- Mixed use development on Drumcondra Road (DCC Ref. 2187/21).

Figure 22.1: Projects Identified for Cumulative Impact Assessment (© OpenStreetMaps 2021)



22.3.1 Hotel (ABP Ref.: PL29N.308193)

As part of the wider Masterplan for the Holy Cross College lands (refer to Masterplan Development Document prepared by Henry J Lyons and submitted as part of this application under separate cover), an application for a hotel development off Clonliffe Road was submitted to An Bord Pleanála (the Competent Authority; 'the Board' hereafter) by Páirc An Chrócaigh (the Applicant) on the 16th of September 2020. The planning application documents summarised the proposal as follows:

> *"…a hotel development on Lands off Clonliffe Road comprising of 7 storeys and the demolition of the existing boundary wall, repositioning of the gate piers and widening of the entrance on Clonliffe Road to facilitate two-way traffic, the creation of 2 no. pedestrian accesses off Clonliffe Road, and the construction of a replacement plinth boundary wall with railings along Clonliffe Road, landscaping, boundary treatments, street lighting, SuDS drainage, piped and other services."*

On the 21st of August 2020, the Board granted planning permission with conditions for the proposed development. This decision was subsequently appealed, and on the 8th of April 2021, the Board granted planning permission with revised conditions. For further information, refer to the Inspector's Report in relation to ref. ABP308193-20, which can be find on the Board's website.

This constitutes 'committed development', i.e. a development for which planning permission has been granted but for which construction has not commenced, in the immediate vicinity of the proposed Project.

As discussed elsewhere in this EIAR, since this committed development constitutes one element of the Masterplan for the wider Holy Cross College lands, the design of the proposed Project (which is the subject of this application) has been designed to complement and tie-in with that of this committed hotel development.

The potential for cumulative impacts to arise as a result of the proposed Project in combination with this committed development has been assessed in the various specialist chapters of this EIAR.

22.3.2 GAA Pitches and Clubhouse

As part of the wider Masterplan for the Holy Cross College lands (refer to Masterplan Development Document prepared by Henry J Lyons and submitted as part of this application under separate cover), the GAA intends to progress a proposal for playing pitches and a clubhouse on the lands immediately to the north of the Project Site and south of the River Tolka.

This development has not been formally proposed as of yet, i.e. no formal application for planning permission has been lodged with the Competent Authority. As such, there are no finalised planning documents available upon which to base an assessment of cumulative impacts. Notwithstanding this fact, since this proposed future development is part of the wider Masterplan for the Holy Cross College lands, information has been made available to the EIA specialists in relation to the development, which has been assessed (in terms of the potential for in-combination effects) insofar as possible in the various specialist chapters herein.

22.3.3 Mixed Use Development (DCC Ref. 2187/21)

On the 9th of February 2021, Discipulo Developments Limited (the Applicant) submitted an application for planning permission to Dublin City Council (the Competent Authority; DCC) for a mixed use development described as follows:

> *"The proposed development will principally consists of: the demolition of all existing structures on site (1,436 sqm) including nos. 42-44 (including the former Quinn's Public House), No.46 and the surviving facades of Nos. 48B, 50 and 50A Drumcondra Road Lower, Dubln9; and the provision of a part 2 no. to part 5 no. storey over partial basement mixed-use development containing 3 no. commercial units including a bookmakers (131 sqm), a cafe (46 sqm) and retail unit (84 sqm) at ground floor level and 50 no. build-to-rent apartments (11 no. studio units, 33 no. one bedroom units and 6 no. two bedroom units) and internal communal amenity/support facilities (224 sqm)."*

On the 1st of April 2021, DCC refused permission for the proposed development on the grounds that:

1. *"The proposed development would not provide appropriate residential amenity to future residents due to the lack of quality private open space accessible from living areas, in contravention of the Ministerial Guidelines Design Standards for New Apartments – Guidelines for Planning Authorities (2020), and the lack of adequately sunlit well overlooked accessible communal amenity space. The provision of balconies or wintergardens that are accessible through bedrooms only compromises the function of both the bedroom and the private open space."*
2. *"The proposed development would have undue and unacceptable impacts on the residential amenity of neighbouring properties due to the combined impacts of overshadowing on 12 and 13 St Alphonsus Avenue and 52 Drumcondra Road Lower, loss of daylight to those properties and also to 1 and 11 St Alphonsus Avenue, and overlooking and overbearing impacts on 10-13 St Alphonsus Avenue and 52 Drumcondra Road Lower. The proposed development would therefore, seriously injure the amenities*

of property in the vicinity in contravention of the zoning objective 'to protect, provide and improve residential amenities'."

3. *"Having regard to the location of the site, to the established built form and historic character of the area, and to the existing buildings on the site, it is considered that the proposed development would be incongruous in terms of its design, and by reason of its excessive height, bulk and mass, would be out of character with the streetscape. Additionally, the proposal to demolish Quinn's (no 42-44) and the adjoining building (no 46 Lower Drumcondra Road) and the retained shopfronts of the other previously demolished buildings would be contrary to Policy CHC1 of the Dublin City Development Plan 2016-22, To seek the preservation of the built heritage of the city that makes a positive contribution to the character, appearance and quality of local streetscapes and the sustainable development of the city and contrary to Section 16.10.17, which states that the planning authority will actively seek the retention and re-use of buildings/ structures of historic, architectural, cultural, artistic and/or local interest or buildings which make a positive contribution to the character and identity of streetscapes and the sustainable development of the city."*

An appeal has been lodged in relation to this decision (dated 28th of April 2021) and a decision is pending in relation to same. Since the development, as proposed, has been refused planning permission and there is no further information available to the public at present in relation to the appeal, this development has been discounted from the cumulative impact assessment for the proposed Project.

22.4 Planning Framework

As detailed in Chapter 3 (Planning & Development Context) the Project Site lies within the DCC administrative area. Therefore, the Site is subject to the land use policies and objectives of the Development Plan, which has zoned the lands in question as Z12, 'Institutional Land (Future Development Potential)' which has the stated aim *"to ensure existing environmental amenities are protected in the predominantly residential future use of these lands"*. As such, the use of the lands as proposed in this SHD application is in accordance with the zoning and envisaged future development for the lands, as set out in the Development Plan.

As required under Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (the 'SEA Directive') and the Habitats Directive, a Strategic Environmental Assessment (SEA) and Appropriate Assessment (AA) have been completed in respect of the Development Plan, respectively.

22.5 Conclusion

The assessment of cumulative impact assessment considers the impacts associated with the proposed Project in combination with those of other plans and projects within the area of influence of the proposed Project. The cumulative impact assessment has been carried out throughout this EIAR, in relation to the various specialist topics addressed.

Due to the City Centre location and the planning objectives / zoning for the area, development is continually occurring in the area. However, no major projects have been identified that would have the potential to result in a significant negative cumulative impacts in combination with the proposed Project.

23 Mitigation Measures & Monitoring

23.1 Introduction

This Chapter collates the mitigation measures and monitoring set out in the preceding Chapters of the EIAR. Note that this section does not include 'mitigation by design', i.e. features already integrated into the proposal (as assessed) which mitigate negative environmental impacts.

23.2 General Mitigation Measures

Table 23.1: Mitigation Measures – General

No.	Mitigation Measure
Construction Phase	
GE01	Construction works will be limited to the times below, as per the Construction Management Plan (CMP) and Chapter 12 (Noise & Vibration), unless otherwise stipulated in the conditions to the planning permission: ▪ Monday to Friday 07:00 to 19:00 hrs ▪ Saturdays 08:00 to 14:00 hrs ▪ Sundays and Public Holidays No work on site* * However, where required for specific circumstances (e.g. exceptional / emergency circumstances, such as connections to public service systems or utilities), it may be necessary for certain construction operations to be undertaken outside these times. The timing of such works will be agreed in advance with Dublin City Council.
GE02	Plans / protocols as stipulated in this EIAR, including but not limited to the following, shall be implemented during the construction phase: ▪ Construction Management Plan ▪ Construction Environmental Management Plan ▪ Construction Phase Health & Safety Plan ▪ Tree Protection Plan & Arboricultural Method Statement ▪ Construction Surface Water Management Plan ▪ Community Liaison Plan ▪ Construction Traffic Management Plans ▪ Dust Minimisation Plan ▪ Construction Travel Plan ▪ Construction & Demolition Waste Management Plan

23.3 Mitigation & Monitoring for Population & Human Health

Table 23.2: Mitigation Measures – Population & Human Health

No.	Mitigation Measure
Construction Phase	
PH01	A preliminary Construction Management Plan (CMP) has been prepared by O'Connor Sutton Cronin (OCSC) in respect of the proposed Project, and submitted under separate cover as part of this application. This CMP includes measures which seek to avoid / minimise negative impacts on the neighbouring population. For instance, the CMP includes measures in relation to good housekeeping, hoarding, site security, construction traffic management, pollution control, pest control, public safety and public relations, with a view to avoiding / minimising impacts on the community. It also includes measures to promote the safety

No.	Mitigation Measure
	and wellbeing of construction personnel. Perhaps most pertinent to this Chapter, the CMP mandates the preparation of a Community Liaison Plan and the designation of a Community Liaison Officer (CLO) on the part of the Contractor, in order to ensure that particular issues / complaints raised by local residents in relation to the proposed works may be quickly identified and responded to. It will be a requirement of the successful Contractor that they finalise the CMP and the Community Liaison Plan in advance of the commencement of any on-Site works, and implement both fully throughout the proposed works.
PH02	Chapter 11 (Air Quality & Climate) includes a Dust Minimisation Plan (Appendix 11.2) which sets out comprehensive measures to minimise dust generation during the construction phase of the proposed Project. The mitigation measures set out in Chapter 11 and Appendix 11.2 shall be implemented in full.
PH03	Chapter 12 (Noise & Vibration) includes a suite of mitigation measures to minimise noise and vibration and associated impacts during the construction phase of the proposed Project. Mitigation measures are included in relation to (i) selection of quiet plant, (ii) noise control at source, (iii) boundary and local screening, (iv) limitation of working hours and (v) community liaison. The mitigation measures set out in Chapter 12 shall be implemented in full.
PH04	Chapter 13 (Landscape & Visual) includes a number mitigation measures to minimise the impacts of the proposed works on townscape and visual amenity. These shall be implemented in full.
PH05	Chapter 18 (Traffic & Transportation) includes a suite of measures to be incorporated into the finalised CMP in order to avoid / minimise impacts on the community in relation to construction traffic. The mitigation measures set out in Chapter 18 shall be implemented in full.
PH06	Chapter 19 (Material Assets – Waste) and Appendix 19.1 (Construction & Demolition Waste Management Plan) include a suite of mitigation measures to promote best practice construction waste management and avoid / minimise waste-related impacts. The mitigation measures set out in Chapter 19 and Appendix 19.1 shall be implemented in full.
Operational Phase	
PH07	Chapter 12 (Noise & Vibration) includes a suite of mitigation measures to minimise noise and vibration and associated impacts during the operational phase of the proposed Project. These include measures to ensure that building services plant do not exceed recommended noise limits, and limiting deliveries to daytime periods (i.e. 07:00 – 23:00 hrs) to avoid night-time disturbance of residents. The mitigation measures set out in Chapter 12 shall be implemented in full.
PH08	Chapter 18 (Traffic & Transportation) mandates the preparation of a Mobility Management Plan (MMP) and the appointment of a Mobility Manager, in order to reduce the need for car travel among on-Site residents and workers during the operational phase. The mitigation measures set out in Chapter 18 shall be implemented in full.
PH09	Chapter 19 (Material Assets – Waste) and Appendix 19.2 (Operational Waste Management Plan (OWMP)) include a suite of mitigation measures to promote best practice on-Site waste management and avoid / minimise waste-related impacts during the operational phase of the proposed Project. The OWMP details the waste storage and collection provisions that the building management company will need to put in place for the use of residents and commercial tenants. The mitigation measures set out in Chapter 19 and Appendix 19.2 shall be implemented in full.

23.4 Mitigation & Monitoring for Biodiversity

Table 23.3: Mitigation Measures – Biodiversity

No.	Mitigation Measure
Construction Phase	
BI01	*Vegetation Clearance* Where feasible and practicable, the clearance of scrub and other vegetation that may be suitable for use by nesting birds will be undertaken outside the bird nesting season (avoiding the period 1 March to 31 August). Should the construction programme require vegetation clearance between March and August, bird nesting surveys will be undertaken by suitably qualified ecologists. If no active nests are recorded, vegetation clearance will take place within 24 hours. In the event that active nests are observed, an appropriately sized buffer zone (up to 5 m radius around the nest) will be maintained around the nest until such time as all the eggs have hatched and the birds have fledged – a period that may be three weeks from the date of the survey. Once it is confirmed that the birds have fledged and no further nests have been built or occupied, vegetation clearance may take place immediately.
BI02	*Pre-construction Otter Survey* There will be no impacts on otters or other large mammals. Regardless, a pre-construction check for otters will be undertaken prior to the installation of the two surface water outfalls to the River Tolka, to ensure this remains the case.
BI03	*Bat Roosts* No bat roosts have been recorded at the proposed Project Site and it will not be necessary to apply for a derogation licence under Regulation 54 or 55 of the *European Communities (Birds and Natural Habitats) Regulations 2011-2015*. Nevertheless, as bats are highly mobile creatures, all mature trees shall be checked for bats by a bat specialist to identify trees with the highest potential prior to felling or major surgery. From this, trees with the highest roost potential as determined by the bat specialist shall be subjected to a higher level of examination that shall include thorough checking of all suitable crevices, cavities, ivy cover or loose bark. This will require access via a hoist to reach all suitable cavities and crevices. Should bats be noted during this evaluation, a derogation shall be required from NPWS. Where there is a need to undertake building work at roof level for the buildings within the Site (the College or house to the east), buildings shall be examined for the presence of bats prior to commencement.
BI04	*Bat and Bird Boxes* Notwithstanding the limited roosting potential of the Site, it is proposed to install a significant number of bat and bird boxes both within the proposed Project itself and within the retained woodland blocks. The reason for the installation of additional bat boxes is not to provide replacement roosts; rather, it is to augment the overall ecological value of the Site. This will contribute to maximising the ecological value of the proposed Project. To that end a number of bat and bird boxes will be erected, with advice from the Project Ecologist, in appropriate areas. The boxes proposed are as follows (this list is subject to revision based on the availability of suitable boxes in the future): ■ 4 no. Schwegler 1MF combined bat and swift boxes or similar (to be located within the buildings themselves); ■ 6 no. Schwegler 2F with double front panel or similar; ■ 2 no. Eco bat boxes (wooden); and ■ 6 no. assorted wooden or woodcrete bird boxes, suitable for use by robins, blue tits and tree creepers.

No.	Mitigation Measure
BI05	*Surface Water* The surface water mitigation measures proposed in Chapter 10 (Hydrology) and in the Outline Construction Surface Water Management Plan (CSWMP), prepared by BMCE, and Construction Management Plan (CMP), prepared by DCON Safety Consultants (both submitted as part of this application under separate cover), will ensure that no sediment contamination, contaminated run-off or untreated wastewater will enter any on-Site surface water drains and, in particular, the River Tolka as a result of the construction of the proposed Project.

Table 23.4: Monitoring – Biodiversity

Phase	Monitoring
Construction	A suitably experienced Project Ecologist will be appointed for the duration of the construction phase and regular monitoring of all related works will take place to ensure the correct and full implementation of all mitigation measures. The Project Ecologist will ensure that all construction works take place in accordance with the project Construction Management Plan, the Construction Surface Water Management Plan and the mitigation measures set out in this EIAR. As noted in Section 8.5.1, should vegetation clearance be required during the bird nesting season, this work will take place only after the Project Ecologist has undertaken a survey to ensure that no active bird nests or recently fledged birds are present. Similarly, no evidence of roosting bats was recorded on the Site during any of the comprehensive bat surveys undertaken. Regardless, a pre-construction survey will be required to ensure that any necessary tree felling or works to buildings continues to have no impact on roosting bats.
Post-Construction / Operation	No long-term ecological monitoring is required, other than post-construction monitoring of the bat and bird boxes installed. The bat and bird boxes installed on the Site will be checked annually for a period of five years post-completion of the works, to ensure that they continue to be accessible to these species. On completion of construction, the lighting installed will be reviewed by the Project Ecologist and a bat specialist, to ensure that it is operating according to the approved specifications.

23.5 Mitigation & Monitoring for Land, Soils, Geology & Hydrogeology

Table 23.5: Mitigation Measures – Land, Soils, Geology & Hydrogeology

No.	Mitigation Measure
Construction Phase	
LG01	*Construction Management Plan* A preliminary Construction Management Plan (CMP) has been prepared for the proposed Project by O'Connor Sutton Cronin (OCSC) and is included with this planning application under separate cover. It is proposed that the CMP will be finalised and maintained by the appointed Contractors prior to the commencement of the construction phase of the proposed Project, to minimise the impact of all aspects of the construction works on the local environment. The final CMP will include emergency response procedures in the event of a spill, leak, fire or other environmental incident related to construction.
LG02	*Control of Soil Excavation* Subsoil will be excavated to facilitate the construction of basement, foundations, access roads, car parking areas, expansion of drainage connections and other ancillary works. The proposed Project will incorporate the 'reduce, reuse and recycle' / waste hierarchy approach in terms of soil excavations on-Site. The construction

No.	Mitigation Measure
	will be carefully planned to ensure only material required to be excavated will be, with as much material left in situ as possible. Excavation arisings will be reused on-Site where possible. It is unlikely any contaminated material will be encountered during the construction phase of the proposed Project (see Section 9.3.5.1). The ESB substation and its underlying overburden it to be decommissioned and removed by the ESB. Nonetheless, any excavation works will be carefully monitored by a suitably qualified person to ensure any potentially contaminated soil is identified and segregated from clean / inert soil. In the unlikely event that any potentially contaminated soils are encountered, they shall be tested and classified as hazardous or non-hazardous in accordance with the EPA Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous publication, HazWasteOnline tool, or similar approved method. The material will then need to be classified as inert, non-hazardous, stable non-reactive hazardous or hazardous in accordance with EC Decision 2003/33/EC. It will then be removed from Site by a suitably permitted waste contractor to an authorised waste facility. Stockpiles have the potential to cause negative impacts on air and water quality. The effects of soil stripping and stockpiling will be mitigated against through the implementation of an appropriate earthworks handling protocol during the construction phase. It is anticipated that any stockpiles will be formed within the boundary of the Site and will be kept at least 10 m away from any open watercourses, and there will be no direct link or pathway from this area to any surface waterbody (i.e. River Tolka). Inland Fisheries Ireland documents, including but not limited to Guidelines on Protection of Fisheries During Construction Woks and Adjacent to Waters (IFI, 2016), will be consulted and incorporated to the CMP prior to works and implemented in full. Dust suppression measures (e.g. damping down during dry periods), vehicle wheel washes, road sweeping, and general housekeeping will ensure that the surrounding environment are free of nuisance dust and dirt on roads. Refer to the Dust Minimisation Plan in Appendix 11.2 of Volume 3.
LG03	*Export of Material from Site* It is envisioned that 30,000 m^3 of excavated soil / stones arising on the Site will be re-used. It is anticipated that 70,000 m^3 of material will be removed off-Site, and will be sent for recovery or disposal at an appropriately authorised facility. Refer to Chapter 19 (Material Assets – Waste) for further detail. Soil to be removed from the Site will be classified by an experienced and qualified environmental professional to ensure that the waste soil is correctly classed for transportation and recovery / disposal off-Site. All of the mitigation measures set out in Chapter 19 and its appendices will be fully implemented.
LG04	*Sources of Fill and Aggregates* All fill and aggregate for the proposed Project will be sourced from reputable suppliers. All suppliers will be vetted for: ■ Aggregate compliance certificates / declarations of conformity for the classes of material specified for the Proposed Project; ■ Environmental management status / accreditation; and ■ Regulatory and legal compliance status.
LG05	*Fuel and Chemical Handling* The following mitigation measures will take place during the construction phase in order to prevent any spillages to ground of fuels and prevent any resulting soil and / or groundwater quality impacts: ■ Designation of a bunded refuelling areas on the site; ■ Provision of spill kit facilities across the site; ■ Where mobile fuel bowsers are used the following measures will be taken:

No.	Mitigation Measure
	◻ Any flexible pipe, tap or valve will be fitted with a lock and will be secured when not in use; ◻ The pump or valve will be fitted with a lock and will be secured when not in use; ◻ All bowsers will carry a spill kit; ◻ Operatives must have spill response training; and ◻ Drip trays will be used on any required mobile fuel units. In the case of drummed fuel or other potentially polluting substances which may be used during the construction phase, the following measures will be adopted: ■ Secure storage of all containers that contain potential polluting substances in a dedicated internally bunded chemical storage cabinet unit or inside a concrete bunded area; ■ Clear labelling of containers so that appropriate remedial measures can be taken in the event of a spillage; ■ All drums to be quality approved and manufactured to a recognised standard; ■ If drums are to be moved around the Site, they will be secured and on spill pallets; and ■ Drums to be loaded and unloaded by competent and trained personnel using appropriate equipment. The above-listed measures are non-exhaustive and will be included in the final CMP.
LG06	*Control of Water During Construction* Run-off from excavations / earthworks cannot be prevented entirely and are largely a function of prevailing weather conditions. Earthwork operations will be carried out such that surfaces, as they are being raised, shall be designed with adequate drainage, falls and profile to control run-off and prevent ponding and flowing. Correct management will ensure that there will be minimal inflow of shallow / perched groundwater into any excavation. Due to the thickness and low permeability of the overburden and the relative shallow nature for basement and foundation excavations, impact to the underlying aquifer is not anticipated. Care will be taken to ensure that exposed soil surfaces are stable to minimise erosion. All exposed soil surfaces will be within the main excavation Site, which will limit the potential for any off-Site impacts. All run-off will be prevented from directly entering into any watercourses / drainage ditches. Should any discharge of construction water be required during the construction phase, discharge will be to foul sewer. Pre-treatment and silt reduction measures on-Site will include a combination of silt fencing, settlement measures (silt traps, silt sacks and settlement tanks / ponds) and hydrocarbon interceptors. Active treatment systems such as siltbusters or similar may be required, depending on turbidity levels and discharge limits. All mitigation measures set out in Chapter 10 (Hydrology) and its appendices will be implemented in full.

Table 23.6: Monitoring – Land, Soils, Geology & Hydrogeology

Phase	Monitoring
Construction	Regular inspection of surface water run-off and any sediment control measures (e.g. silt traps) will be carried out during the construction phase. Regular auditing of construction / mitigation measures will be undertaken (e.g. concrete pouring, refuelling in designated areas, etc). Details of construction monitoring will be covered in the finalised CMP.
Operation	No soil or groundwater monitoring is proposed for the operational phase of the proposed Project. Petrol interceptor(s) will be maintained and cleaned out in accordance with the manufacturer's instructions. Maintenance of the surface water drainage system and foul sewers as per normal urban developments is recommended to minimise any accidental discharges to ground.

23.6 Mitigation & Monitoring for Hydrology

Table 23.7: Mitigation Measures – Hydrology

<table>
<tr><th>No.</th><th>Mitigation Measure</th></tr>
<tr><td colspan="2">Construction Phase</td></tr>
<tr><td>HY01</td><td>Construction Management Plan
A preliminary Construction Management Plan (CMP) accompanies this planning application. A final CMP will be prepared and maintained by the Appointed Contractors prior to the commencement of the construction phase of the proposed Project. The CMP will cover all potentially polluting activities and include an emergency response procedure for pollution incidents. All personnel working on the Site will be trained in the implementation of the CMP. At a minimum, the CMP will be formulated in consideration of the standard best international practice including, but not limited, to the following:
▪ CIRIA (2001). Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors (C532);
▪ CIRIA (2002). Control of water pollution from construction sites: guidance for consultants and contractors (SPI56);
▪ CIRIA (2005). Environmental Good Practice on Site (C650);
▪ BPGCS005, Oil Storage Guidelines;
▪ CIRIA (2007). The SUDS Manual (697); and
▪ UK Environment Agency (2004). UK Pollution Prevention Guidelines (PPG).

Additionally, the DCC Drainage Division requested details of protections to the River Tolka from any Site run-off or other forms of possible pollution from Site activities during construction works. In response, BMCE have prepared the CSWMP, submitted under separate cover as part of this application. The Construction Surface Water Management Plan shall be finalised by the successful Contractor prior to the commencement of the proposed works. Full protection measures for the Tolka to the north of the Site, as set out in the Outline CSWMP, will be strictly adhered to.</td></tr>
<tr><td>HY02</td><td>Surface Water Run-off
Surface water run-off containing silt will be contained on-Site via settlement tanks and treated to ensure adequate silt removal. Silt reduction measures on-Site will include a combination of silt fencing, settlement measures (silt traps, silt sacks and settlement tanks / ponds). Full protection measures for the Tolka to the north of the Site, as set out in the Outline CSWMP, will be strictly adhered to.

The temporary storage of soil will be carefully managed. Stockpiles will be tightly compacted to reduce run-off and graded to aid in run-off collection. Materials will be stored away from any surface water drains. This will prevent any potential negative impact on the stormwater drainage. The movement of materials will be minimised to reduce the degradation of soil structure and generation of dust. Excavations will remain open for as little time as possible before the placement of fill. This will help to minimise the potential for water ingress into excavations. Soil from works will be stored away from existing drainage features to avoid any potential associated impacts.

Weather conditions will be considered when planning construction activities to minimise the risk of run-off from the Site, and the suitable distance of topsoil piles from surface water drains will be maintained (> 10 m). All contractors will be made aware of the CSWMP and all management / mitigation measures within this area will be strictly adhered to.

Documents including but not limited to Inland Fisheries Ireland’s 2016 Guidelines on Protection of Fisheries During Construction Works and Adjacent to Waters shall also be consulted in finalising the CMP and CSWMP.</td></tr>
</table>

No.	Mitigation Measure
HY03	*Fuel and Chemical Handling* The following mitigation measures will take place during the construction phase in order to prevent any spillages to ground of fuels, and prevent any resulting pollution of surface waters: ■ Designation of a bunded refuelling areas on the Site; ■ Provision of spill kit facilities across the Site; ■ Where mobile fuel bowsers are used, the following measures will be taken: □ Any flexible pipe, tap or valve will be fitted with a lock and will be secured when not in use; □ The pump or valve will be fitted with a lock and will be secured when not in use; □ All bowsers will carry a spill kit and operatives must have spill response training; □ Portable generators or similar fuel-containing equipment will be placed on suitable drip trays. In the case of drummed fuel or other potentially polluting substances being used during the construction phase, the following measures will be adopted: ■ Secure storage of all containers that contain potentially polluting substances in a dedicated internally bunded chemical storage cabinet unit or inside a concrete bunded area; ■ Clear labelling of containers so that appropriate remedial measures can be taken in the event of a spillage; ■ All drums will be quality approved and manufactured to a recognised standard; ■ If drums are to be moved around the Site, they will be secured and on spill pallets; and ■ Drums will be loaded and unloaded by competent and trained personnel using appropriate equipment. The above-listed measures are non-exhaustive and will be included in the final CMP and CSWMP. All appointed Contractors will be required to implement the CMP and CSWMP. All ready-mixed concrete will be brought to the Site by truck. A suitable risk assessment for wet concreting will be completed prior to works being carried out, which will include measures to prevent discharge of alkaline wastewaters or contaminated stormwater to the underlying subsoil. Wash-down and washout of concrete transporting vehicles will take place at an appropriate facility off-Site.
HY04	*Accidental Releases* Emergency response procedures will be outlined in the finalised CMP and CSWMP. All personnel working on the Site will be suitably trained in the implementation of the procedures.
HY05	*Soil Removal and Compaction* Excavated material will be reused on-Site, where possible, for site levelling, roads, car parking areas and other landscaping purposes. Surplus material will be removed off-Site for re-use, recovery and / or disposal. The project engineers have estimated that c. 70,000 m^3 of material will require removal from Site. The temporary storage of soil will be carefully managed in such a way as to prevent any potential negative impact on the receiving environment. The material will be stored away from any surface water drains (see Section 10.5.1.2, above) and at least 10 m away from any surface water features such as the Tolka. The movement of material will be minimised to reduce the degradation of soil structure and generation of dust. All excavated materials will be visually assessed for signs of possible contamination such as staining or strong odours. Should any unusual staining or odour be noticed, samples of this soil will be analysed for the presence of potential contaminants to ensure that historical pollution of the soil has not occurred. Should it be determined that any of the soil excavated is contaminated, this will be segregated and appropriately disposed of by a suitably permitted / licensed waste disposal contractor.

No.	Mitigation Measure
Operational Phase	
HY06	*Surface Water* The proposed new storm water drainage arrangements will be designed and carried out in accordance with the following: ■ *Greater Dublin Strategic Drainage Study Volume 2*; ■ *Greater Dublin Regional Code of Practice for Drainage Works*; ■ *BS EN – 752:2008, Drains & Sewer Systems Outside Buildings*; and ■ *Part H (Building Drainage) of the Building Regulations*.

Table 23.8: Monitoring – Hydrology

Phase	Monitoring
Construction	Regular inspection of surface water run-off and any sediment control measures (e.g. silt traps) will be carried out during the construction phase. Regular auditing of construction / mitigation measures will be undertaken (e.g. concrete pouring, refuelling in designated areas, etc.).
Operation	No future surface water monitoring is proposed for the operational phase of the proposed Project due to the low hazard potential of the proposal. Hydrocarbon interceptor(s) will be maintained and cleaned out in accordance with the manufacturer's instructions. Maintenance of the surface water drainage system and foul sewers as per normal urban developments is recommended to minimise any accidental discharges to ground.

23.7 Mitigation & Monitoring for Air Quality & Climate

Table 23.9: Mitigation Measures – Air Quality & Climate

No.	Mitigation Measure
Construction Phase	
AQ01	*Dust Minimisation Plan* A detailed Dust Minimisation Plan associated with a high level risk of dust impacts is outlined in Appendix 11.2. This plan draws on best practice mitigation measures from Ireland, the UK and the USA in order to ensure the highest level of mitigation possible. Care has specifically been paid to the requirements and recommendations within the DCC (2019) guidance entitled '*Air Quality Monitoring and Noise Control Unit's Good Practice Guide for Construction and Demolition*'. In summary, some of the measures which will be implemented will include: ■ Prior to demolition, blocks shall be soft stripped inside buildings (retaining walls and windows in the rest of the building, where possible, to provide a screen against dust). ■ During the demolition process, water suppression shall be used, preferably with a hand-held spray. Only the use of cutting, grinding or sawing equipment fitted or used in conjunction with a suitable dust suppression technique such as water sprays / local extraction should be used. ■ Drop heights from conveyors, loading shovels, hoppers and other loading equipment shall be minimised, if necessary fine water sprays will be employed. ■ Hard surface roads will be swept to remove mud and aggregate materials from their surface while any un-surfaced roads will be restricted to essential site traffic. ■ Any road that has the potential to give rise to fugitive dust will be regularly watered, as appropriate, during dry and / or windy conditions. ■ Vehicles exiting the site shall make use of a wheel wash facility, where appropriate, prior to entering public roads.

No.	Mitigation Measure
	■ Vehicles using site roads will have their speed restricted, and this speed restriction will be enforced rigidly. On any un-surfaced site road, this will be 20 kph, and on hard surfaced roads as site management dictates. ■ Public roads and footpaths outside the site will be regularly inspected for cleanliness and cleaned, as necessary. If sweeping using a road sweeper is not possible due to the nature of the surrounding area, then a suitable smaller scale street cleaning vacuum will be used. ■ Material handling systems and site stockpiling of materials will be designed and laid out to minimise exposure to wind. Water misting or sprays will be used, as required, if particularly dusty activities are necessary during dry or windy periods. ■ During movement of materials both on and off-site, trucks will be stringently covered with tarpaulin at all times. Before entrance onto public roads, trucks will be adequately inspected to ensure no potential for dust emissions. ■ Hoarding or screens shall be erected around works areas to reduce visual impact. This will also have an added benefit of preventing larger particles of dust from travelling off-site and impacting receptors. At all times, these procedures will be strictly monitored and assessed. In the event of dust nuisance occurring outside the Site boundary, movements of materials likely to raise dust will be curtailed and satisfactory procedures implemented to rectify the problem before the resumption of construction operations. Refer to Appendix 11.2 for full Dust Minimisation Plan.

Table 23.10: Monitoring – Air Quality & Climate

Phase	Monitoring
Construction	Monitoring of construction dust deposition along the Site boundary to nearby sensitive receptors during the construction phase of the proposed Project is recommended to ensure mitigation measures are working satisfactorily. This can be carried out using the Bergerhoff method in accordance with the requirements of the German Standard VDI 2119. The Bergerhoff Gauge consists of a collecting vessel and a stand with a protecting gauge. The collecting vessel is secured to the stand with the opening of the collecting vessel located approximately 2 m above ground level. The TA Luft limit value is 350 mg/(m^2*day) during the monitoring period between 28 – 32 days.

23.8 Mitigation & Monitoring for Noise & Vibration

Table 23.11: Mitigation Measures – Noise & Vibration

No.	Mitigation Measure
Construction Phase	
NV01	With regard to demolition and construction activities, best practice control measures for noise and vibration from construction sites are found within *BS 5228 (2009 +A1 2014) Code of Practice for Noise and Vibration Control on Construction and Open Sites* Parts 1 and 2, which include guidance on several aspects of construction site practices, including, but not limited to: ■ Selection of quiet plant; ■ Control of noise sources; ■ Screening (boundary and / or localised plant screening); ■ Hours of work; ■ Liaison with the public; and ■ Monitoring.

<table>
<tr><th>No.</th><th>Mitigation Measure</th></tr>
<tr><td>NV02</td><td>Selection of Quiet Plant
In general, selection of quiet plant is recommended in relation to sites with static plant such as compressors and generators. In this case, the Contractor shall ensure that these units be supplied with manufacturers' proprietary acoustic enclosures, where possible. The potential for any item of plant to generate noise will be assessed prior to the item being brought onto the Site. To facilitate this, each item of plant equipment will be required to comply with the EC Directive on Outdoor Noise Emissions 2000/14/EC. The least noisy item will be selected, wherever possible.</td></tr>
<tr><td>NV03</td><td>Noise Control at Source
If replacing a noisy item of plant is not a viable or practical option, the Contractor will ensure that consideration is given to noise control 'at source' and that corresponding measures are implemented, where possible. This refers to the modification of an item of plant or the application of improved sound reduction methods in consultation with the supplier. For example, resonance effects in panel work or cover plates can be reduced through stiffening or application of damping compounds, while rattling and grinding noises can often be controlled by fixing resilient materials in between the surfaces in contact.

BS 5228 states that "as far as reasonably practicable sources of significant noise should be enclosed", and the Contractor shall be obliged to comply with this measure. In applying this guidance, constraints such as mobility, ventilation, access and safety must be taken into account. Items suitable for enclosure include pumps and generators.

BS 5228 makes a number of recommendations in relation to the use and siting of equipment, which are directly relevant to the proposed Project. The Contractor will ensure that these recommendations are adopted on Site:

▪ Plant shall always be used in accordance with manufacturers' instructions.
▪ Care shall be taken to keep site equipment away from noise-sensitive areas. Where possible, loading and unloading will be carried out away from such areas.
▪ Machines such as cranes, which may be in intermittent use, shall be shut down between work periods or throttled down to a minimum. Machines will not be left running unnecessarily; as this can be noisy, wastes energy and needlessly generates pollutant emissions to air.
▪ Plant known to emit noise strongly in one direction shall, where possible, be orientated so that the noise is directed away from noise-sensitive areas. Attendant operators of the plant can also benefit from this acoustical phenomenon by sheltering, when possible, in the area with reduced noise levels.
▪ Acoustic covers to engines shall be kept closed when the engines are in use and idling. The use of compressors that have effective acoustic enclosures and are designed to operate when their access panels are closed is recommended.
▪ Materials shall be lowered whenever practicable and shall not be dropped. Where appropriate, the surfaces on to which materials are being moved will covered by resilient material.

Other forms of noise control at source relevant to the proposed works are set out below, and shall be adhered to by the Contractor insofar as possible and practicable:

▪ For mobile plant items such as cranes, dump trucks, excavators and loaders, the installation of an acoustic exhaust and / or maintaining enclosure panels closed during operation will be considered, and can reduce noise levels by up to 10 dB.
▪ Mobile plant will be switched off when not in use and not left idling.
▪ For percussive tools such as pneumatic concrete breakers, noise control measures include fitting muffler or sound reducing equipment to the breaker 'tool' and ensure any leaks in the air lines are sealed. Such measures will be considered in implemented, as appropriate. The Contractor will erect localised screens around breaker or drill bit when in operation in close proximity to noise sensitive boundaries.</td></tr>
</table>

<table>
<tr><th>No.</th><th>Mitigation Measure</th></tr>
<tr><td></td><td>■ For concrete mixers, control measures will be employed during cleaning to ensure no impulsive hammering is undertaken at the mixer drum.
■ For all materials handling, the Contractor will ensure that materials are not dropped from excessive heights. Drop chutes and dump trucks will be lined with resilient materials.
■ Demountable enclosures will be used to screen operatives using hand tools / breakers and will be moved around site as necessary.
■ All items of plant will be subject to regular maintenance. Such maintenance can prevent unnecessary increases in plant noise and can serve to prolong the effectiveness of noise control measures.</td></tr>
<tr><td>NV04</td><td>Screening
Typically, screening is an effective method of reducing the noise level at a receiver location and can be used successfully as an additional measure to all other forms of noise control. The effectiveness of a noise screen will depend on the height and length of the screen and its position relative to both the source and receiver. Screening is a useful form of noise control when works are taking place at basement and ground level to screen noise levels at ground floor adjacent buildings. The Contractor will ensure that appropriate and effective screening is erected, where needed.

In addition, careful planning of the site layout will also be considered. The use of localised mobile (mobile hoarding screens and / or acoustic quilts) to items of plant with the potential to generate high levels of noise is an effective noise control measure. Localised screening will be used by the Contractor, where relevant, when percussive works are taking place in close proximity to the nearest sensitive perimeter buildings.</td></tr>
<tr><td>NV05</td><td>Liaison with the Public
A designated Community Liaison Officer (CLO) will be appointed to site by the Contractor for the duration of the construction works. All noise complaints will be logged and followed up in a prompt fashion by the CLO. In addition, prior to particularly noisy construction activity (e.g. demolition, breaking, piling, etc.), the CLO will inform residents at the nearest noise sensitive locations of the time and expected duration of the noisy works.</td></tr>
<tr><td>NV06</td><td>Hours of Work
Construction works will be limited to the times below, as per the Construction Management Plan:

■ Monday to Friday — 07:00 to 19:00 hrs
■ Saturdays — 08:00 to 14:00 hrs
■ Sundays and Public Holidays — No work on site*

* However, where required for specific circumstances (e.g. exceptional / emergency circumstances, such as connections to public service systems or utilities), it may be necessary for certain construction operations to be undertaken outside these times. The timing of such works will be agreed in advance with Dublin City Council.</td></tr>
<tr><td colspan="2">Operational Phase</td></tr>
<tr><td>NV07</td><td>Building Services Plant
The basement plant rooms and outdoor plant areas will be designed to ensure that noise levels at the façades of the noise-sensitive locations both within the Site and in the surrounding area do not exceed the criteria of 40dB $L_{Aeq,15\ min}$,outside any noise-sensitive location, as discussed in Section 12.2.2.1.

During the detailed design of the proposed Project, the selection and location of mechanical and electrical plant will be undertaken in order to ensure the noise emission criterion of 40dB $L_{Aeq,15\ min}$, outside any noise-sensitive location are not exceeded.</td></tr>
</table>

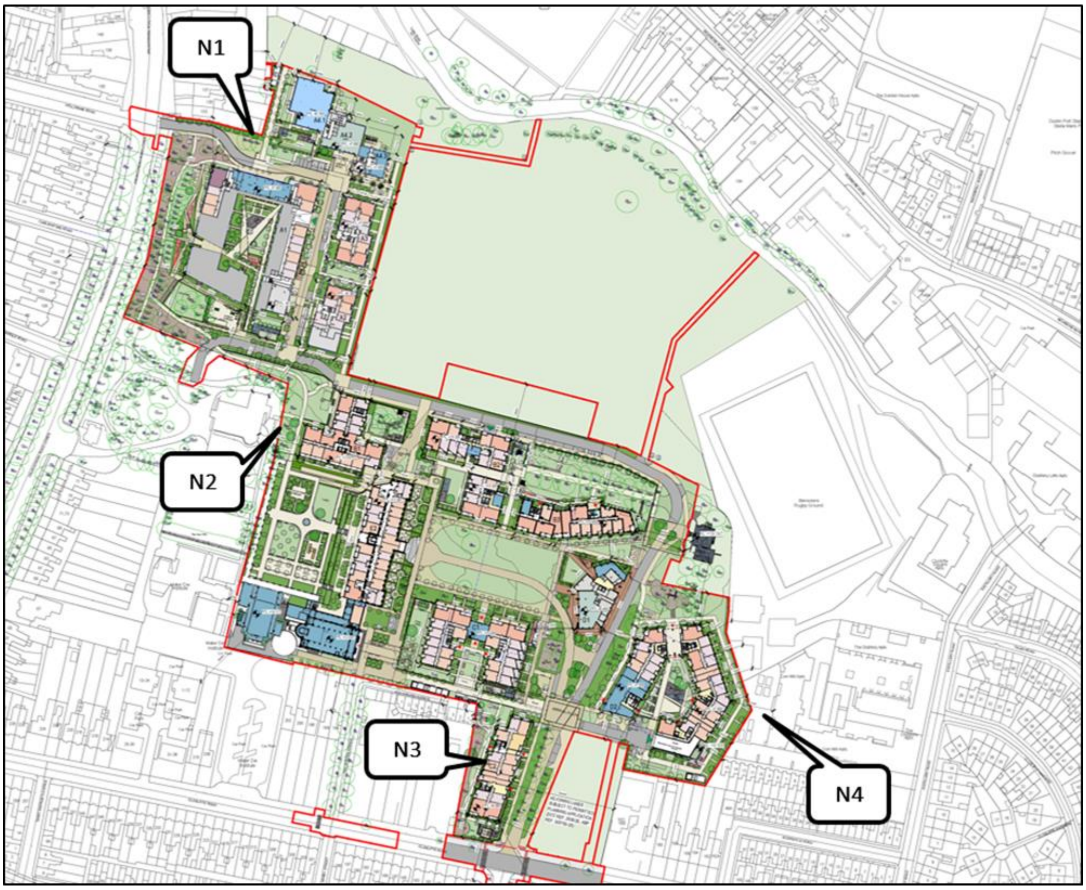
<table>
<tr><th>No.</th><th>Mitigation Measure</th></tr>
<tr><td></td><td>In addition to selecting plant with suitable noise levels, the Applicant shall ensure that the following best practice measures will be adhered to, insofar as possible, for all plant items, in order to minimise potential noise disturbance for residents of on-site and adjacent buildings during the operational phase:
■ Where ventilation is required for plant rooms, consideration will be given to acoustic louvers or attenuated acoustic vents, where required to reduce noise breakout.
■ Ventilation plant serving plant rooms and car parks will be fitted with effective acoustic attenuators to reduce noise emissions to the external environment.
■ Perimeter plant screens will be used, where required, for roof top plant areas, to screen noise sources.
■ Attenuators or silencers will be installed on external air handling plant.
■ All mechanical plant items (e.g. fans, pumps, etc.) shall be regularly maintained to ensure that excessive noise generated by any worn or rattling components is minimised.
■ Any new or replacement mechanical plant items, including plant located inside new or existing buildings, shall be designed so that all noise emissions from Site do not exceed the noise limits of 40dB $L_{Aeq,15\ min}$, outside any noise-sensitive location outlined in this document.
■ Installed plant will have no tonal or impulsive characteristics when in operation.</td></tr>
<tr><td>NV08</td><td>Deliveries
Deliveries will be restricted to daytime periods, i.e. 07:00 hours to 23:00 hours to avoid disturbance to noise-sensitive locations both within the Project Site and at the neighbouring noise-sensitive locations.</td></tr>
</table>

Table 23.12: Monitoring – Noise & Vibration

<table>
<tr><th>Phase</th><th>Monitoring</th></tr>
<tr><td>Construction</td><td>During the demolition and construction phase, noise and vibration monitoring shall be carried out by the contractor to ensure that the recommended threshold levels set out in Table 12.1 and Table 12.2 and / or any additional noise and vibration limits conditioned in the planning permission (if granted) are not exceeded. Suggested construction noise monitoring locations are presented in Figure 12.5.

Noise monitoring will be conducted in accordance with the International Standard ISO 1996: 2017: Acoustics – Description, measurement and assessment of environmental noise and located a distance of greater than 3.5 m away from any reflective surfaces, e.g. walls, in order to ensure a free-field measurement without any influence from reflected noise sources.

Vibration monitoring will be conducted in accordance with BS 7385-1 (1990) Evaluation and measurement for vibration in buildings — Part 1: Guide for measurement of vibrations and evaluation of their effects on buildings or BS 6841 (1987) Guide to Measurement and Evaluation of Human Exposure to Whole-Body Mechanical Vibration and Repeated Shock.</td></tr>
</table>

Phase	Monitoring
	Figure 12.5: Recommended Construction Noise Monitoring Locations 

23.9 Mitigation & Monitoring for Landscape & Visual

Table 23.13: Mitigation Measures – Landscape & Visual

No.	Mitigation Measure
Construction Phase	
LV01	Construction works will adhere to standard best practice construction site management and to the requirements of the Construction Management Plan (CMP) and Construction Environmental Management Plan (CEMP), submitted in preliminary form (under separate cover) as part of this application, to be finalised by the successful Contractor prior to the commencement of the proposed works.
LV02	Other than where interventions are proposed, existing Site boundaries and associated tree and other plantings will be protected from construction works.
LV03	The immediate setting of Red House, including all areas surrounding areas outside of where works are proposed will be retained and appropriately protected during construction phase.
LV04	Key areas of proposed open space, including the woodland on the boundary with Drumcondra Road Lower, the central core parkland, the quadrangle west of the Seminary, and the northern open space (including the corridor along the River Tolka), will be protected during the construction phase and will not be used for storage of earthworks or construction materials.
LV05	*Retention of Existing Trees* ■ Given the importance of the existing trees, a qualified Arborist will be retained for the duration of the construction phase to ensure protection of trees to be retained.

No.	Mitigation Measure
	■ Trees to be retained will be fenced off and protected in accordance with BS5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations and to the requirements the Arboricultural Report prepared by The Tree File and submitted under separate cover as part of this application. ■ Works to and in the vicinity of the root protection area (RPA) of retained trees shall be carried out in accordance with the requirements the Arboricultural Report prepared by The Tree File and submitted under separate cover as part of this application.
LV06	*Hoarding and Screening* In addition to the fencing and protection of retained trees, tree groups and existing boundaries, c. 2.4 m high hoarding for the purposes of screening will be will be required – particularly on the western, southern and eastern boundaries.

Table 23.14: Monitoring – Landscape & Visual

Phase	Monitoring
Construction	A project Arborist and Landscape Architect will be retained for the duration of the construction works. Monitoring of retained trees and landscape is an integral aspect of the proposed Project, and includes monitoring of: ■ Tree and hedgerow removal, retention and protection; ■ Topsoil stripping and storage; ■ Disturbance by site works, services, etc.; ■ Excavation / alteration of ground levels; ■ Landscape build-up; profiling and cultivation; ■ Landscape finishing and implementation; ■ Proposed planting and grass seeding; and ■ Twelve (12) month aftercare of landscape measures. All works associated with soil stripping and movement, landscape build-up and finishing, and landscape implementation will be approved and monitored by a qualified Landscape Architect. All works associated with removal, retention and protection of existing trees and tree surgery works will be approved and monitored by a qualified Arborist.
Operation	On completion of construction, all landscape areas will be managed under the direction of the Management Company for the overall proposed Project.

23.10 Mitigation & Monitoring for Cultural Heritage – Architectural Heritage

Table 23.15: Mitigation Measures – Cultural Heritage – Architectural Heritage

No.	Mitigation Measure
Construction Phase	
AH01	Architectural features of interest and surviving historic fabric, as detailed below, will be carefully taken down and salvaged prior to the demolition works. The re-use of this fabric within the proposed Project will be considered, and any items not feasible for re-use within the Site will be salvaged off-Site. This will ensure that significant features are not lost as part of the proposed Project and that the loss of historic fabric is minimised. The historic / architectural features and fabric to be salvaged are as follows: ■ All fitting and fixtures in the Oratory at the Ground Floor of the New Wing

No.	Mitigation Measure
	■ All surviving mid-century cast-iron radiators in the New Wing ■ Decorative plaques at the stair hall of the New Wing. ■ All decorative features within the College Church which will be retained by the Church A full photographic survey of the site has been carried out, and is appended in the form of a photographic record (Appendices 14.4 – 14.10). A full drawn and photographic survey of the structures to be demolished, the New Wing and the Library Wing, has been prepared and will record these structures. Please refer to the Outline Conservation Specification appended to the EIAR (Appendix 14.11).

Table 23.16: Monitoring – Cultural Heritage – Architectural Heritage

Phase	Monitoring
Construction	During the construction phase, the Developer / Contractor will ensure that a qualified conservation architect oversees the recording, disassembly, taking down, storage and salvaging of material from the Site, so as to ensure minimal damage to the historic features.

23.11 Mitigation & Monitoring for Cultural Heritage – Archaeology

Table 23.17: Mitigation Measures – Cultural Heritage – Archaeology

No.	Mitigation Measure
Construction Phase	
AY01	All topsoil stripping during construction of the proposed Project will be monitored by a suitably qualified archaeologist. If any features of archaeological potential are discovered during the course of the works, further archaeological mitigation will be required, such as preservation in-situ or by record. Any further mitigation will require approval from the National Monuments Service of the DoHLGH and Dublin City Council Archaeologist.

23.12 Mitigation & Monitoring for Microclimate – Daylight & Sunlight

No mitigation measures or monitoring set out in relation to Microclimate – Daylight & Sunlight.

23.13 Mitigation & Monitoring for Microclimate – Wind

No mitigation measures set out in relation to Microclimate – Wind.

23.14 Mitigation & Monitoring for Traffic & Transportation

Table 23.18: Mitigation Measures – Traffic & Transportation

No.	Mitigation Measure
Construction Phase	
TT01	*Construction Management Plan* A preliminary Construction Management Plan (CMP) has been developed for the proposed Project and submitted as part of this application under separate cover. The CMP measures shall include the following: ■ Construction Site personnel shall be encouraged to arrive before 7:30 and leave after 18:00. ■ Limited parking shall be provided on site for staff (to minimise overspill onto surrounding network) but the majority of Site personnel will be required to arrive via public transport, walking, cycling or other alternative to private car. ■ A Traffic Management Coordinator (TMC) and Community Liaison Officer (CLO) shall be appointed for the duration of the construction phase (can be same person).

No.	Mitigation Measure
	■ A Construction Travel Plan shall be developed by appointed Contractor, addressing access to / from the Site for construction personnel and detailing how more sustainable mobility modes (e.g. carpooling, public transport use, walking and cycling) will be promoted, and individual private car use minimised, among construction personnel. ■ Bike parking shall be provided on-site, and area(s) shall be made available allowing for the storage and drying of cycling gear. ■ Haulage routes to / from Site shall be along designated HGV routes agreed with DCC. ■ Wheel wash facilities shall be provided to minimise track-out onto surrounding road network. ■ Road cleaning and sweeping shall be carried out, as needed, along section of South Circular Road adjacent to the Site. ■ Construction signage shall be erected at all entrances and exits. ■ HGVs carrying soil shall be fully sheeted. ■ HGVs shall be inspected for dirt and mud before exiting onto the public road network. ■ A good practice construction material management protocol shall be implemented, controlling the timing of deliveries. ■ Entrances and exits to the Site shall be manned by flag men during deliveries. The implementation and monitoring of the CMP will be managed by the appointed Construction Manager.
Operational Phase	
TT02	***Mobility Management Plan*** The principal mitigation measure during the operational phase will be the implementation of the Mobility Management Plan (MMP), submitted as part of this application under separate cover, which is intended to reduce the need for car travel among on-site residents and workers during the operational phase. The measures included in the MMP shall address (but not be limited to) the following topics: ■ Appointment of a Mobility Manger; ■ Welcome travel pack to be provided to new residents and workers; with details of local transport network, maps of local amenities, details of on-site facilities, incentivises for sustainable travel (taster tickets) and initial subsidised use of Car Club; ■ Marketing and travel information and personalised travel planning to be provided by Mobility Manager; ■ Walking and cycling challenges and relevant promotional events; and ■ Details of 20 on-site GoCars exclusively for the use of residents.

Table 23.19: Monitoring – Traffic & Transportation

Phase	Monitoring
Construction	The construction phase will be monitored by the appointed Site Manager and regular progress reports will be prepared. The Site Manager will ensure the mitigation measures outlined above are implemented and adhered to.
Operation	A Mobility Manager will be appointed from within the management company to ensure the implementation of the Mobility Management Plan, as detailed in Section 18.5.3, above. They will also be responsible for the undertaking of travel surveys of residents and workers and act as a point of contact for residents for all mobility and access related issues.

23.15 Mitigation & Monitoring for Material Assets – Waste

Table 23.20: Mitigation Measures – Material Assets – Waste

<table>
<tr><th>No.</th><th>Mitigation Measure</th></tr>
<tr><td colspan="2">Construction Phase</td></tr>
<tr><td>WA01</td><td>Construction & Demolition Waste Management Plan (C&D WMP)
As previously stated, a project specific C&D WMP has been prepared in line with the requirements of the Best Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects (DoEHLG, 2006), and is included as Appendix 19.1. Adherence to the high-level strategy presented in this C&D WMP will ensure effective waste management and minimisation, reuse, recycling, recovery and disposal of waste material generated during the demolition, excavation and construction phases of the proposed Project.

Prior to commencement, the appointed Contractor(s) will be required to refine / update the C&D WMP (Appendix 19.1) in agreement with DCC, or submit an addendum to the C&D WMP to DCC, detailing specific measures to minimise waste generation and resource consumption, and provide details of the proposed waste contractors and destinations of each waste stream.

The Contractor will be required to fully implement the C&D WMP throughout the duration of the proposed construction and demolition phases.

Refer to Appendix 19.1 for full Construction & Demolition Waste Management Plan.</td></tr>
<tr><td>WA02</td><td>A quantity of topsoil, sub soil, clay and made ground which will need to be excavated to facilitate the proposed Project. Project Engineers have estimated that c. 70,000 m^3 of excavated material will need to be removed off-site, however it is envisaged that c. 30,000 m^3 excavated material will be reused on-site. Correct classification and segregation of the excavated material is required to ensure that any potentially contaminated materials are identified and handled in a way that will not impact negatively on workers as well as on water and soil environments, both on and off-site.</td></tr>
<tr><td>WA03</td><td>In addition, the following mitigation measures will be implemented:
▪ Building materials will be chosen with an aim to ‘design out waste’;
▪ On-site segregation of waste materials will be carried out to increase opportunities for off-site reuse, recycling and recovery. The following waste types, at a minimum, will be segregated:
  □ Concrete rubble (including ceramics, tiles and bricks);
  □ Plasterboard;
  □ Metals;
  □ Glass; and
  □ Timber.
▪ Left over materials (e.g. timber off-cuts, broken concrete blocks / bricks) and any suitable construction materials shall be re-used on-site, where possible;
▪ All waste materials will be stored in skips or other suitable receptacles in designated areas of the site;
▪ Any hazardous wastes generated (such as chemicals, solvents, glues, fuels, oils) will also be segregated and will be stored in appropriate receptacles (in suitably bunded areas, where required);
▪ A Waste Manager will be appointed by the main Contractor(s) to ensure effective management of waste during the demolition, excavation and construction works;
▪ All construction staff will be provided with training regarding the waste management procedures;
▪ All waste leaving site will be reused, recycled or recovered, where possible, to avoid material designated for disposal;
▪ All waste leaving the site will be transported by suitably permitted contractors and taken to suitably registered, permitted or licenced facilities; and</td></tr>
</table>

<table>
<tr><th>No.</th><th>Mitigation Measure</th></tr>
<tr><td></td><td>■ All waste leaving the site will be recorded and copies of relevant documentation maintained.
■ Nearby sites requiring clean fill material will be contacted to investigate reuse opportunities for clean and inert material, if required. If any of the material is to be reused on another site as by-product (and not as a waste), this will be done in accordance with Article 27 of the EC (Waste Directive) Regulations (2011). EPA approval will be obtained prior to moving material as a by-product. However, it is not currently anticipated that Article 27 will be used.</td></tr>
<tr><td colspan="2">Operational Phase</td></tr>
<tr><td>WA04</td><td>Operational Waste Management Plan (OWMP)
As previously stated, a project specific OWMP has been prepared and is included as Appendix 19.2.

The Operator / Buildings Manager of the Site during the operational phase will be responsible for ensuring – allocating personnel and resources, as needed – the ongoing implementation of this OWMP, ensuring a high level of recycling, reuse and recovery at the Site of the proposed Project.

Refer to Appendix 19.2 for full Operational Waste Management Plan.</td></tr>
<tr><td>WA05</td><td>In addition, the following mitigation measures will be implemented:

■ The Operator / Buildings Manager will ensure on-Site segregation of all waste materials into appropriate categories, including (but not limited to):
□ Organic waste;
□ Dry Mixed Recyclables;
□ Mixed Non-Recyclable Waste;
□ Glass;
□ Waste electrical and electronic equipment (WEEE);
□ Batteries (non-hazardous and hazardous);
□ Cooking oil;
□ Light bulbs;
□ Cleaning chemicals (pesticides, paints, adhesives, resins, detergents, etc.);
□ Furniture (and from time to time other bulky waste);
□ Abandoned bicycles; and
□ Healthcare waste from the medical centre and pharmacy.

■ The Operator / Buildings Manager will ensure that all waste materials will be stored in colour coded bins or other suitable receptacles in designated, easily accessible locations. Bins will be clearly identified with the approved waste type to ensure there is no cross contamination of waste materials;
■ The Operator / Buildings Manager will ensure that all waste collected from the Site of the proposed Project will be reused, recycled or recovered, where possible, with the exception of those waste streams where appropriate facilities are currently not available; and
■ The Operator / Buildings Manager will ensure that all waste leaving the Site will be transported by suitable permitted contractors and taken to suitably registered, permitted or licensed facilities.</td></tr>
</table>

Table 23.21: Monitoring – Material Assets – Waste

Phase	Monitoring
Construction	The management of waste during the construction phase will be monitored by the Contactor's appointed Waste Manager to ensure compliance with the above-listed mitigation measures, and relevant waste management legislation and local authority requirements, including maintenance of waste documentation.

Phase	Monitoring
	The objective of setting targets for waste management is only achieved if the actual waste generation volumes are calculated and compared. This is particularly important during the demolition, excavation and construction works, where there is a potential for waste management objectives to become secondary to other objectives, i.e. progress and meeting construction schedule targets. The C&D WMP specifies the need for a Waste Manager to be appointed, who will have responsibility for monitoring the actual waste volumes being generated and ensuring that contractors and sub-contractors are segregating waste as required. Where targets are not being met, the Waste Manager will identify the reasons for this and work to resolve any issues. Recording of waste generation during the construction phase of the proposed Project will enable better management of waste contractor requirements and identify trends. The data should be maintained to advise on future projects.
Operation	The management of waste during the operational phase will be monitored by the Operator / Buildings Manager to ensure effective implementation of the OWMP internally and by the nominated waste contractor(s). During the operational phase, waste generation volumes should be monitored by the Operator / Buildings Manager against the predicted waste volumes outlined in the OWMP. There may be opportunities to reduce the number of bins and equipment required in the WSAs, where estimates have been too conservative. Reductions in bin and equipment requirements will improve efficiency and reduce waste contactor costs.

23.16 Mitigation & Monitoring for Material Assets – Services

Table 23.22: Mitigation Measures – Material Assets – Services

No.	Mitigation Measure
Construction Phase	
SE01	The exact locations of all on-Site services (underground and overhead, where applicable) will be confirmed, e.g. using slit trenches at key areas, prior to the commencement of works.
SE02	In planning and executing the proposed works, due reference shall be had to the GNI *Guidelines for Designers and Builders – Industrial and Commercial (Non-Domestic) Sites* (2018) and the Health & Safety Authority (HSA) *Code of Practice for Avoiding Danger from Underground Services* (2016).
SE03	There is a 40 bar GNI transmission main and a high voltage (38 KV) ESB transmission circuit under Clonliffe Road where it passes within the Project boundary. As such, this is a particularly high risk area for works, and close liaison will be required with GNI and the ESB in relation to association works. In relation to the gas main, separations that are greater than those for lesser pressure mains will need to be used in this area, as specified by GNI.
SE04	All possible precautions shall be taken to avoid unplanned disruptions to any services / utilities during the proposed works.
SE05	Consultation with the relevant services providers shall be undertaken in advance of works. This will ensure all works are carried out to the relevant standards and ensure safe working practices are implemented - i.e. for live electricity lines and gas mains.
SE06	There will be an interface established between the Contractor and the relevant utilities service providers / authorities during the construction phase of the proposed Project. This interface will be managed in order to ensure a smooth construction schedule with no / minimal disruption to the local residential and business community.
SE07	All infrastructure is to be installed and constructed to the relevant codes of practice and guidelines.
SE08	All mitigation measures in relation to Site access / egress and construction traffic management set out in Chapter 18 of this EIAR and in the finalised Construction Management Plan (refer to preliminary Construction

No.	Mitigation Measure
	Management Plan prepared by DCON Safety Consultants and submitted under separate cover as part of this application) shall be fully implemented by the Site contractors.
SE09	Prior to the operational phase of the proposed Project, utilities infrastructure connections (wastewater, water supply, gas and electricity) will be tested by a suitable qualified person under the supervision of DCC. The proposed Project water supply will be tested to the satisfaction of DCC and Irish Water prior to the connection to the public potable water.
Operational Phase	
SE10	Any necessary maintenance and / or upgrades of on-Site utilities infrastructure during the operational phase of the proposed Project, will be carried out in accordance with the specifications of the relevant service providers and facilitated by the buildings / estate manager.

Table 23.23: Monitoring – Material Assets – Services

Phase	Monitoring
Construction	Monitoring will be provided for by each utility company with an overseeing responsibly by the appointed Contractor during the construction phase.
Operation	Any monitoring of the built services required during the operational phase will be as advised by the relevant services provider and facilitated by the buildings / estate manager.

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