

3.1.4 Alternative Processes

- 3.40 This section typically examines the project processes in relation to likely emissions to air and water, likely generation of waste and likely effect on traffic to determine the process that is least likely to impact on these parameters.
- 3.41 In terms of the proposed development processes, the pre-planning initial design concept and the final design concept necessitate the same power requirements, and result in the same waste and environmental emissions. The proposed development is guided by the applicant's standard specifications, and the flexibility to select alternative processes is limited for this type of development as opposed to an activity that has more complex equipment and processes.
- 3.42 The proposed development will comply with non-residential Part L 2021 (Buildings other than dwellings) and target a BER of at least A2. The optimized approach is based on the Energy Hierarchy Plan – Be Mean, Be Lean, Be Green
- Be Mean: The façade performance specification has been optimized to limit heat loss in the winter, heat gain in the summer, improve airtightness and thermal transmittance, and maximise natural daylight.
 - Be Lean: High efficiency plant will be specified to take advantage of the optimized façade design measures. Allow energy lighting design will be utilized to further reduce energy consumption and increase occupant thermal comfort. A building Management System (BMS) will ensure on-going efficiency in operation of plant and prioritisation of energy reduction measures into the future.
 - Be Green: Renewable energy technologies such as Air Source Heat Pumps (ASHP), mechanical heat recovery (MHVR), and Solar PV Panels are utilised. A number of sustainable design features have been considered within the design to achieve the sustainability targets of the proposed development. These include the proximity of the development to public transportation networks, water efficiency measures such as low consumption sanitary fittings, utilization of captured rainwater for irrigation and greywater, and improved indoor environmental quality.

3.1.5 Alternative Mitigation

- 3.43 For each aspect of the environment, each specialist has considered the existing environment, likely impacts of the proposed development and reviewed feasible mitigation measures to identify the most suitable measures appropriate to the environmental setting of the proposed development. In making a decision on the most suitable mitigation measure the specialist has considered relevant guidance and legislation. In each case, a comparison of environmental effects was made, and the specialist has reviewed the possible mitigation measures available and considered the use of the mitigation in terms of the likely residual impact on the environment. The four established strategies for mitigation of effects have been considered: avoidance, prevention, reduction and offsetting (not required in this development). Mitigation measures have also been considered based on the effect on quality, duration of impact, probability and significance of effects.
- 3.44 The selected mitigation measures are set out in each of the EIA Report Chapters 5-16.

3.1.6 Conclusions on Alternatives

- 3.45 The proposed development was carefully designed, taking into consideration the site context and existing neighboring commercial, residential and educational properties and the local environmental conditions including air quality, noise and vibration, and visual impact.
- 3.46 The proposal will allow the development potential of the site to be maximised within the Georges Quay area while improving visual impact and amenity through responsive architectural design, provision of public cultural space and mitigation measures to reduce the impact upon City Quay National School and the Immaculate Heart of Mary Church.

3.2 REFERENCES

Department of Housing, Local Government and Heritage (2018) "Guidelines for Planning Authorities and An Bord Pleanála on Carrying out Environmental Impact Assessment

Dublin City Council (2016) "Dublin City Council Development Plan 2016-2022"

Dublin City Council (2022) "Draft Dublin City Council Development Plan 2022-2028

Environmental Protection Agency (2022) "Guidelines on the Information to be Contained in Environmental Impact Assessment Reports"



CHAPTER 4

PLANNING AND DEVELOPMENT CONTEXT



4.0 PLANNING AND DEVELOPMENT CONTEXT

4.1 INTRODUCTION

- 4.1 This chapter describes the proposed development within the context of the relevant planning policy as it relates to the environment. The proposed development is in the Local Authority area of Dublin City Council (DCC). The proposed development is described in further detail in Chapter 2 (Description of the Proposed Development).
- 4.2 The national and regional policy context provides the clear policy link between national policies and Local Authority planning policies and decisions. The following policy documents of relevance are discussed in relation to the proposed development herein:

National Policy Context

- Energy Performance of Buildings Directive 2010/31/EU (EPBD) as amended by Directive 2018/844/EU (EPBD) - Nearly Zero Energy Building Standard (NZEB)
- Climate Action Plan (2019),
- Project Ireland 2040 – National Planning Framework (2018 – 2040),
- Urban Development and Building Heights – Guidelines for Planning Authorities (2018),
- Design Manual for Urban Roads and Streets (2013),
- Smarter Travel – A Sustainable Transport Future (2009 – 2020),
- The Planning System and Flood Risk Management – Guidelines for Planning Authorities (2009),

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.

- 4.3 The following sections describe how the proposed development complies with the stated and statutory requirements of DCC with respect to planning and sustainable development. The relevant local planning policy with which the proposed development is substantially compliant with is defined by the DCC Development Plan (2016 – 2022) and the DCC Draft Development Plan (2022-2028).

4.2 DEVELOPMENT CONTEXT

- 4.4 The proposed development is for a mixed use cultural arts and office development. It consists of the demolition of the existing derelict building and ancillary buildings on site and construction of an office building up to 24 storeys in height over a double basement including arts centre, offices, gym and ancillary uses at a site bound by City Quay to the north, Moss Street to the west and Gloucester Street South to the south, Dublin 2. The site includes 1-4 City Quay (D02 KT32), 5 City Quay (D02 PC03), and 23-25 Moss Street (D02 F854).
- 4.5 A full description of the proposed development is provided in Chapter 2.

4.3 NATIONAL POLICY CONTEXT

4.3.1 Nearly Zero Energy Building Standard (NZEB)

4.6 The Energy Performance of Buildings Directive 2010/31/EU (EPBD) as amended by Directive 2018/844/EU gives rise to the Nearly Zero Energy Building standard as defined in Part L of the Building Regulations (Part L Amendment) Regulations, 2008. A Nearly Zero Energy Building (NZEB) is one which has a very high energy performance, and which utilises energy from renewable sources ideally produced on-site or nearby for those small amounts of energy that the building does consume.

4.7 For all new commercial builds, an equivalent to a 60% improvement in energy performance on the 2008 Building Regulations is required. This means an improved energy performance for the fabric, services and lighting specification. It also introduces a mandatory requirement for renewable sources. The renewable sources must in general provide 20% of the primary energy use, however there is flexibility where the building is more energy efficient than the regulations. This typically corresponds to an A3 Building Energy Rating.

4.8 A "Climate Action and Energy Report" and a preliminary "Part L Compliance and Building Energy Rating Report" have been prepared by Penston MEP Consulting, and are submitted as part of this application. The later report demonstrates that NZEB (Nearly Zero Energy Building standard) compliance and A1 building energy rating can be achieved for the proposed development.

4.3.2 Climate Action Plan (2019)

4.9 The Climate Action Plan states that "*the built environment accounted for 12.7% of Ireland's greenhouse gas emissions in 2017*". The Government's targets for the sector include reducing CO₂ emissions by 40 to 50% relative to the 2030 pre-National Development Plan projections, and to sharply reduce fossil fuel reliance in buildings.

4.10 Notably in relation to the proposed development, it is stated that: "*Better spatial planning will reduce the carbon emissions of new developments, and deliver a better quality of life, including shorter commute times, better connections between our places of work and homes, and more vibrant, people-focused environments.*"

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

4.11 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.

4.12 The NPF presents ten National Strategic Outcomes (NSOs), "*a shared set of goals for every community across the country*". A corresponding suite of National Policy Objectives (NPOs) are set out with a view to achieving these NSOs.

4.13 The following NPOs are of relevance to the proposed development:

- NPO 4 is to "*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.*"
- NPO 11 states that "*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.”

- NPO 13 further 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”*.

4.14 The proposed development site is well aligned with the NPFs policies, in that it will provide a large number of additional well-designed, high quality and high-density offices for employment within Dublin City Centre, proximate to areas of high residential density and at a site extremely well served by existing and future proposed public transport services.

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

4.15 The Urban Development and Building Heights Guidelines (UD & BHGs) for Planning Authorities 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.

4.16 The proposed development features a mixed-use cultural arts and office development of 24 storeys over two basement levels in the centre of Dublin City. The Urban Development and Building Height Guidelines were prepared in response to the NPF and as a means of supporting increased density, scale, and height of development in the town and city cores. The Guidelines note that *“increased building height is a significant component in making optimal use of the capacity of sites in urban locations where transport, employment, services or retail development can achieve a requisite level of intensity for sustainability.”* The proposed development is consistent with the overriding principle of these Guidelines.

4.17 This planning application is accompanied by two reports: “Tall Building Statement: City Quay Dublin” by Urban Strategies Inc., and “Planning Report in respect of Office Development at 23-35 Moss St., 2-6 Gloucester St. & 1-6 City Quay, Dublin 2” by John Spain and Associates which address this issue in great detail.

4.18 The proposed development has regard to the policy framework set out in the BHG. The proposed development complies with the applicable objectives and therefore it is in accordance with the provisions of national policy guidelines. It therefore represents a suitable location for increased building heights and densities.

4.3.5 Design Manual for Urban Roads and Streets

4.19 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. The proposed development site is the outcome of integrated urban design and landscaping to create segregated entrances for pedestrians, cyclists and vehicles, in addition to segregated parking areas and, thereby, facilitate a safer environment for pedestrians and cyclists.

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

4.20 *Smarter Travel – A Sustainable Transport Future (2009 – 2020)* outlines the Government’s goals to achieve transport sustainability. The proposed development site will promote sustainable personal mobility decisions by virtue of its proximity to extensive existing and future proposed public transport services and the proposal to virtually eliminate car parking

provision (11 spaces) while maximising bicycle parking (424 car parking spaces which is in excess of development plan requirements) and providing other cyclist facilities. All car parking spaces will facilitate electric vehicle (EV) charging points.

4.3.7 The Planning System and Flood Risk Management – Guidelines for Planning Authorities

- 4.21 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.
- 4.22 The development of a commercial complex is classified as a less vulnerable development under the OPW flood risk management guidelines. The proposed development is situated in Flood Zones A, B and C and is proposed to be sited above the 0.5% AEP coastal flood level with allowance for climate change and freeboard (at 4.0mOD), with other less vulnerable uses at existing streetscape level to ensure continuity within the streetscape but protected with demountable barriers to address the food risk.
- 4.23 The proposed development will not impact on flood extent, depth, risk or flood routes elsewhere. Whilst there will be reliance on existing defences of the South Campshire Flood Protection Scheme to protect the development, the development has measures in place that will, on their own, protect the development to the required design standard in the FRM Guidelines.
- 4.24 Ancillary building facilities, such as heating, back-up power and sprinkler systems will be protected from flooding.
- 4.25 As a result of the design and mitigation measures the proposed development is in line with the core principles of the Planning Guidelines and Objective outlined in the Dublin City Development Plan 2016-2022 and the draft Dublin City Development Plan 2022-2028. Under the Planning Guidelines the site is therefore considered suitable for development of commercial land uses.

4.4 LOCAL PLANNING CONTEXT

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

- 4.26 On 28th June 2019, the Regional Spatial and Economic Plan for the Eastern Midlands Region 2019-2031 (RSES) was made by Eastern Midlands Regionals Assembly (EMRA). This strategic plan and investment framework will shape the future of the Region to 2031 and beyond as per the Vision Statement. *“To create a sustainable and competitive Region that supports the health and wellbeing of our people and places, urban and rural, with access to quality housing, travel and employment opportunities for all.”*
- 4.27 Consistent with the provisions of the NPF, the RSES supports continued population and economic growth in Dublin City and suburbs, with high quality development promoted and a focus on the role of good urban design, brownfield redevelopment and urban renewal and regeneration.
- 4.28 Chapter 5 of the RSES focuses on the Dublin Metropolitan Area Strategic Plan (MASP). The RSES notes that is a guiding principle of the MASP to *“(I)increase employment density*

in the right places – To plan for increased employment densities within Dublin City and suburbs and at other sustainable locations near high quality public transport nodes, near third level institutes and existing employment hubs, and to relocate less intensive employment uses outside the M50 ring and existing built-up areas”.

- 4.29 Table 5.2 of the RSES identifies that “(H)high tech, financial services and people intensive employment and regeneration of underutilised lands” are to be pursued for the subject area.

4.4.2 Dublin City Council Development Plan 2016 – 2022

- 4.30 The development strategy for the proposed development seeks to utilise existing infrastructure such as cycling and public transport in an area in the centre of Dublin City.

- 4.31 The settlement strategy for the city has a strong emphasis on consolidation of the existing city area, with major growth focussed on the Strategic Development and Regeneration Areas (SDRAs) within the city, making best use of existing and planned high quality public transport and social infrastructure. The settlement strategy details how the future population and housing needs of the city will be met over the life of the Development Plan. The SDRA areas are central to meeting the growth need of the city in that they provide sustainable higher density new housing locations, supporting local communities and services.

- 4.32 The proposed development site will provide a well-designed, high quality and high density mixed-use (predominantly office) development on appropriately zoned brownfield lands, which are well served by public transport supporting the delivery of planned sustainable mixed use commercial development as envisaged in the Development Plan.

4.4.3 Draft Dublin City Council Development Plan 2022-2028

- 4.33 The Dublin City Council Development Plan (2016-2022) is currently being updated. The consultation period for the draft Dublin City Council Development Plan 2022-2028 has ended and the elected members are due to receive a report prepared by the Chief Executive regarding all submissions and observations received by the 29th September 2022. Having considered the proposed material alterations to the Draft Dublin City Council Development Plan and the Chief Executive’s Report on submissions received, the Elected Members will make the Dublin City Development Plan 2022-2028 with or without amendment, at the end of October 2022.

- 4.34 Considering that this proposed development may still be in the planning process while the draft Dublin City Council Development Plan 2022-2028 is finalised and adopted, this planning application has also made reference to pertinent elements of the draft Dublin City Council Development Plan 2022-2028 alongside those aspects of the Dublin City Council Development Plan (2016-2022).

- 4.35 This consideration of the draft Dublin City Council Development Plan 2022-2028 is made in the full knowledge that the Elected Members may, as is their discretion, make alterations to the draft Dublin City Council Development Plan 2022-2028 and as such those elements of the draft Dublin City Council Development Plan 2022-2028 referred to in the planning application that remain unchanged shall serve the application for the proposed development throughout the planning process, and those that may be altered will need to be re-addressed by means of Further Information request.

4.36 As the draft Dublin City Council Development Plan 2022-2028 is currently written the proposed development will still provide a well-designed, high quality and high density mixed-use (predominantly office) development on appropriately zoned brownfield lands, which are well served by public transport supporting the delivery of planned sustainable mixed use commercial development as envisaged in the draft Dublin City Council Development Plan 2022-2028.

4.4.4 George's Quay Local Area Plan 2012

4.37 The subject lands are located within the George's Quay Local Area Plan area. The George's Quay Local Area Plan was adopted in 2012 and is due to expire July 2022, and as such is unlikely to be in existence for the duration of this planning application.

4.38 The George's Quay Local Area plan recognises the unique roles of the area in bridging the gap between the centre of Dublin City and the Dublin Docklands, the distinct advantage afforded by access to multiples modes of public transport, and the architectural setting.

4.39 It is recognised in the Local Area Plan that "*the LAP provides new locations for world standard headquarter buildings to drive economic opportunities*".

4.40 As is stated in the Tall building Statement: City Quay Dublin, Urban Strategies Inc. "*The George's Quay plan suggested two mid-rise buildings on the City Quay site, to reflect the transition in scale from the George's plaza development to the west and the lower buildings along the City Quay to the east. That important scale transition is now accommodated within the single building design proposed for City Quay. In other respects the proposal meets the objectives of the LAP*".

4.5 SITE PLANNING HISTORY

4.41 A full planning history of the subject land and the environs is provided in "Planning Report in respect of Office Development at 23-35 Moss St., 2-6 Gloucester St. & 1-6 City Quay, Dublin 2" by John Spain and Associates.

4.6 SEVESO AND COMAH SITES

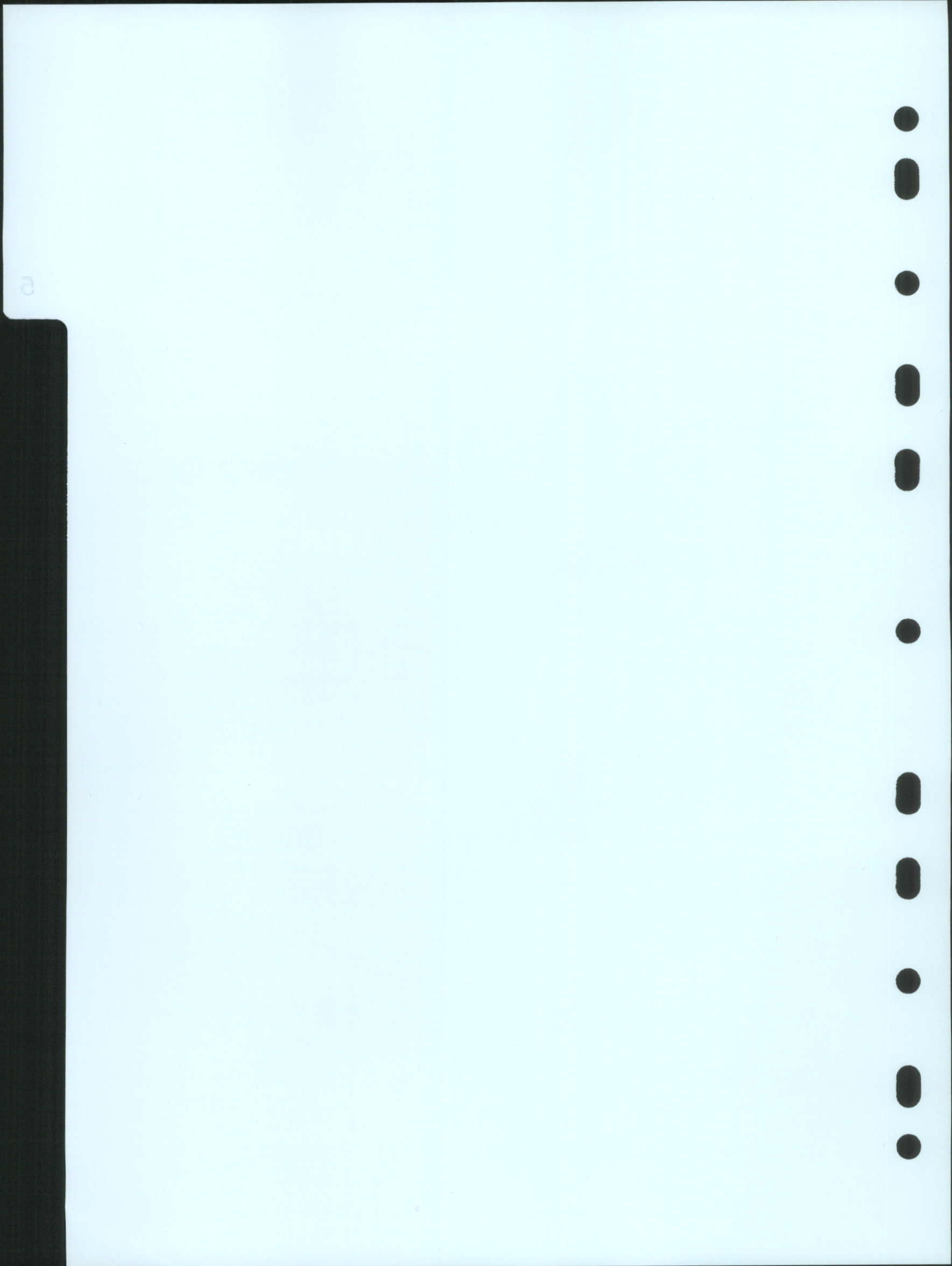
4.42 It has been confirmed through consultation with the Health & Safety Authority that there are no Seveso Sites within close proximity of the proposed development. The nearest upper tier Seveso Site is Valero Energy Ltd at Dublin Port c. 3km from the proposed development and the nearest lower tier Seveso Site, Circle K Terminal is also located in Dublin Port c. 2.2km from the proposed development. It follows that the proposed development is not likely to be affected by an accident at any Seveso Site in the wider area; and vice versa, nor is any Seveso Site likely to be affected by the proposed development itself.

4.7 CONCLUSIONS

4.43 The proposed development is broadly in accordance with the policies and objectives of the National Spatial Strategy, Draft Regional Spatial and Economic Strategy for the Eastern and Midlands Regional Assembly, the DCC Development Plan 2016 – 2022 and draft DCC Development Plan 2022-2028. The Tall building Statement: City Quay Dublin,

Urban Strategies Inc provides further details concerning the alignment of the height of the proposed development with these policies.

- 4.44 The site context does not include any significant Seveso / COMAH sites. The proposed development is not likely to be affected by an accident at any Seveso Site in the wider area; and vice versa, nor is any Seveso Site likely to be affected by the proposed development itself.
- 4.45 The proposed development site is zoned as "Z5". The zoning objective "*to consolidate and facilitate the development of the central area*" and "*to sustain life within the centre of the city through intensive mixed-use development*" including "*cultural*" and "*office*" uses, the proposed high-density development proposes to deliver a considerable cultural venue along with a significant quantum of office space in conjunction with a gym, which will improve the overall mix of uses along City Quay and wider environs and ensure its long term viability.
- 4.46 The context of the site is described further in Chapter 2 (Description of Development). The development is an appropriate land use for the area and meets the requirements of the DCC zoning objectives. The proposed development will minimise the potential environmental impacts as described in various chapters of this EIA Report.



CHAPTER 5

POPULATION & HUMAN HEALTH



5.0 POPULATION & HUMAN HEALTH

5.1 INTRODUCTION

5.1 This chapter evaluates the impacts of the proposed development (as defined in Chapter 2 of this EIA Report) on population and human health.

5.2 In accordance with the Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA, 2022), and Draft Advice Notes for Preparing Environmental Impact Statements (EPA, 2015), this chapter has considered the “existence, activities and health of people” with respect to “topics which are manifested in the environment such as employment and housing areas, amenities, extended infrastructure or resource utilisation and associated emissions”. Issues examined in this chapter include:

- Demography;
- Population;
- Employment;
- Social Infrastructure;
- Landscape, Amenity and Tourism;
- Natural Resources;
- Land, Soil, geology and Hydrogeology;
- Hydrology;
- Air Quality;
- Noise & Vibration;
- Material Assets;
- Traffic; and
- Health and Safety.

5.3 Where these topics are dealt with in further detail elsewhere in this EIA Report, the relevant chapters have been cross referenced in this Chapter.

5.2 METHODOLOGY

5.4 In accordance with the Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA, 2022), this chapter has considered that:

“in an EIAR the assessment of impacts on population and human health should refer to the assessment of those factors under which human health effects might occur, as addressed elsewhere in the EIAR e.g., under environmental factors of air, water soil etc”.

5.5 With respect to human health it is further stated in the EPA EIAR Guidelines (2022) that

“The evaluation of effects on these pathways¹ is carried out by reference to accepted standards (usually international) of safety in dose, exposure or risk. These standards are in turn based upon medical and scientific

¹ such as air, water, noise or soil

investigation of the direct effects on health of the individual substance, effect or risk. This practice of reliance upon limits, doses and thresholds for environmental pathways, such as air, water or soil, provides robust and reliable health protectors [protection criteria] for analysis relating to the environment.”

5.6 As per Article 3 of Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment, as amended by Directive 2014/52/EU:

- 1) *The environmental impact assessment shall identify, describe, and assess in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of a project on 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).*
- 2) *The effects referred to in paragraph 1 on the factors set out therein 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.”*

5.7 The 2017 publication by the European Commission (EC), Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report, considered 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 the 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.”

5.8 This chapter will follow these EC guidelines and will examine the health effects relevant to the proposed development as they relate to a relevant, defined study area. A desktop study of the published policy documents and data was undertaken to appraise the potential impact upon population and human health receptors and to assess population trends in the subject site. The effects of the proposed development on the population and human health are analysed in compliance with the requirements of the EPA Guidelines.

5.2.1 Assessment of Significance & Sensitivity

5.9 The assessment of significance is a professional appraisal based on the sensitivity of the receptor and the magnitude of the effect.

5.10 Within any area, the sensitivity of individuals in a population will vary. As such, it would be neither representative of the population, nor a fair representation of the range of sensitivities in a population were an overall sensitivity classification assigned to the

population in question. As such, the precautionary principle has been adopted for this assessment, which assumes that the population within the study area is of a uniformly high sensitivity.

5.2.2 Magnitude of Impact

5.11 The magnitude of predicted impacts has been quantified in this assessment using the terms outlined in Table 5.1 below.

Table 5.1 Description of magnitude of predicted impacts

Magnitude	Description of Magnitude
High	Change in an environmental and/or socio-economic factor(s) as a result of the proposed development which would result in a major change to existing baseline conditions (adverse or beneficial)
Medium	Change in an environmental and/or socio-economic factor(s) as a result of the proposed development which would result in a moderate change to existing baseline conditions (adverse or beneficial)
Low	Change in an environmental and/or socio-economic factor(s) as a result of the proposed development which would result in a minor change to existing baseline conditions (adverse or beneficial)
Negligible	Change in an environmental and/or socio-economic factor(s) as a result of the proposed development which would not result in change to existing baseline conditions at a population level, but may still result in an individual impact (adverse or beneficial)
No change	No change would occur as a result of the proposed development which would alter the exiting baseline conditions (adverse or beneficial)

5.2.3 Significance of Effects

5.12 The assessment of significant effects in this assessment is a professional appraisal and has been based on the relationship between the magnitude of effects (Section 5.2.2) and the sensitivity of the receptor. Table 5.2 below provides a matrix on the measure of the significance of effects as determined by the relationship between the magnitude of impact and the sensitivity of receptors.

Table 5.2 Significance of effects and the sensitivity of the receptor

		Magnitude of Impact			
		Negligible	Low	Medium	High
Sensitivity of Receptor	Negligible	Negligible	Negligible or minor	Negligible or minor	Minor
	Low	Negligible or minor	Negligible or minor	Minor	Minor or moderate
	Medium	Negligible or minor	Minor	Moderate	Moderate or major
	High	Minor	Minor or moderate	Moderate or major	Major

5.2.4 Study Area

- 5.13 The proposed development site is located in City Quay, Dublin City centre, Co. Dublin, and in the local electoral area (LEA) of South-East Inner City LEA-5, and the electoral division of Mansion House A. The area² selected for the assessment of the impact on human health has been defined as the electoral divisions (EDs) of Mansion House A (02117), North city (02075), North Dock, C (02078), South Dock (02147), Mansion House, B (02118), Royal Exchange, B (02145), and Royal Exchange A (02144).
- 5.14 The site is located within the Dublin strategic planning area, located in the Eastern and Midland Regional Assembly. as defined by the nomenclature of territorial units for statistics developed by Eurostat.

5.3 RECEIVING ENVIRONMENT

5.3.1 Population and Demographics

5.3.1.1 Population

- 5.15 The most recent census of the population was carried out by the CSO on the 24th of April 2016³, and the previous census on the 10th of April 2011. The census compiles data for the whole state as well as smaller individual areas including counties, cities, towns, and electoral divisions. Taking into consideration the location of the proposed development, the census information on population, age profile, employment, and social class, has been analysed in relation to the development site.
- 5.16 Table 5.3 denotes the population change for the state, and electoral districts for the census years 2011 and 2016. The latest census data shows that the population of Mansion House A ED, which is the immediate area surrounding the development site, increased in size by 6.8% between the years 2011 and 2016 compared with an increase of 3.8% nationally. The average rate of population growth across the study area was also an increase of 4.3%. The general increase in growth rate of the surrounding areas, when compared to the state figures, is typical of the Dublin City area indicating the disproportionate economic role of the areas surrounding the proposed development site to other areas of the country.

Table 5.3 Population change 2011 – 2016 (Source: www.cso.ie)

Area	2011	2016	% Change 2011-2016
State	4,588,252	4,761,865	3.8%
Mansion House A	4,347	4,665	6.8%
North City	5,345	5,654	5.5%
North Dock C	4,345	4,214	-3.1%
South Dock	7,129	7,004	-1.8%
Mansion House B	1,069	1,311	18.5%
Royal Exchange B	1,914	2,082	8.1%

² The study area was selected using the electoral divisions as these are the smallest legally defined administrative areas in the State. A broad representation of the human environment has been captured through the selection of electoral division within which the subject lands are situated in addition to all adjacent electoral divisions.

³ At the time of preparing this EIAR the April census 2022 has been taken; however the main results of this new census are not yet available.

Area	2011	2016	% Change 2011-2016
Royal Exchange A	4,481	4,329	-3.5%
Study Area (mean)	4,090	4,180	4.3%

5.3.1.2 Age Profile

5.17 The age profile of the population in the area is an important parameter as it provides a good insight into the potential labour force, the demand for schools, amenities, other facilities, and the future housing demand. Table 5.4 shows the age profiles at a national level and electoral districts for the census year 2016.

Table 5.4 Age profile 2016 (Source: www.cso.ie)

Age	0-12	13-18	19-24	25-44	45-64	65+	Total Persons
State	18%	8%	7%	30%	24%	13%	4,761,865
Mansion House A	9%	9%	18%	38%	17%	9%	4,665
North City	8%	3%	11%	56%	17%	6%	5,654
North Dock C	8%	4%	14%	48%	19%	7%	4,214
South Dock	8%	2%	11%	59%	14%	5%	7,004
Mansion House B	4%	2%	13%	39%	30%	12%	1,311
Royal Exchange B	7%	6%	13%	38%	26%	9%	2,082
Royal Exchange A	3%	4%	17%	45%	23%	8%	4,329
Study Area (mean)	7%	4%	14%	46%	21%	8%	

5.18 This table shows that when compared to national statistics that the study area has an overall younger population with the dominant age grouping being 25-44 at 46% as opposed to dominance in the national population of age 25-44 at 30% of the total population. The lower dominance of the +65 age grouping within the study area (8% as opposed to 13% nationally) reflects that the overall labour force population (13-64 age group) in the study area is higher than that of the national level. The Mansion House A ED would mirror the study area profile with the three largest cohort ranges falling within the ages of 19-64 years old (19-24=18%, 25-44=38%, 45-64=17%), presenting a viable working population.

5.3.2 Socioeconomics

5.3.2.1 Employment

5.19 Table 5.5 presents the employment statistics nationally and at the ED level in 2016 compared with 2011. The data shows that unemployment⁴ decreased from 2011 to 2016 in the study area, in line with national figures which reflect the economic recovery in recent years. While the Mansion House A ED matches the unemployment rate for the State, the overall average for the study area has consistently been lower than state levels indicating higher opportunity levels both within the study area and outside of it in Dublin City.

Table 5.5 Employment statistics 2011 and 2016 (Source: www.cso.ie)

⁴ For the purposes of this report those deemed unemployed comprises all those aged 15 and over within the study area who classified themselves as “looking for first regular job” and “unemployed having lost or given up previous job” and expressed as a percentage of the Total labour Force..

	At Work	Looking for first regular job	Unemployed having lost or given up previous job	Total in labour force	% Unemployment
2011 Labour Force					
State	1,807,360	34,166	390,677	2,232,203	18%
Mansion House A	1,883	61	365	2,309	18%
North City	2,938	112	369	3,419	14%
North Dock C	2,015	53	548	2,616	23%
South Dock	4,601	60	412	5,073	9%
Mansion House B	685	6	39	730	6%
Royal Exchange B	823	19	165	1,007	18%
Royal Exchange A	2,311	49	330	2,690	14%
Study Area (mean)	2,179	51	318	2,549	15%
2016 Labour Force					
State	2,006,641	31,434	265,962	2,304,037	13%
Mansion House A	2,227	52	296	2,575	14%
North City	3,496	86	382	3,964	12%
North Dock C	2,284	41	383	2,708	16%
South Dock	4,743	46	298	5,087	7%
Mansion House B	841	4	28	873	4%
Royal Exchange B	1,094	12	154	1,260	13%
Royal Exchange A	2,642	38	214	2,894	9%
Study Area (Mean)	2,475	40	251	2,766	11%

5.3.2.2 Education Attainment

5.20 Census data presenting the highest level of education completed for key educational levels by people living in Dublin City and the study area surrounding the development site is presented in Table 5.6. The table presents key milestone education and ignores people undertaking other studies or where information was not stated.

Table 5.6 Highest level of education in 2011 and 2016 (Source: www.cso.ie)

Area	No formal education	Primary education	Secondary ⁵	Higher Education ⁶	Undergraduate Degree ⁷	Postgraduate Degree ⁸	Total Persons
Highest level of education in 2011							
Dublin City	4,635	56,817	109,746	50,898	67,398	46,007	359,219
Mansion House A	31	468	623	277	466	521	2,691
North City	28	140	574	529	790	530	3,088
North Dock C	46	413	608	328	573	425	2,645
South Dock	32	337	795	562	1,577	1,550	5,158
Mansion House B	1	7	69	69	243	262	779
Royal Exchange B	14	151	333	118	223	136	1,228
Royal Exchange A	26	221	415	343	582	450	2,856
Highest level of education in 2016							
Dublin City	5,807	43,102	100,278	53,536	77,803	58,960	380,754
Mansion House A	48	343	574	339	568	548	2,931
North City	32	104	531	445	835	584	3,731

⁵ Lower secondary and Upper secondary

⁶ Higher Certificate, Advanced certificate/completed apprenticeship or Technical/vocational training

⁷ Ordinary bachelor's degree, Honours bachelor's degree/professional qualification

⁸ Postgraduate degree or Ph.D

Area	No formal education	Primary education	Secondary ⁵	Higher Education ⁶	Undergraduate Degree ⁷	Postgraduate Degree ⁸	Total Persons
North Dock C	67	388	496	277	569	521	2,855
South Dock	14	207	600	433	1,429	1,694	5,173
Mansion House B	1	8	91	96	276	298	1,024
Royal Exchange B	30	142	251	155	245	193	1,479
Royal Exchange A	37	146	333	303	603	485	3,136

5.3.2.3 Labour Force Survey

5.21 The Labour Force Survey (LFS) is a large-scale, nationwide survey of households in Ireland carried out every three months. It generates labour force estimates which include the official measure of employment and unemployment for the state. The CSO is obliged to follow standard definitions and methodology when calculating the official estimates from the LFS. However, in response to the COVID-19 pandemic, the CSO implemented adjusted measures in order to take into account the economic impact of the COVID-19 pandemic in Ireland. Results for both sets of estimates are provided in the following paragraph.

5.22 The LFS results nationally for Q4 2021 showed that there were 2,506,000 people employed in the state with 127,400 registered as unemployed. The COVID-19 Adjusted Measure of Employment, or the lower bound for the number of employed persons aged 15 years and over, decreased from 2,439,099 to 2,430,587 between the end of December 2021 and the end of January 2022. This was accompanied by a decrease from 70.9% in December 2021 to 70.7% in January 2022 in the associated COVID-19 Adjusted Employment Rate for those aged 15-64. In Q4 2021, the majority of people were employed in the broad occupations of 'Industry', 'wholesale and retail trade, repair of motor vehicles and motorcycles', and 'Education' (www.cso.ie, 2022).

5.3.2.4 Income

5.23 The below data in Table 5.7 is obtained from CSO PxStat (CIA02), this demonstrates that while the levels of total income per person in County Dublin in 2017 were 17% higher than those for the State, they dropped to -26% and -24% lower than the State for 2018 and 2019.

5.24 A different pattern of income distribution is observed in data on disposable income per person, with a light adjustment for the higher cost of living in the area with disposable income being 12% to 14% higher than that for the state).

Table 5.7 Income per Person (Source: CSO PxStat CIA02)

Area	Income	2017	2018	2019
State	Total Income per Person (€)	29,667	30,753	31,812
	Disposable Income per Person (€)	20,578	21,270	22,032
Dublin	Total Income per Person (€)	35,777	24,399	25,696
	Disposable Income per Person (€)	23,394	24,399	25,696

5.3.2.5 Deprivation

5.25 Deprivation in small areas is mapped using the Pobal HP Deprivation Index. This Index draws on data from censuses and combines three dimensions of relative affluence and

deprivation: Demographic Profile, Social Class Composition and Labour Market Situation. Figure 5.1 below shows a graphical representation of how the concepts of Demographic Growth, Social Class Composition and Labour Market Situation are measured by ten key socio-economic indicators from the Census of Population. In this EIA Report, the Relative Index Score is considered as the measure for deprivation, as these Relative Index Scores are rescaled such that the mean is 0 and the standard deviation is 10 at each census wave. This allows for the provision of descriptive labels with the scores, which are grouped by standard deviation as seen in Table 5.8 below.

5.26 Graphical representation of how the concepts of Demographic Growth, Social Class Composition and Labour Market Situation are measured by ten key socio-economic indicators from the Census of Population.

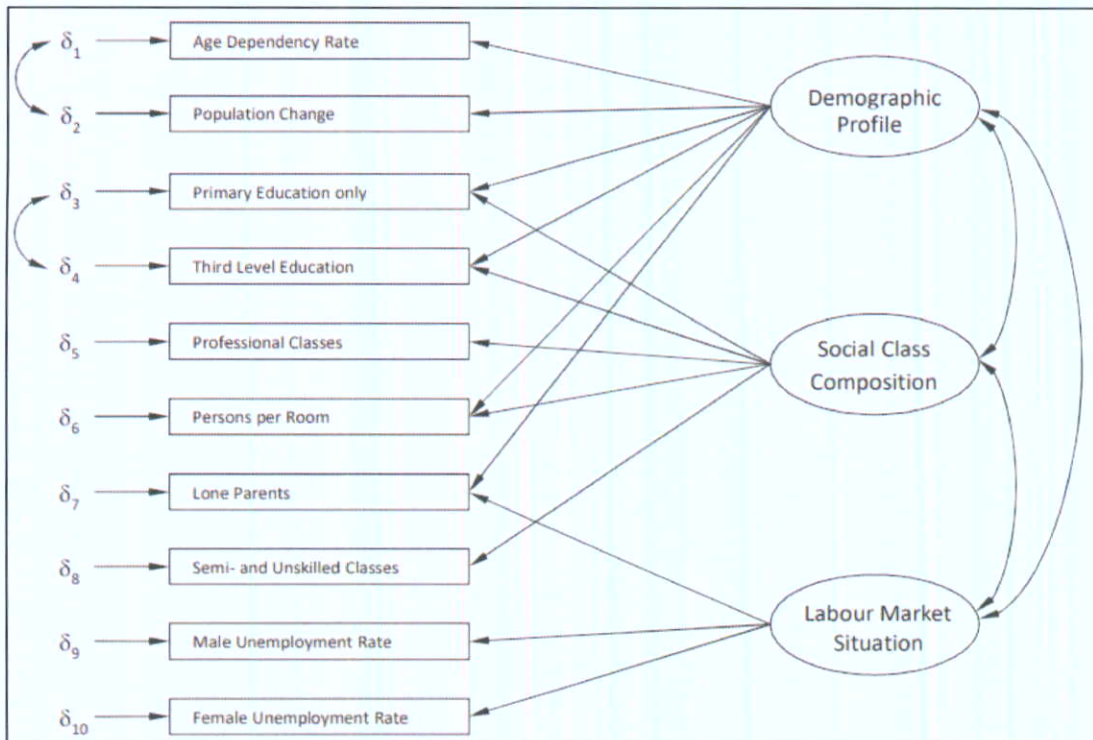


Figure 5.1 Basic Model of the Pobal HP Deprivation Index

Table 5.8 Pobal HP Index Relevant Index Score labels (Source: Pobal HP Deprivation Index)

Relative Index Score	Standard Deviation	Label
> 30	> 3	Extremely affluent
20 – 30	2 – 3	Very affluent
10 – 20	1 – 2	Affluent
0 – 10	0 – 1	Marginally above average
0 – -10	0 – -1	Marginally below average
-10 – -20	-1 – -2	Disadvantaged
-20 – -30	-2 – -3	Very disadvantaged
< -30	< -3	Extremely disadvantaged

5.27 The data in Table 5.9 shows the Pobal HP Index Relevant Index Score Figures at a local and County level (Source: Pobal HP Deprivation Index). These figures show that the population living within the study area are either classified as 'Marginally above average' (Mansion House A, North Dock C, Royal Exchange B), or 'Affluent' (North

City, South Dock, Royal Exchange A), or 'Very Affluent' (Mansion House B). The county of Dublin is classified as 'Marginally above average' for the year 2016. Figure 5.2 below presents the Pobal HP Index map illustrating the Study Area.

Table 5.9 Pobal HP Index Relevant Index (Source: Pobal HP Deprivation Index)

Area	Relative Index Score	Pobal HP Description 2016
Dublin County	+ 4.12	Marginally above average
Mansion House A	+ 4.79	Marginally above average
North City	+10.85	Affluent
North Dock C	+ 3.49	Marginally above average
South Dock	+ 15.93	Affluent
Mansion House B	+ 22.51	Very Affluent
Royal Exchange B	+ 6.35	Marginally above average
Royal Exchange A	+ 11.68	Affluent

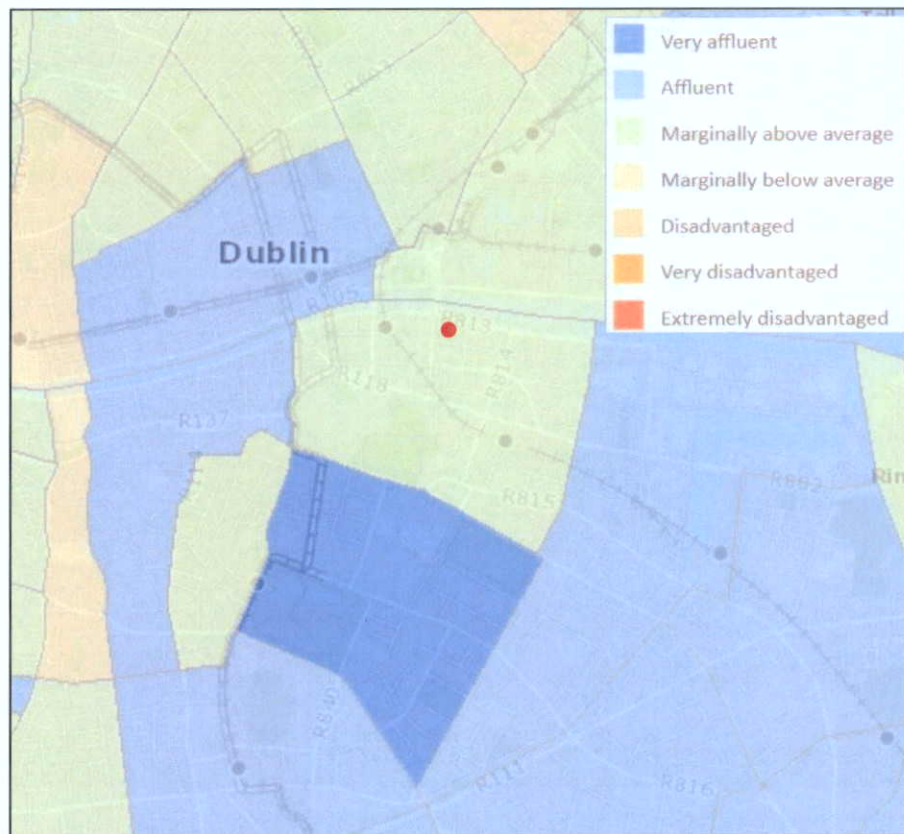


Figure 5.2 Pobal HP Index Electoral Division, Site is indicated with a red dot (Source: Pobal HP Deprivation Index)

5.3.3 Health

5.3.3.1 Physical Health

5.28 Life expectancy in Ireland by sex is a key metric for assessing population health; data for the study area is shown in Table 5.10. Period life expectancy is the average number of additional years a person would live if he or she experienced the age-specific mortality rates of the given area and time period for the rest of their life. The Dublin

data shows that period life expectancy for both males and females at age 65 has increased consistently, with female life expectancy consistently higher than male.

Table 5.10 *Period Life Expectancy at age 65 (Source: CSO PxStat VSA31)*

Period Life Expectancy in Dublin by sex					
Area	Sex	2002	2006	2011	2016
Dublin	Male	15.5	16.9	17.8	18.7
	Female	18.9	19.7	20.6	21.0

- 5.29 Table 5.11 shows potential years of life lost per 100,000 population due to circulatory diseases at a national and County level (Source: CSO). The potential number of years lost due to circulatory disease in County Dublin and City are slightly lower than that of the State for all the study years, and follow the same gradual decline in years lost to circulatory disease.

Table 5.11 *Circulatory Diseases (Source: CSO PxStat DHA16)*

Potential Years of Life Lost per 100,000 Population				
Area	2015	2016	2017	2018
State	431.3	411.6	386.1	383.4
County Dublin & City	434.1	388.0	349.5	361.3

- 5.30 Potential loss of years due to respiratory diseases per 100,000 population at a national and county level are shown in Table 5.12. The potential loss of years to respiratory disease is generally lower in County Dublin and City than within the State, with the exception of 2016 when Dublin had significantly more years lost due to respiratory disease than the state. Excepting 2016 the population of County Dublin and City are experiencing a fairly static trend of lost years to respiratory disease year on year 2015-2018.

Table 5.12 *Respiratory Diseases (Source: Source: CSO PxStat DHA16)*

Potential Years of Life Lost per 100,000 Population				
Area	2015	2016	2017	2018
State	125.7	125.6	103.0	120.1
County Dublin & City	100.6	144.2	95.7	109.1

- 5.31 With respect to mental health the rates of death by suicide and intentional self-harm rate per 100,000 population is shown in Table 5.13 below. The rate in County Dublin and City is quite significantly lower over the study years compared with those in the State. The rate of death by suicide and intentional self-harm in County Dublin and City is decreasing year-on-year, in line with the pattern seen in the State.

Table 5.13 *Death by Suicide and Intentional Self Harm (Source: CSO PxStat DHA12)*

Death by Suicide and Intentional Self Harm Rate per 100,000 Population				
Area	2014	2015	2016	2017
State	10.46	9.07	9.22	8.18
County Dublin & City	6.22	3.88	3.97	3.48

- 5.32 The number of discharges from hospital for anxiety or depression per 1,000 people (Table 5.14) in the Dublin North, Dublin North Central, and Dublin North West community healthcare organisation region (CHO 9) have followed the same pattern of the State, which shows a fairly static trend from 2018-2019.

Table 5.14 Number hospital discharges (including deaths) for anxiety or depression (Source: CSO PxStat HR028)⁹

Number of discharges from hospital for anxiety or depression per 1,000 people				
Area	2015	2017	2018	2019
State	26.4	24.8	24.1	24.4
CHO Area 9	28.3	25.9	23.6	23.4

5.33 Figures are available from the CSO for individuals who stated in the 2016 census that their health is either bad or very bad. Table 5.15 below provides a summary for each electoral division, and Figure 5.3 presents the CSO data, illustrating the study area. As can be seen the Rathcline ED reports relatively low levels of bad or very bad health, with the surrounding EDs reporting either similar or lower percentages.

Table 5.15 Percentage of People Who State That Their Health is Either Bad or Very Bad. (Source: CSO)

Area	2016
Mansion House A	1.5%
North City	0.9%
North Dock C	2.0%
South Dock	0.8%
Mansion House B	0.3%
Royal Exchange B	2.3%
Royal Exchange A	1.1%

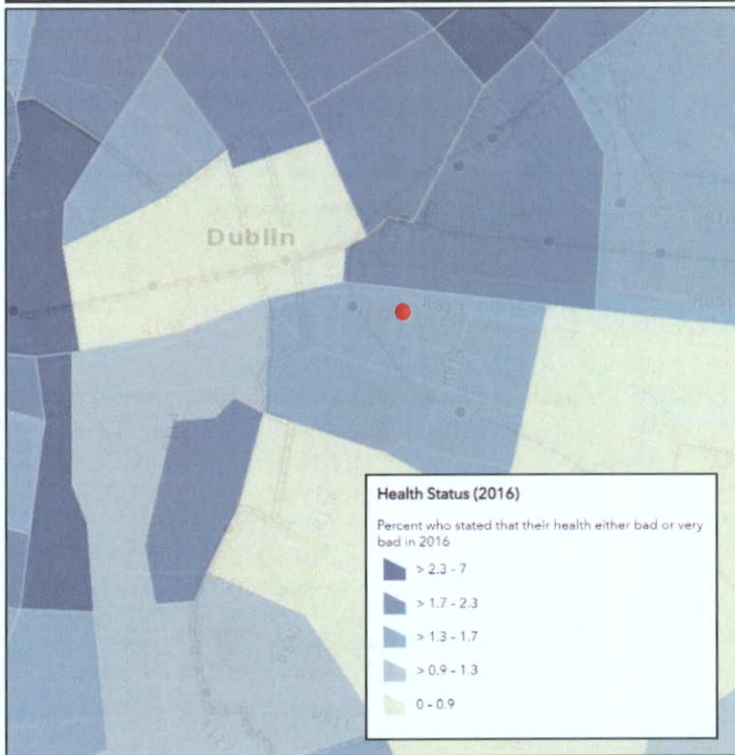


Figure 5.3 Percentage of people stating that their health is either bad or very bad, 2016. Site is indicated with a red dot (Source: CSO)

⁹ There is no available data for 2016.

5.3.4 Social Infrastructure

- 5.34 Social infrastructure covers a range of services and facilities that meet local and strategic needs and contribute towards a good quality of life. In this context it includes local business, residential areas, education, health facilities, emergency services, places of worship, and green infrastructure.
- 5.35 The *Dublin City Council Development Plan 2016 – 2022* and *Draft Dublin City Council Development Plan 2022-2028* set out a framework for the sustainable spatial and physical development of Dublin City while considering the conservation and protection of the built and natural environment. It also aims to carefully consider all the needs of society, its individuals and groups. The principle document relevant to the subject lands is however the *Georges Quay Local Area Plan (2012)(extended to 2022)*.
- 5.36 The site is located within land zoned Z5 (City Centre) in both the *Dublin City Council Development Plan 2016-2022* and the *Draft Dublin City Council Development Plan 2022-2028* “*(T)o consolidate and facilitate the development of the central area, and to identify, reinforce, strengthen and protect its civic design character and dignity*”. The areas surrounding the facility are considered a mix of established residential and office developments. A conservation area is located to the north of the site. The primary goal of this zoning is “*to sustain life within the centre of the city through intensive mixed-use development*”.
- 5.37 The subject lands are located within the ‘docklands mixed-use’ of the *Georges Quay Local Area Plan*. The LAP provides three objectives specifically for the subject lands;
- “To require the provision within the western site of a new arts and/or community resource space within the building. This space (approximately 250-300 sq. m.) to be designed in consultation with Dublin City Council Arts Office, will become part of the resources owned by Dublin City Council to support community and arts activity in this area of the City”, and*
- “To seek a setback along Moss Street to create approximately a 3.5 metre pedestrian footpath to provide an attractive street environment and to encourage greater pedestrian activity”, and*
- “The design and form of the proposed buildings at City quay shall address the need to protect the amenity and setting of City Quay Church, Presbytery, creche facility, and City Quay School”.*
- 5.38 Overall, the proposed development would be in keeping with the existing land use and associated objectives outlined in the *Dublin City Council Development Plan 2016-2022*, the *Draft Dublin City Council Plan 2022-2028* and the *Georges Quay Local Area Plan 2012*.

5.3.4.1 Businesses

- 5.39 The proposed development site is within the existing footprint of the disused former Dublin Arts Centre. More car parking and a walk-in covid test centre are situated immediately to the right of the subject lands. The back paved area in the site is used for surface car parking.
- 5.40 Beyond the immediate environs there are of course a significant number of commercial enterprises, primarily comprised of high and low density office developments and

tourism accommodation along with newsagents, pubs, café/restaurants, and other local shops.

5.3.4.2 Residential Dwellings

- 5.41 The closest residential sensitive receptor is the presbytery associated with the Immaculate Heart of Mary Catholic Church situated c. 15m to the east of the proposed development on City Quay.
- 5.42 The next nearest residential sensitive locations are one block away from the proposed development comprising City Quay apartments on Gloucester Street South, south-east of the subject lands.
- 5.43 Slight further to the east are a number of low-density single family homes; Peterson's Court and Dowling Court with similar residential homes located further again to the east. In addition to this medium-density housing is located along Prince's Street South, and on both sides of Townsend Street.
- 5.44 The surrounding area is currently evolving with numerous developments completed, underway or on stream. Such developments include the 8-storey, 393-bedroom hotel and residential development currently under construction to the immediate south of the subject site at 44-53 Townsend Street, 33-39 Moss Street, 31-33 Gloucester Street South, and including Bracken's Lane.

5.3.4.3 Education

- 5.45 There is one schools within the study area:
- City Quay National School – immediately adjacent to the eastern boundary of the subject lands. This school fronts on to and is accessed by Gloucester Street South.
- 5.46 Trinity College Dublin is located c. 220m south of the proposed development.

5.3.4.4 Health

- 5.47 There is a great availability and range of hospitals within Dublin City. The National Maternity Hospital on Holles Street is situated c. 850m to the south east and the closest general hospital is James Hospital which is c. 3.8km west of the proposed development.
- 5.48 There are number of gyms/sports centres nearby including the Gloucester Street Sports and Recreational Centre on Gloucester Street South, directly to the south-east of the proposed development.

5.3.4.5 Emergency Services

- 5.49 Pearce Street Garda Station is c. 320m south-west of the proposed development and the Dublin Fire Brigade HQ is located on Townsend Street c. 190m south-west of the proposed development.

5.3.4.6 Places of worship

- 5.50 There are two places of worship nearby:

- The Immaculate Heart of Mary Catholic Church c. 20m to the east on City Quay.
- St. Marks Pentecostal Church on Pearce Street, c. 180m south of the proposed development.

5.3.5 Landscape Amenity and Tourism

5.51 The *Dublin City Council Development Plan 2016-2022*¹⁰ is the statutory planning control document pertaining to the site and its surrounds. In terms of landscape and visual amenity, the site:

- is not located within or adjoining an Architectural Conservation Area, but is located within a general Conservation Area;
- is contained within a listed view or prospect; but
- does not have a listing for Trees of Special Amenity Value.

5.52 The subject site falls into the Liffey River Conservation Area (CA) and is across the river from the Custom House. The River Liffey CA traverses the city centre, providing unobstructed views of many different buildings and character areas.

5.53 There are several protected views and prospects identified for protection in the site's receiving environment. These include views east and west along the Liffey (specifically views towards the Custom House), and the view south along Gardiner Street towards the Custom House. Any development on the site would feature in these views. Chapter 11 (Landscape and Visual Assessment) provides a full description of each of these views and prospects and Figure 11.10 from this chapter is copied below (Figure 5.4).

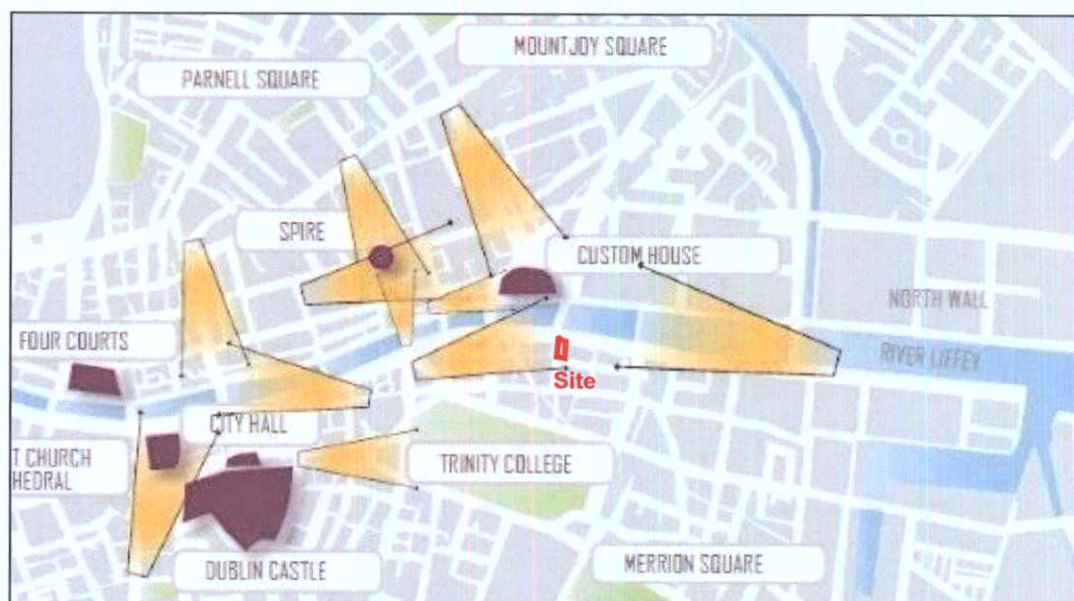


Figure 5.4 Excerpt from DCDP Fig. 4: Key Views and Prospects (Indicative)

5.54 There are a number of policies and objectives within the Dublin City Council Development Plan 2016-2022 and the draft Dublin City Council Development Plan 2022-2028, all of which focus on the recognition of the strong tourism asset in Dublin City Centre and the need to ensure that it is capitalised and augmented. In particular the draft Dublin City Council Development Plan 2022-2028 plan calls out the Irish

¹⁰ To be replaced by the *draft DCC Development Plan 2022-2023*

Emigration Museum (EPIC) on Custom House Quay which is situated on the opposite of the River Liffey from the proposed development.

“Dublin is the most important overseas tourism destination in the country and tourism is a central pillar of the city’s economy. Fáilte Ireland estimate that in 2019 Dublin welcomed 6.3 million overseas tourists and 1.7 million domestic trips, generating a total spend of €2.4 billion and supporting 65,000 jobs.” Dublin City Council Development Plan 2022-2028.

5.55 The proposed development will provide a significant cultural asset to the City Quay area. It is a stated policy of the draft Dublin City Council Development Plan 2022-2028 *“to promote and enhance Dublin as a world class tourist destination for leisure, culture, business and student visitors and to promote Dublin as a setting for conventions and cultural events”* (Policy CEE26). The recognition of the importance of cultural provision in supporting tourism is also realised in Policy CEE34 *“(T)o recognise that craft enterprises, designers’ studios/ workshops etc., along with visitor centres, provide economic development and regeneration potential for the city, including the promotion of tourism and to promote Dublin city centre as a destination for such creative industries and for the cultural and artistic sectors”*.

5.56 With respect to Strategic Regeneration Areas, and the subject lands in particular it is an aim of the draft Dublin City Council Development Plan 2022-2028 to promote sustainable tourism including cultural, recreational and business tourism, and also to support Fáilte Ireland in implementing the aims of its Docklands Visitor Experience Development Plan (2020) including various projects promoting sustainable tourism.

“Fáilte Ireland initiated a number of tourism ventures of note such as the Docklands Visitor Experience Development (VEDP) Plan, a Visitor Orientation Strategy and have collaborated with Dublin City Council to develop ‘Dubline’, an international quality, walking heritage trail from Parnell Square to Kilmainham.”

5.57 The Bord Fáilte Ireland Docklands VEDP sets out a number of catalyst projects one of which is the creation of a Custom House Visitor Centre. One of the desired outcomes of this visitor centre is to *“review options to develop the public realm to enhance The Custom House area and entrance to the Docklands”*. The subject lands are contained within the Custom House visual envelope and form a corner stone in the townscape setting for the Custom House, presenting an ideal opportunity to mark the entrance to the docklands.

5.3.6 Natural Resources

5.58 Natural resources and land use in the hinterland of the proposed development have also been considered as they may have implications for the development of the lands.

5.59 The subject lands comprise land that was reclaimed from the River Liffey c. 1720 and it has been developed as urban land ever since. The usage commenced with residential, and then the southern part of the subject lands accommodated industrial component, housing a brewery in the early 1800’s, followed by a coal yard arising in the mid 1850’s up until the 1930’s. After this time the subject lands remained derelict until they were purchased and formed into the City Arts Centre in 1987-2001, with surface car parking in the southern portion. Albeit the continuance of surface car parking the remainder of the site is once again derelict.

- 7.1 The GSI Public Viewer (www.gsi.ie/mapping) was reviewed to identify sites of geological heritage for the site and surrounding area. There are no sites of geological heritage within the vicinity of the site. The closest site of geological heritage is located approximately 0.39km to the south of the site and consists of museum building of Trinity College Dublin, especially the original interior, completed in 1857 (Museum Building, Trinity College).
- 5.60 The GSI (2021) mineral database was consulted to determine whether there were any mineral sites close to the study area. The closest active quarry is located approx. 9 km north-west of the proposed development site – Huntstown Quarry (D 006). This is a limestone quarry which produces aggregates and fill materials.
- 5.61 Further detail on extractive industries is presented in Chapter 7 (Land, Soils, Geology and Hydrogeology).

5.4 CHARACTERISTICS OF PROPOSED DEVELOPMENT

- 5.62 The proposed development entails the demolition of the existing disused former City Arts Centre Building and construction of a 24 storey mixed use building containing an arts centre, office and café accommodation, and exhibition performance space on a parcel of land comprised of 1-4 City Quay, Dublin 2 D02KT32, 23-25 Moss Street, Dublin 2 D02 F854 and 5 City Quay, Dublin 2 D02PC03.
- 5.63 A detailed description of the development site context is presented in Chapter 2 (Description of Development).

5.5 POTENTIAL IMPACTS

- 5.64 The impact of demolition, construction, and operation of the proposed development is considered below.

5.5.1 Demolition/Construction

5.5.1.1 Impacts on Business and Residences

- 5.65 The main potential impacts on local businesses and residences associated with the proposed development will be in relation to air quality, noise, visual impact and traffic. The potential impacts and mitigation measures to address them are dealt with within the corresponding chapters of this EIA Report as follows:
- Chapter 9 – Air Quality and Climate
 - Chapter 10 – Noise and Vibration
 - Chapter 11 – Landscape and Visual Impact
 - Chapter 13 – Traffic and Transportation
- 5.66 The demolition/construction of the proposed development will give rise to direct, temporary employment for c. 300 individuals both locally and within the wider area, which will be a significant, temporary positive impact.
- 5.67 It is predicted that there will be a slight positive impact on local business activity during the demolition/construction phase with the increased presence of up to 300 no. construction workers using local facilities.

- 5.68 Given the high level of public transport options to the subject lands it is unlikely that there will be any negative impacts to the local housing demand as it is expected that construction workers will commute to the site from their normal place of residence rather than seek short term lettings close to the subject lands.
- 5.69 Demolition and construction will have an indirect positive effect on support industries such as builder suppliers, waste and recycling services, construction material manufacture, maintenance contracts, equipment supply, landscaping and other local services. There will also be a need to bring in specialist workers on a regular basis that may increase the above estimated working population at times. Specialists are only likely to stay for shorter periods depending on the nature of the work.
- 5.70 The demolition and construction phase, therefore, is considered to have the potential to have a **moderate, short term and positive** impact on the economy and employment of the local and wider area.

5.5.1.2 .Impact on Human Health from Air Quality

- 5.71 As outlined in Chapter 9 of this EIA Report (Air Quality and Climate), 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 based on the protection of the environment as well as the protection of human health. Additional factors such as natural background levels, environmental conditions and socio-economic factors are also considered in the limit values which are set (see Chapter 9, Table 9.1). The ambient air quality standards established are designed to minimise harmful effects to health.
- 5.72 Dust emissions from the demolition/construction phase of the proposed development have the potential to impact human health through the release of PM₁₀ and PM_{2.5} emissions. As per section 9.4.4 of Chapter 9 the surrounding area is considered of low sensitivity to dust related human health impacts. There is an overall worst-case low risk of dust related human health impacts as a result of the demolition/construction of the proposed development (Table 9.5 in Chapter 9). Therefore, in the absence of mitigation there is the potential for **imperceptible, negative and short-term** air quality impacts to human health as a result of the proposed development.

5.5.1.3 Impact on Human Health from Noise and Vibration

- 5.73 Noise and vibration impacts associated with the proposed development have been fully considered within Chapter 10 of this EIA Report. Commentary on the impact assessment and related noise levels are summarised below with respect to potential environmental health impacts.
- 5.74 As detailed in Chapter 10 (Noise and Vibration, paragraph 10.74), *in the absence of mitigation measures*, there is potential for a significant negative impact from demolition/construction noise at the nearest noise-sensitive receptor (the City Quay National School). In terms of potential construction vibration impacts, due to the distance from the nearest sensitive receptors it is not expected that the vibration thresholds set out in BS 5228 will be exceeded and therefore it is not expected that significant impacts will occur. Traffic related noise impacts will be imperceptible.
- 5.75 It is expected *in the absence of specific mitigation measures* that there will be a **negative, significant and short-term** noise impact at the closest receptors.

5.5.1.4 Impact on Local Amenities and Tourism

- 5.76 During construction and demolition works there will be moderately negative and temporary impacts on visual amenity of the River Liffey Conservation Area and a number of views and prospect of the subject lands.
- 5.77 There is no anticipated impact upon local amenities in the study area or tourist support services such as water supply, foul water provision, impediments to navigation or transport etc.

5.5.1.5 Impact on Material Assets

- 5.78 The proposed development demolition/construction will require a power supply to be taken from suitably banded generator(s), maintained by the demolition and construction contractors.
- 5.79 The site currently has a connection to a public water supply and also to a combined surface and foul water sewer; there is sufficient capacity for these services as detailed in Chapter 14 (Material Assets) of this EIA Report, including Appendix 14.1 which provides confirmation from Irish Water of same.

5.5.1.6 Impacts from Additional Traffic

- 5.80 As detailed in Chapter 13 Traffic and Transportation of this EIAR, the demolition/construction of the proposed development will have an unnoticeable impact upon the established local traffic conditions and can be accommodated on the road network.

5.5.1.7 Impacts from Unplanned Events/ Impacts on Health and Safety

- 5.81 The proposed demolition and construction has been designed in accordance with the Safety, Health and Welfare at Work Act 2005 (S.I. 10 of 2005) as amended and the Safety, Health and Welfare at Work (General Application) Regulations 2007 (S.I. 299 of 2007) as amended and associated regulations. The various construction and demolition plans have been designed by skilled personnel in accordance with internationally recognised standards, design codes, legislation, good practice and experience based on a number of similar existing facilities operated by the operator.
- 5.82 The proposed development has the potential for an impact on the health and safety of workers employed on the site, particularly during the demolition and construction phase. The activities of contractors during the demolition/construction phase will be carried out in accordance with the Safety, Health and Welfare at Work (Construction) Regulations 2013 (S.I. No. 291 of 2013) as amended to minimise the likelihood of any impacts on worker's health and safety. The health and safety planning for the demolition/construction phase of the proposed development will consider any appropriate measures to safeguard workers' health and safety with regards to COVID-19.
- 5.83 The site has been assessed in relation to the following external natural disasters; landslides, seismic activity, volcanic activity and sea level rise/flooding as outlined below.
- 5.84 There is a negligible risk of landslides occurring at the site and in the immediate vicinity due to the topography and soil profile of the site and surrounding areas. There is no history of seismic activity in the vicinity of the site. There are no active volcanoes

in Ireland so there is no risk of volcanic activity. The proposed development site is not located within the consultation distance of any COMAH establishment that is notified to the HSA.

5.85 The potential risk of flooding on the site was also assessed. Although certain areas close to the northern boundary of the site is vulnerable to flooding, however the Flood Risk Assessment Report issued by Byrne Looby and submitted as part of this planning application indicates that the flood zones do not impact the proposed work areas. The proposed works will not increase the current flood risk in the catchment. A further discussion on the flood risk for the proposed development site is also provided in Chapter 8 (hydrology).

5.86 There is a potential impact on the receiving environment, *in the absence of mitigation*, as a result of minor accidents/leaks of fuel/oils during the construction and operational phases. However, the implementation of the mitigation measures set out in Chapter 7 (Land, Soils, Geology and Hydrogeology) and Chapter 8 (Hydrology) of the EIA Report will ensure the risk of a minor/accident is low and that the residual effect on the environment is imperceptible.

5.5.2 Operational

5.5.2.1 Impacts on Business and Residences

5.87 The proposed development will result in a significant, positive and long-term impact to employment levels at both a local and more widespread scale. The cultural activities within the proposed building will generate a significant amount of spin-off economic activity for nearby businesses.

5.5.2.2 Impact on Human Health from Air Quality

5.88 According to Chapter 9 there are no significant air quality impacts to sensitive human receptors predicted during the operational phase. Therefore, it can be determined that the impact to human health and ecology during the operational stage is long-term and neutral, and therefore, no mitigation is required.

5.5.2.3 Impact on Human Health from Noise & Vibration

5.89 As detailed in Chapter 10 Noise and Vibration, the main potential sources of outward noise from the proposed development will be the plant and equipment associated with heating and cooling of the building. The worst-case scenario noise emissions associated with these activities at the proposed development site will be compliant with the adopted noise limit values which are based with due consideration of the effect on human health.

5.90 Review of the predicted increases in noise level (Chapter 10) at the nearest noise sensitive locations conclude that the associated impact is neutral, not-significant and long term at all locations.

5.91 In terms of the additional traffic on local roads that will be generated as a result of this development the following comment is presented: Considering that in order to increase traffic noise levels by 1 dB traffic volumes would need to increase by the order of 25% it is considered that additional traffic introduced onto the local road network due to this development will not result in a significant noise impact. The resultant noise impact is neutral, not-significant and long-term.

- 5.92 The proposed development will not generate any perceptible levels of vibration during operation and therefore there will be no impact from vibrations on human health.

5.5.2.4 Impact on Local Amenities and Tourism

- 5.93 Once operational the proposed development will have a slight to moderate positive impact upon both delivering more cultural tourism opportunities to Dublin Docklands and Dublin City in general and also in providing in-direct support to other tourism activities in the area.
- 5.94 The operation of the cultural arts centre will assist DCC in realising policies CEE 26 and CEE 34, in the draft Dublin City Council Development Plan 2022-2028.
- 5.95 Access to amenities in the area will remain unaffected.
- 5.96 As has been identified in Chapter 11 the proposed development once operation will provide a landmark building both in keeping with the varied character of the River Liffey CA, and which will bring balance to the Custom House visual envelope and provide an important gateway statement in bridging the gap between the City Centre and the Docklands.
- 5.97 As has also been summarised in Table 11.6 of Chapter 11 the proposed development will not significantly compromise any of the identified views or prospects which contain the proposed development.

5.5.2.5 Impact on Material Assets

- 5.98 The proposed development will require power. It is intended to obtain this power from PV panels on the southern façade and also from the national grid, and the small remainder of from the National grid, and as such there will be no impact on power supply to local residential or business users, who may be reliant upon these areas for healthcare.
- 5.99 Irish Water have confirmed that there is sufficient capacity for both potable water provision and also for surface water/ foul water disposal (Appendix 14.1), and as such will not impact upon any individuals relying on these services for healthcare reasons.

5.5.2.6 Impacts from Additional Traffic

- 5.100 Traffic movements during the operational phase will be negligible and will have no likely significant effect (Chapter 13).

5.5.2.7 Impacts from Unplanned Events/ Impacts on Health and Safety

- 5.101 The proposed development has been designed by skilled personnel in accordance with internationally recognised standards, design codes, legislation, good practice and experience based on a number of similar existing developments.
- 5.102 During the operational phase of the proposed development, the operator will implement an Environmental System and associated procedures at the facility. Full training in the EMS System and relevant procedures will be provided to all employees. The Operator will also implement any appropriate health and safety measures to safeguard workers' health and safety with regards to COVID-19.

5.5.2.8 Impacts from loss of Sunlight/Daylight

- 5.103 A sunlight/daylight assessment has been conducted by Digital Dimensions and is submitted as part of this planning application.
- 5.104 Careful consideration of alternative building designs has resulted in no alteration to the current daylight levels experienced in the City Quay National School playground, and the provision of a green wall and fenestration treatments has negated any concerns regarding overlooking into the school.
- 5.105 While there will be no decrease in sunlight in the playground during school hours there will however be a loss of daylight to some of the classroom windows on the courtyard side of the school during school hours. This reduction is however within BER VSC (vertical sky component) targets resulting in an overall negative, slight, long-term impact to the school.

5.5.2.9 Wind Impact

- 5.106 A Wind Impact Assessment Report has been conducted by BRE and is submitted as part of this planning application.
- 5.107 Without any mitigation measures all measurement locations are suitable for any pedestrian activities during the summer including long-term sitting, entrance door usage, strolling and other more strenuous pedestrian activities. During the winter months, and without any mitigation measures the majority of measurement locations are suitable for any pedestrian activities; however a number of locations are only suitable for more strenuous pedestrian activities (Figure 5.5).

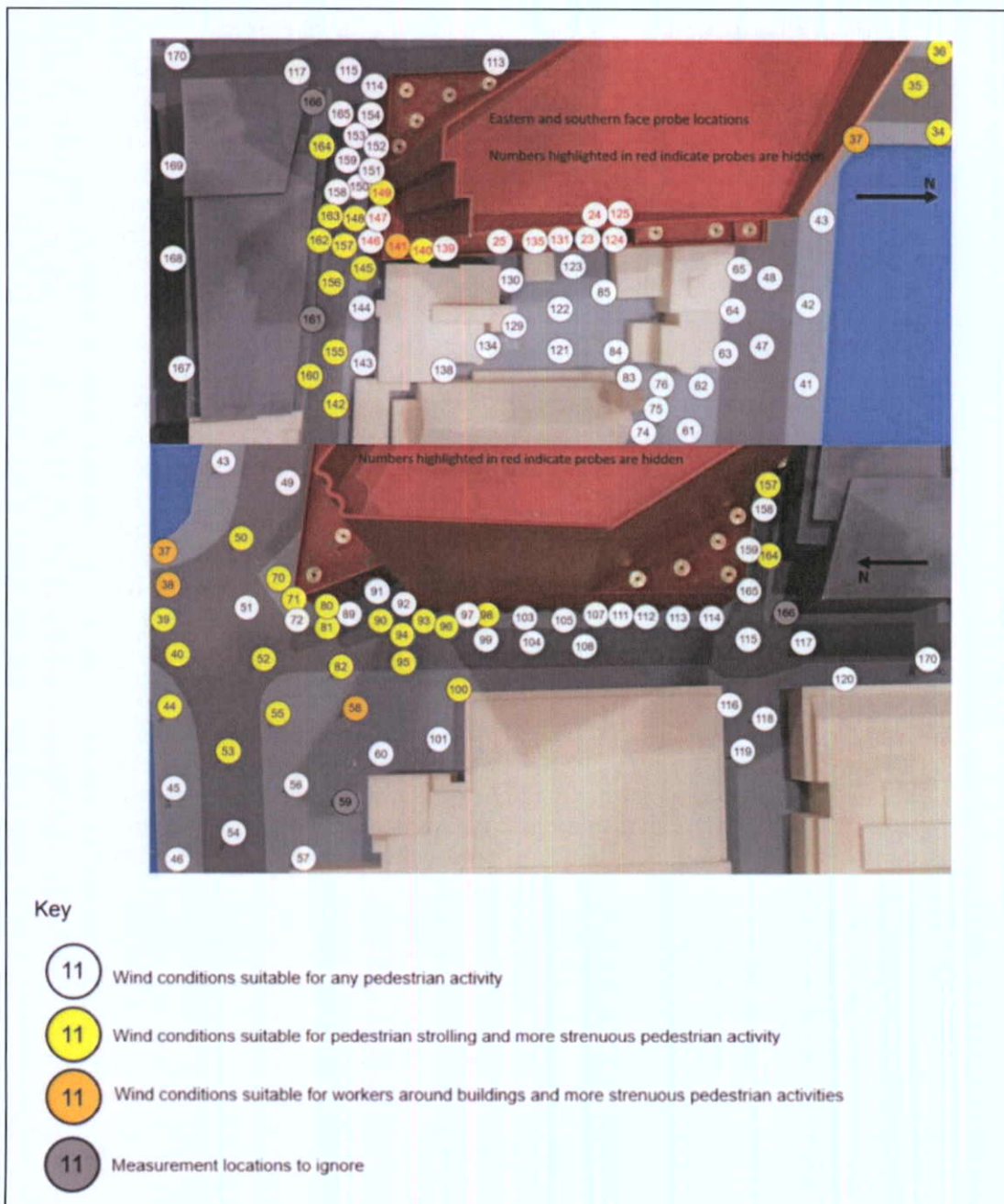


Figure 5.5 Excerpt from Wind Impact Assessment Fig. 16: Summary of ground level wind conditions for Proposed Development site (winter) (source BRE 2022)

5.5.3 Do-Nothing Impact

5.108 If the proposed development were not to proceed, the subject land would remain undeveloped until such a time that development did take place in line with the zoning of the site. In the do-nothing scenario, where the lands remain undeveloped, there is no potential for the positive impacts associated with assisting Dublin City in generating employment, enhancing cultural arts and tourism provision and creating a landmark and gateway link between the City Centre and the Dublin Docklands.

5.109 In the long-term, it is likely that the lands would be developed in time for another similar development in line with the zoning of the site.

5.6 MITIGATION MEASURES (AMELIORATIVE, REMEDIAL OR REDUCTIVE MEASURES)

5.110 The impacts on the local population in terms of residents and businesses are considered to be mainly positive in the sense of creating direct employment opportunities and indirect additional business, during the demolition and construction phase. Once operational there will be a positive, significant long-term impacts upon the surrounding area.

5.111 Mitigation measures proposed to minimise the potential impacts on human health in terms of air quality and climate, noise and vibration, and traffic and transportation are discussed in the relevant sections of Chapters 9, 10, 13 and 14 of this EIAR, respectively.

5.112 Similarly, mitigation measures set out in Chapter 7 (Land, Soils, Geology and Hydrogeology) and Chapter 8 (Hydrology), and the wind impact assessment conducted by BRE and submitted as part of this planning application of the EIA report will ensure the risk of impacts to human health is low and that the residual effect on the environment is imperceptible.

5.6.1 Demolition/Construction

5.113 Prior to the commencement of demolition, the appointed contractor will be required to obtain formal agreement from the Local Authority on pollution prevention measures as well the overall approach and emergency procedures for all construction stages. All demolition works are to be in accordance with the following guidelines:

- BS 6187:2000 '*Code of practice for demolition*'
- Health and Safety Executive Guidance Notes GS 29 / 1, 2, 3 & 4.
- S.I. 504 Safety, Health & Welfare at Work (Construction) regulations 2013
- Air Pollution Act 1987
- Environmental Protection Agency Act 1992
- BS 5228:2009 Part 1 '*Noise Control on Construction & Open Sites*'.

5.114 Roadways are to be kept clean of dirt and other debris. A road sweeping truck is to be provided if necessary, to ensure that this is so.

5.115 The Contractor will be responsible for the security of the site. The Contractor will be required to:

- Operate a site induction process for all site staff.
- Ensure all site staff shall have current 'safe pass' cards.
- Install adequate site hoarding to the site boundary.
- Maintain site security staff at all times.
- Separate pedestrian access from construction at the main site entrances provide a safe walkway for pedestrians along the site entrances.
- Ensure restricted access is maintained to the works.

5.116 The construction works will be hoarded off or fenced off from the public at all times. Plywood painted timber hoarding will be provided along the long-term boundaries at the entrance, and at other areas around the site where the perimeter fence/wall is not

deemed sufficient for safety and security reasons. Heras type fencing will be used on short term site boundaries where appropriate to suit the works.

- 5.117 Controlled access points to the site, in the form of gates or doors/turnstiles, will be kept locked any time that these areas are not monitored (e.g., outside working hours). During working hours, a gates person will control traffic movements and deliveries at any active site access to ensure safe access and egress to and from site onto the public roads.
- 5.118 A Traffic Management Plan will be prepared by the contractor and agreed with Dublin City Council's Transportation Department and An Garda Siochana, to mitigate any impact of construction on the surrounding road network.
- 5.119 As detailed in Chapter 7 Soil & Land, Geology and Hydrogeology of this EIAR, there is no evidence of a significant soil hazard on site. No significant groundwater is expected to ingress to the excavation areas. Soil sampling (three samples) was carried out at the site with the samples being considered hazardous due to elevated concentrations of lead and zinc. One sample also showed trace asbestos. Prior to commencement of construction, the Construction Environmental Management Plan will be updated and will be maintained by the contractors during the construction and operational phases. The CEMP will cover all potentially polluting activities and include an emergency response procedure. All personnel working on the site will be trained in the implementation of the procedures. Further soil sampling and testing will be required should any soils be required to be removed from site. Any soils to be removed from site will be disposed of by a licenced contractor to a licenced facility
- 5.120 Surface water proposals for the proposed development have been developed to reduce drainage patterns from the site to 2//s in accordance with the Best Management Practices (BMPs) of Sustainable Drainage Systems (SuDS). These measures will include green roofs, attenuation and hydrobrake. A class 1 interceptor will also be provided.
- 5.121 The stormwater drainage network has been designed and modelled for the 100-year storm event. Further information in relation to surface water drainage and flood risk is provided in Chapter 8 (Hydrology), and in the Engineering Assessment Report and Flood Risk Assessment Report prepared by Byrne Looby and submitted under separate covers as part of this planning application.
- 5.122 In order to mitigate the potential dust-related health impacts during the construction phase, a dust minimisation plan will be formulated. This plan will draw upon best practice mitigation measures from Ireland, the UK and the USA to ensure the highest level of mitigation possible. Further detail is provided in Chapter 9 of this EIAR.
- 5.123 A number of detailed noise and vibration control mitigation measures are specified in Section 10.6 of Chapter 10. The appointed contractor will be required to take specific noise abatement measures to the extent required and comply with the recommendations of BS 5228-1 (BSI 2014a) and S.I. No. 241/2006 - European Communities (Noise Emissions by Equipment for Use Outdoors) (Amendment) Regulations 2006. Monitoring will be carried out according to Noise monitoring will be conducted in accordance with ISO 1996-1 (ISO 2016) and ISO 1996-2 (ISO 2017). The selection and design of operational plant items with potential to emit noise to atmosphere will be designed to comply with the noise control guidance from BS 4142 (BSI 2014) as discussed in Section 10.2.1.

5.6.2 Operational

- 5.124 A number of mitigation measures to combat wind stress at ground level are outlined in Appendix C of the Wind Impact Assessment Report produced by BRE and submitted as part of this planning application.
- 5.125 In light of the fact that any of the impacts associated with the operation of the proposed development on Human Health and Population are either not significant or positive, or cannot be mitigated any further, no further mitigation measures are required.

5.7 CUMULATIVE IMPACT

- 5.126 There are a number of additional developments that have either been currently permitted or under construction within the surrounding area, or are currently within the planning system whose environmental impact are not yet fully realised within the existing environmental baseline. These developments have been described in Section 2.8 of Chapter 2.

5.7.1 Demolition/Construction

- 5.127 In so far as they relate to this chapter and in applying the precautionary principle it has been assumed that Planning Ref. 3684/21, Planning Ref. 3091/21, Planning Ref. 2877/21, Planning Ref. 3054/22 and Planning Ref. 33151/22 have the potential to produce cumulative demolition/construction-related impacts with the proposed development.
- 5.128 These potential human health cumulative impacts would be; negative impacts to road infrastructure from increased HGVs, positive impacts to local business and builders suppliers, and negative impacts arising from dust and noise. Each of these potential cumulative impacts has been assessed within the specialist chapters in the EIAR.
- 5.129 The likely residual demolition/construction impact of the proposed development in conjunction with these cumulative developments upon health from air quality and noise and vibration impacts have been assessed in Chapters 9 and 10 and are stated to be not significant. Similarly, the likely residual impact of the proposed development in conjunction with these local committed developments upon visual impact, material assets and traffic have been assessed in Chapters 11, 14 and 13 respectively and are also stated to be not significant.

5.7.2 Operational

- 5.130 Cumulative developments 3560/19, 4054/19, 2532/20, 4826/19, 3684/21, 3091/21, 2877/21, 3054/22 and 33151/22 will be operational at the same time as the proposed development.
- 5.131 These potential cumulative impacts would arise from air, noise, visual impact and traffic. Chapters 9, 10, 11 and 13 have incorporated the relevant impacts arising from these cumulative developments into their modelling, which have stated that the impacts would be long term, neutral and not significant.
- 5.132 As detailed in Chapter 16 it is predicted that there will be no likely significant effect of the residual impact of the cumulative impact of the proposed development in conjunction with local committed developments on unplanned events and human health and safety.

5.8 RESIDUAL IMPACT

5.8.1 Demolition/Construction

5.8.1.1 Residual Impacts on Business and Residences

5.133 The residual likely significant effect with regard to the demolition/construction phase of the proposed development on business and residences will be positive, moderate and short-term.

5.8.1.2 Residual Impacts on Human Health from Air Quality

5.134 The greatest residual impact on air quality during the demolition and construction phase of the proposed development is from construction dust emissions and the potential for nuisance dust. Taking into account the mitigation measures in Section 9.6 (and Appendix 9.1 'Dust Management Plan' of this EIAR), there will be no residual impact to human health arising from air quality impact.

5.8.1.3 Residual Impacts on Human Health from Noise & Vibration

5.135 Provided that the mitigation measures detailed in Chapter 10 are put in place, such as selection of quiet plant, control of noise source, screening, hours of work, liaison with the public and monitoring the likelihood of a significant impact will be reduced sufficiently. There is still however potential for residual demolition/construction noise levels to be up to 5 dB above the lower CNT of 70 dB $L_{Aeq,T}$ during intrusive activities close to the eastern site boundary for intermittent periods of time. Referring to Table 10.2 of Chapter 10, there is therefore potential for a residual, negative, moderate to significant and temporary impact at the upper floor levels of City Quay National School. The majority of residual construction noise impacts during the remaining work phases, are however expected to be controlled to be within the CNT, thus resulting in a negative, moderate, short term impact.

5.8.1.4 Residual Impacts on Local Amenities and Tourism

5.136 It is predicted that there will be no likely significant effect of the residual impacts of the demolition/construction of the proposed development on local amenities and tourism.

5.8.1.5 Residual Impacts on Material Assets

5.137 Taking into account the measures that will be put in place to the satisfaction of Irish water it is predicted that there will be no likely significant effect of the residual impacts of the demolition/construction of the proposed development on material assets.

5.8.1.6 Residual Impacts from Additional Traffic

5.138 Traffic movements during the demolition/construction phase have been assessed in the Chapter 13 of this EIAR, and it has been deemed that it will have no likely significant effect.

5.8.1.7 Unplanned Events/Impacts on Health and Safety

5.139 Taking into account the mitigation measures outlined in Section 5.6.1 it is predicted that there will be no likely significant effect arising from the predicted residual impacts with regard to the demolition/construction phase for unplanned events and human health and safety.

5.140 With the implementation of the mitigation measures set out in Chapter 7 (Land, Soils, Geology and Hydrogeology) and Chapter 8 (Hydrology) of the EIA Report the risk of a minor/accident (spills, leaks, etc) is low and that the residual effect on the environment is imperceptible.

5.8.2 Operational

5.8.2.1 Residual Impacts on Businesses and Residences

5.141 The predicted residual impacts with regard to the operational phase on business and residences is concluded to be positive, long term and significant.

5.8.2.2 Residual Impacts on Human Health from Air Quality

5.142 It is predicted that there will be no likely significant effect of the residual impact of air quality on Human Health.

5.8.2.3 Residual Impacts on Human Health from Noise & Vibration

5.143 Taking into account the mitigation measures and design recommendations outlined in section 10.6.2 of Chapter 10 of this EIAR, there will be no residual impact to human health arising from noise and vibration impact.

5.8.2.4 Residual Impacts on Local Amenities and Tourism

5.144 It is predicted that there will be a significant, positive and long-term effect of the residual impact of the operational phase of the proposed development on local amenities and tourism.

5.8.2.5 Residual Impacts on Material Assets

5.145 It is predicted that there will be no likely significant effect of the residual impact of the operational phase of the proposed development on material assets.

5.8.2.6 Residual Impacts from Additional Traffic

5.146 Taking into account the conclusions of Chapter 13 there will be no residual impact to human health arising from traffic.

5.8.2.7 Unplanned Events/Impacts on Health and Safety

5.147 It is predicted that there will be no likely significant effect of the residual impact of the operational phase of the proposed development on unplanned events and human health and safety.

5.8.2.8 Impacts from loss of Sunlight/Daylight

5.148 While there will be no decrease in sunlight in the playground during school hours there will however be a loss of daylight to some of the classroom windows on the courtyard side of the school during school hours. This reduction is however within BER VSC (vertical sky component) targets resulting in an overall negative, slight, long-term impact to the school.

5.8.2.9 Wind Impact

- 5.149 Taking into account the mitigation measures set out in the Wind Impact Assessment Report prepared by BRE and submitted as part of this planning application the ground level wind conditions around the proposed development will be suitable for any pedestrian activity at all measurement locations during both the summer and winter seasons.

5.8.3 Worst Case Effect

- 5.150 The precautionary principle has been applied throughout this assessment.

5.9 MONITORING

5.9.1 Phase 1 – Demolition, Phase 2 - Construction

- 5.151 A monitoring regime will be put in place to protect neighbours & neighbouring properties with a full and detailed vibration, noise, dust, and groundwater monitoring regime put in place for the duration of the works.
- 5.152 The Contractor will be obligated to work in compliance with the Outline CEMP (Construction Environmental Management Plan) which is submitted as part of this planning application. The Contractor will appoint a competent person who will prepare and maintain the vibration, noise, dust, and groundwater monitoring plan.
- 5.153 Additional monitoring requirements are set out in Chapters 7, 8, 9, 10, 11, and 13 of this EIAR.

5.9.2 Phase 2 - Operational

- 5.154 No additional monitoring other than that which is set out in Chapters 7, 8, 9, 10, 11, and 13 of this EIAR is required.

5.10 REINSTATEMENT

- 5.155 This is not applicable to the Population and Human Health chapter.

5.11 DIFFICULTIES ENCOUNTERED

- 5.156 No difficulties were encountered during the drafting of this chapter.



CHAPTER 6
BIODIVERSITY



6.0 BIODIVERSITY

6.1 INTRODUCTION

- 6.1 This section of the EIAR was carried out by Altemar Ltd. It assesses the biodiversity value of the proposed development area and the potential impacts of the development on the ecology of the surrounding area and within the potential zone of influence (ZOI).
- 6.2 The programme of work in relation to biodiversity aspects of the EIAR has been designed to identify and describe the existing ecology of the proposed development site and outline the habitats or species of conservation interest that may be present on site. It also assesses the significance of the likely impacts of the scheme on the biodiversity elements including designated conservation sites and designs mitigation measures to alleviate identified impacts. Mitigation measures and the phasing of the project are contained in the accompanying Outline Construction Management Plan (oCMP), which has been prepared by Byrne Looby Consulting Engineers.
- 6.3 A separate Natura Impact Statement, in accordance with the requirements of Article 6(3) of the EU Habitats Directive, has been produced to identify potential impacts of the development on Natura 2000 sites, Annex species or Annex habitats. It concludes that *'Following the implementation of the mitigation measures outlined, the proposed development would not be deemed to have a significant impact on the River Liffey which is seen as a direct pathway to four Natura 2000 sites. No significant impacts are likely on Natura 2000 sites, alone in combination with other plans and projects based on the implementation of mitigation measures.'*
- 6.4 Standard construction and operational phase control measures, in addition to monitoring measures will be carried out to minimise potential impacts and to improve the biodiversity potential of the proposed development site.

6.2 METHODOLOGY

- 6.5 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)
 - Guidelines for Ecological Impact Assessment in the UK and Ireland, (Chartered Institute of Ecology and Environmental Management) (CIEEM, 2018),
 - Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017)
 - Guide to Habitats in Ireland (Fossitt, 2000).
 - Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022)
 - Guidelines for Assessment of Ecological Impacts of National Roads Schemes: Revision 2 (National Roads Authority, 2009).
 - Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016).
 - Bat Mitigation Guidelines for Ireland (Marnell, Kelleher & Mullen, 2022).
 - Best Practice Guidance for Habitat Survey and Mapping (Smith et al., 2011).

- 6.6 A pre-survey biodiversity data search was carried out in May 2021 and updated in June 2022. This included examining records and data from the National Parks and Wildlife Service (NPWS), National Biological Data Centre (NBDC) and the Environmental Protection Agency (EPA), in addition to aerial, 6 inch maps and satellite imagery.
- 6.7 Habitat, flora, bat and wintering bird surveys were undertaken within the appropriate seasonal timeframes and in compliance with relevant guidelines. Field surveys were carried out as outlined in Table 6.1. All appropriate surveys were carried out in the appropriate seasons (Smith et al., 2011).

Table 6.1 Field surveys

Survey Type	Surveyors	Survey Dates
Field Survey (habitat, floral)	Bryan Deegan (Altamar)	9 th and 21 st September 2021. 10 th August 2022.
Bat Survey	Bryan Deegan (Altamar)	9 th and 21 st September 2021. 10 th August 2022.
Wintering Bird and Flightline Assessment	Hugh Delaney (ornithologist)	14 th and 27 th December 2021

- 6.8 Desk studies were carried out to obtain relevant existing biodiversity information within the Zone of Influence (ZOI). As outlined in Office of the Planning Regulator (2021) “The zone of influence of a proposed development is the geographical area over which it could affect the receiving environment in a way that could have significant effects on the Qualifying Interests of a European site. This should be established on a case-by-case basis using the Source- Pathway-Receptor framework and not by arbitrary distances (such as 15 km).” The proposed development site is a brownfield site located within the city centre of Dublin, 15m from the River Liffey. After consultation with Bakkala Consulting Engineers, it was outlined that, after attenuation on-site, all surface water outfalls are to the existing combined public sewer on City Quay. This public network ultimately outfalls to Ringsend Wastewater Treatment Plant (WwTP) for treatment. Foul wastewater drainage will also be discharged to this combined sewer.
- 6.9 As a result, there is an indirect hydrological pathway from the proposed development to designated conservation sites located within the marine environment at Dublin Bay. Additionally, given that demolition, excavation, and construction works are proposed in close proximity (min. 15m) to the River Liffey, there is the potential for dust and contaminated surface water to enter the proximate watercourse and impact on downstream conservation sites and aquatic biodiversity. In this case, the potential ZOI extends beyond the site, with the potential for downstream impacts to extend beyond the proposed development area via the proposed construction works and the surface water/foul water networks. Details of the proposed development are seen in Chapter 2 of this EIAR. The proposed project construction methodology, layout, drainage strategy, Construction Management Plan, Site Investigations, design and landscape design were reviewed to inform this assessment. Further, the other chapters within the EIAR were assessed..

6.2.1 Proximity to designated conservation sites and habitats or species of conservation interest

- 6.10 The designated conservation sites within 15km of the proposed combined development site were examined for potential effect using the Source-Pathway-Receptor model (OPR,2021). Sites beyond 15km have no direct or indirect pathways or are across the marine environment where dilution, mixing and settlement would occur and given the scale of the proposed development and dilution/mixing in the marine environment,

effects on sites beyond 15km would be at negligible levels. This assessment included sites of international importance; Natura 2000 sites (Special Areas of Conservation (SAC), Special Protection Areas (SPA)) and Ramsar sites and sites of National importance ((Natural Heritage Areas (NHA), proposed Natural Heritage Areas (pNHA)). Up to date GIS data (NPWS data shapefiles) were acquired and plotted against 1, 5, 10 and 15km buffers from the proposed development site. GIS data of rare and threatened species within proximity of the site was provided by NPWS. Additional information on rare and threatened species was researched through the National Biodiversity Data Centre maps.

6.2.2 Terrestrial Ecology

6.11 A pre-survey data search was carried out in August 2021.. This included a literature review to identify and collate relevant published information and ecological studies previously conducted and comprised of information from the following sources; the National Parks and Wildlife Service, NPWS Rare and Protected Species Database, National Biodiversity Data Centre, EPA WMS watercourses data, in addition to aerial, 6 inch, satellite imagery. Following the desktop study, walk-over assessments of the site were carried out on the 9th and 21st September 2021 and 10th August 2022. Surveys were carried out by means of a thorough search within the potential ZOI. The presence of mammals is indicated principally by their signs, such as resting areas, feeding signs or droppings - though direct observations are also occasionally made.

6.12 Habitat mapping was carried out according to Fossitt's Guide to Habitats in Ireland (Fossitt (2000))) using AcrGIS 10.5 and displayed on Bing satellite imagery or street mapping based on the 9th and 21st September 2021 site visits. Any rare or protected species or habitats were noted. As part of the fieldwork an invasive species assessment was also carried out.

6.2.3 Bat Fauna

6.13 Onsite buildings were inspected for bats and/or their signs using a powerful torch (141 Lumens) – Petzl MYO RXP. The site surveys were supplemented by a review of Bat Conservation Ireland's (BCIreland) National Bat Records Database. A bat detector and emergent survey that covered the entire application site was carried out on the 9th and 21st September 2021 within optimal conditions. An internal building inspection was carried out on the 21st September 2021 and on the 10th August 2022. The results of the bat assessment are seen in Appendix 6.1.

6.2.4 Avian Ecology

6.14 Birds noted on site were classified based on the Birds of Conservation Concern in Ireland classification of red, amber and green, which is based on an assessment of the conservation status of all regularly occurring birds on the island of Ireland. In addition, a wintering bird/flightline assessments were carried out on the 14th and 27th December 2021. The results of this assessment are seen in Appendix 6.2.

6.2.5 Rating of Effects

6.15 The terminology for rating impacts is derived from the EPA Guidelines on the information to be contained in Environmental Impact Assessment Reports (2022), as detailed in Chapter 1.

6.2.6 Difficulties Encountered

- 6.16 No difficulties were encountered in relation to the preparation of the Biodiversity report. The bat surveys were undertaken within the active bat period (April to September inclusive) and a detector survey was possible. However, conditions were optimal and insects were observed in flight during the bat survey. Full access to all areas of the site was possible and the fact that the mammal survey was towards the end of the season is not seen as a constraint as all areas of the site were fully accessible and there is very limited vegetation on site. No difficulties were encountered in the preparation of the biodiversity chapter.

6.3 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

- 6.17 A description of the project is included in Chapter 2 Description of the Proposed Development.
- 6.18 Existing buildings are located, and are proposed to be demolished as part of the initial stages of the works. Excavations are also proposed to allow for 2 basement levels and foundations.
- 6.19 The proposed building extends to 24 floors above ground floor and also contains 2 basement levels.
- 6.20 The building structure is reinforced concrete columns with flat-slab post-tensioned floors on a piled and rafted foundation.
- 6.21 There are 2 basement levels, the lower of which provides 11 car parking spaces including 2 disabled accessible spaces and 20 motorbike spaces.
- 6.22 The Proposed Development is described in further detail in Chapter 2 (Description of the Proposed Development). The characteristics of the proposed development with regard to hydrology environment are outlined below.

6.3.1 Foul Sewage

- 6.23 The foul drainage has been designed in accordance with Industry standards - the Building Regulations and in accordance with the recommendations contained in the Technical Guidance Documents, Section H and will be laid strictly in accordance with Irish Water's requirements for taking in charge.
- 6.24 The foul discharge from the proposed development was determined to be 12.94 l/s (DWF¹). This will be discharged to the combined sewer proximal to the site which ultimately discharges to Ringsend WwTP for treatment. Irish Water recently completed work on an €80 million, 400,000 population equivalent upgrade to the Ringsend Wastewater Treatment Plant. These upgrades to the WWTP were scheduled to be completed in the first quarter of 2021 and were completed in Q4 2021. Ringsend is the largest wastewater treatment plant in Ireland and was built to treat the wastewater for the equivalent of 1.64 million people. Currently the plant services over 40% of the national population and is treating wastewater for the equivalent of 1.9 million people.

¹ Dry Weather Flow - the average daily flow to a waste water treatment works (WWTW) during a period without rain

- 6.25 This newly completed upgrade will accommodate the current demand, support planned housing in the Dublin Region and will improve the quality of the treated wastewater discharged to the Liffey estuary.
- 6.26 This capacity upgrade is one part of an overall investment of €400 million by Irish Water in the Ringsend Wastewater Treatment Plant Upgrade Project. Subject to planning permission, the overall upgrade project will enable full treatment of wastewater for the equivalent of 2.4 million people, meeting all foreseeable development needs to at least 2025.

6.3.2 Surface Water Drainage

6.3.2.1 Construction

- 6.27 The key civil engineering works which will have a potential biodiversity including the hydrological environment during construction of the proposed development are summarised below.
- Demolition of existing buildings on site.
 - Excavations are required for foundations of the proposed buildings and installation of associated services included within the development.
 - Excavations for the two (2) no. basement levels.
 - Possible discharge of collected rainwater during excavation works and groundworks (the extent of which is dependent on the time of year development works are carried out);
 - Construction activities will necessitate storage of cement and concrete materials, temporary oils, and fuels on site. Small localised accidental releases of contaminating substances including hydrocarbons have the potential to occur from construction traffic and vehicles operating on site.
 - Localised excavations (cuts) and infill (build-up) as part of the designed elevation changes across the proposed development site.

6.3.2.2 Operation

- 6.28 The proposed surface water network design has been designed in accordance with The Greater Dublin Regional Code of Practice for Drainage Works. The Greater Dublin Strategic Drainage Study (2005) identified issues of urban expansion leading to an increased risk of flooding in the city and a deterioration of water quality. This arises where soil and natural vegetation, which is permeable to rainwater and slows its flow, is replaced with impermeable hard surfaces. The proposed surface water network design has been designed in accordance with The Greater Dublin Regional Code of Practice for Drainage Works.
- 6.29 The proposed development will attenuate the surface water on site before discharging to the combined public sewers in either City Quay, Moss Street or Gloucester Street. There will be no increase in impermeable area arising from this proposed development application and therefore the previously permitted surface water drainage proposals including Sustainable urban Drainage Systems (SuDS) will remain as current.
- 6.30 Although the existing site is brownfield in nature, the proposed development will limit storm water discharge to 2l/s, in accordance with the Greater Dublin Regional Code of Practice for drainage works. The discharge will be restricted using a flow control device - Hydrobrake, located at the first chamber upstream of the connection to the discharge pipe exiting the site to the existing Irish Water combined sewer system.

- 6.31 As part of the Dublin City Development Plan 2016 -2022, objective SIO3 requires “*all new development to provide a separate foul and surface water drainage system and to incorporate sustainable urban drainage systems.*”
- 6.32 The proposed development design incorporates SuDS, Green Blue Roofs and Control of Paving / Grassed areas respectively.
- 6.33 Refer to Engineer’s Report (Byrne Looby, 2022) submitted as part of this planning application which details the proposed separate foul and surface water drainage system.
- 6.34 The proposed development consists of a building 24 stories in height. This is within the built-up urban environment of Dublin City.

6.4 RECEIVING ENVIRONMENT

6.4.1 Zone of Influence

- 6.35 As outlined in CIEEM (2018) ‘The ‘*zone of influence*’ for a project is the area over which ecological features may be affected by biophysical changes as a result of the proposed project and associated activities. This is likely to extend beyond the project site, for example where there are ecological or hydrological links beyond the site boundaries.’ In line with best practice guidance an initial zone of influence be set at a radius of 2km for non-linear projects (IEA, 1995).
- 6.36 The potential ZOI of the project in the absence of mitigation was deemed to be; within the site outline, and nearby sensitive receptors including the River Liffey and designated sites downstream of the proposed works. Given the extent of the demolition and site clearance works, and the proximity of the River Liffey to the subject site (15m), in the absence of mitigation there is the potential for dust and surface water runoff to enter the proximate watercourse. As a result, out of an abundance of caution, the ZOI of the proposed works site is extended to the River Liffey and downstream designated conservation sites located within Dublin Bay.
- 6.37 Foul wastewater and surface water drainage will also be discharged to the combined sewer via separate foul and surface water systems. As a result, there is an indirect hydrological pathway from the proposed development to designated conservation sites located within the marine environment at Dublin Bay. In the case of the proposed development, the potential ZOI extends beyond the site, with the potential for downstream impacts to extend beyond the proposed development area via the proposed construction works and the surface water/foul water networks during construction and operation. The application site outline is shown in Figure 6.1. An AA Screening and NIS have been submitted with this EIAR. The NIS concludes that “Following the implementation of the mitigation measures outlined, the demolition, construction works and operation of the proposed development would not be deemed to have a significant impact on the River Liffey which is seen as a direct pathway to four Natura 2000 sites. No significant adverse effects are likely on Natura 2000 sites, alone in combination with other plans and projects based on the implementation of mitigation measures.”

6.4.2 Designated Sites

- 6.38 As can be seen from Figures 6.2 (SAC’s within 15km), 6.3 (SPA’s within 15km), 6.4 (NHA and pNHA within 15km), and 6.5 (Ramsar sites within 15km), there are four

Natura 2000 sites within 5km, five National conservation sites within five kilometres of the proposed development site, and two Ramsar sites within 15km of the proposed development site. The distance and details of the conservation sites within 15km of the proposed development are seen in Table 6.2a and Table 6.2b. Given the extent of the proposed works, it is considered that there is an indirect pathway to designated sites located within Dublin Bay. Figures 6.6 – 6.9 demonstrate watercourses proximate to the subject site and designated conservation sites with the potential for a hydrological pathway. In addition, foul water and surface water drainage (during operation) is treated in the Ringsend WwTP which is operating within capacity².

² https://www.water.ie/uuid/eed266bd-5646-4b6a-bf9d-6ddb57049930/2020-IW-WWCR-Web-Version_Dublins.pdf

Table 6.2a Natura 2000 sites within 15km of the subject site

	Name	Distance (km)
SAC		
000210	South Dublin Bay SAC	2.8km
000206	North Dublin Bay SAC	4.8 km
000199	Baldoyle Bay SAC	9.8 km
000202	Howth Head SAC	10.5 km
003000	Rockabill to Dalkey Island SAC	10.7 km
002122	Wicklow Mountains SAC	12.1 km
001209	Glenasmole Valley SAC	12.4 km
000205	Malahide Estuary SAC	12.8 km
002193	Ireland's Eye SAC	13.7 km
SPA		
004024	South Dublin Bay and River Tolka Estuary SPA	1.9 km
004006	North Bull Island SPA	4.8 km
004016	Baldoyle Bay SPA	10 km
004040	Wicklow Mountains SPA	12.4 km
004025	Malahide Estuary SPA	12.8 km
004172	Dalkey Islands SPA	12.8 km
004117	Ireland's Eye SPA	13.5 km
004113	Howth Head Coast SPA	13.7 km

Table 6.2b Designated conservation sites within 15km of the subject site

	Name	Distance (km)
pNHA		
	Royal Canal	0.7 km
	Grand Canal	0.9 km
	North Dublin Bay	1.6 km
	South Dublin Bay	2.8 km
	Dolphins, Dublin Docks	3.6 km
	Boosterstown Marsh	5.1 km
	Santry Demesne	5.6 km
	Liffey Valley	6.6 km
	Dodder Valley	8.2 km
	Fitzsimon's Wood	8.6 km
	Baldoyle Bay	9.8 km
	Dalkey Coastal Zone And Killiney Hill	10.1 km
	Howth Head	10.3 km
	Feltrim Hill	10.3 km
	Sluice River Marsh	10.6 km
	Glenasmole Valley	12.4 km
	Dingle Glen	12.5 km
	Malahide Estuary	12.8 km
	Lugmore Glen	13.3 km
	Loughlinstown Woods	13.6 km
	Ireland's Eye	13.7 km
	Ballybetagh Bog	13.8 km
Ramsar		
	Sandymount Strand / Tolka Estuary	2.9 km
	North Bull Island	5.0 km
	Baldoyle Bay	10.1 km
	Broadmeadow Estuary	13.1 km



Figure 6.1 – Proposed Development Site Outline (red)

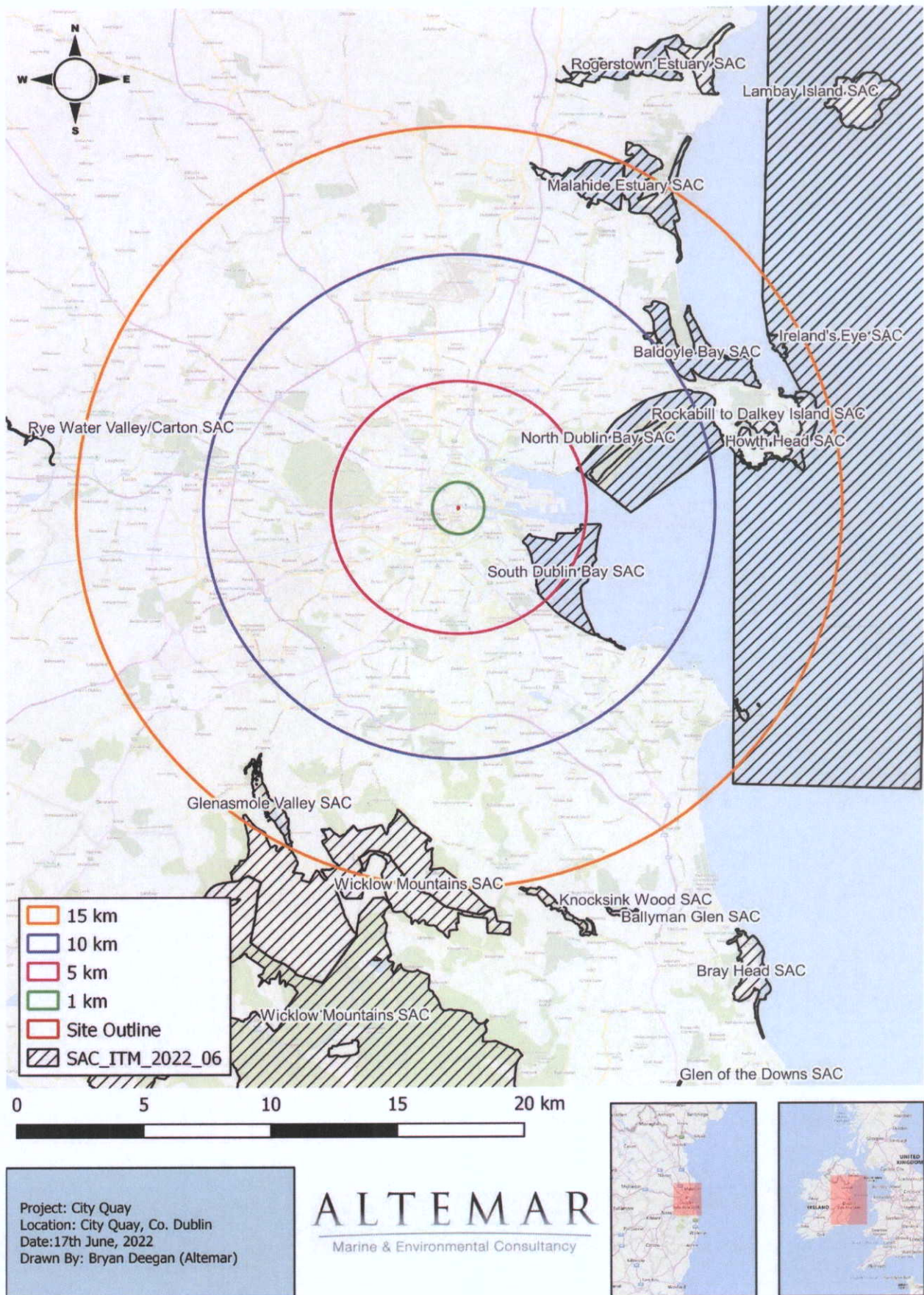


Figure 6.2 – Special Areas of Conservation within 15km of the proposed development site

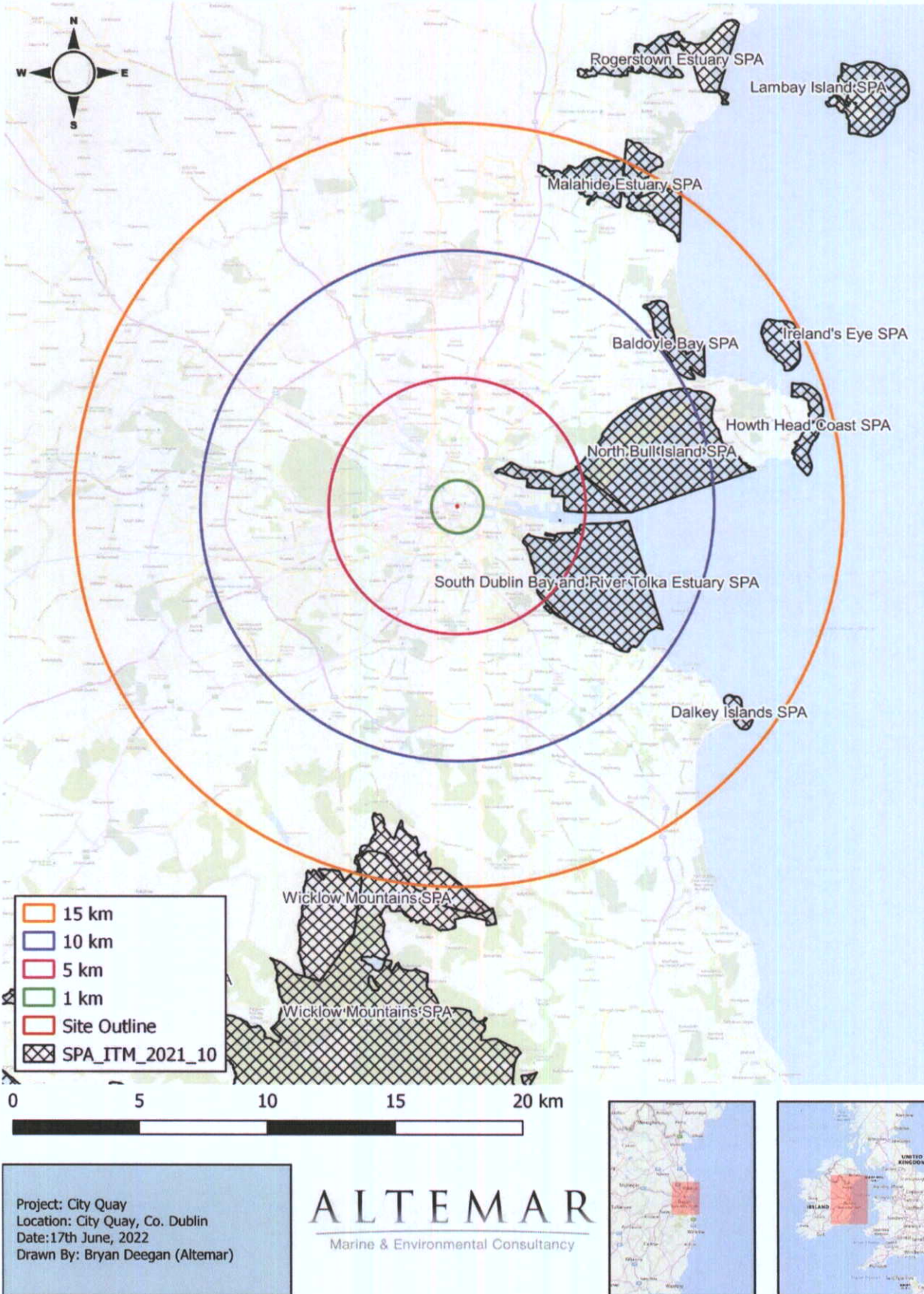


Figure 6.3 – Special Protection Areas within 15km of the proposed development site

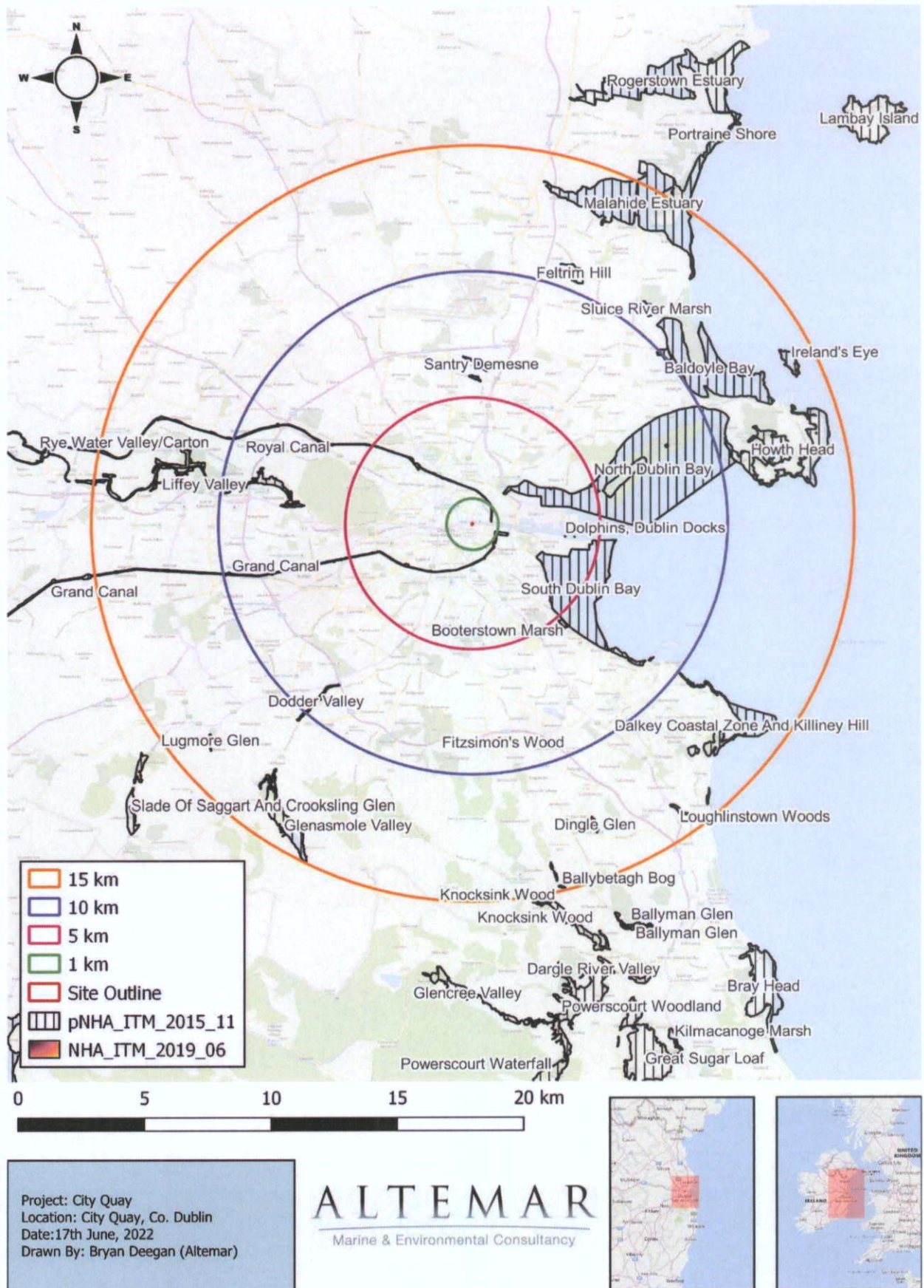


Figure 6.4 – NHAs and pNHAs within 15km of the proposed development site

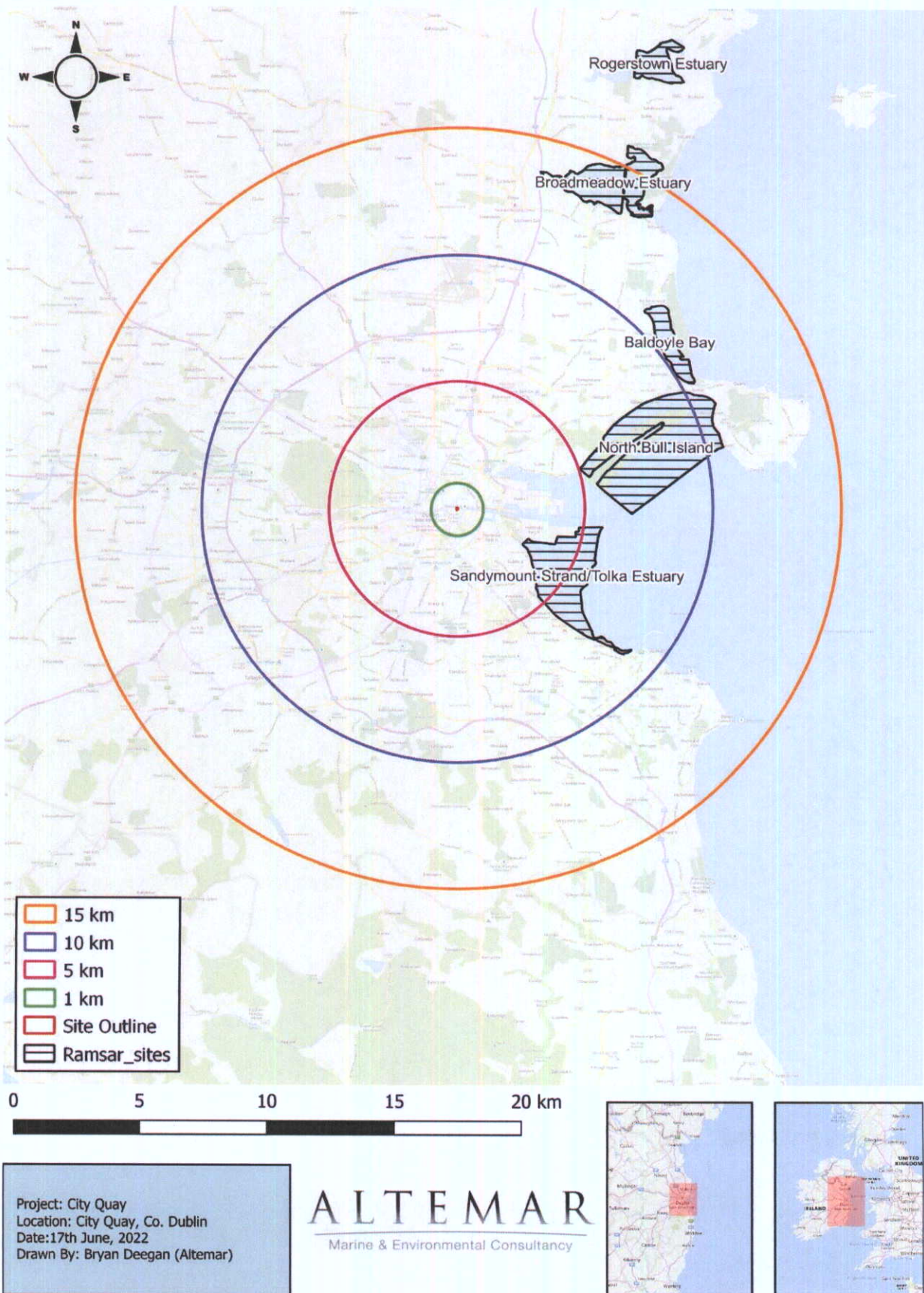


Figure 6.5 – Ramsar sites within 15km of the proposed development site



Figure 6.6 – Waterbodies proximate to the proposed development site



Figure 6.7 – Waterbodies and SACs proximate to the proposed development site

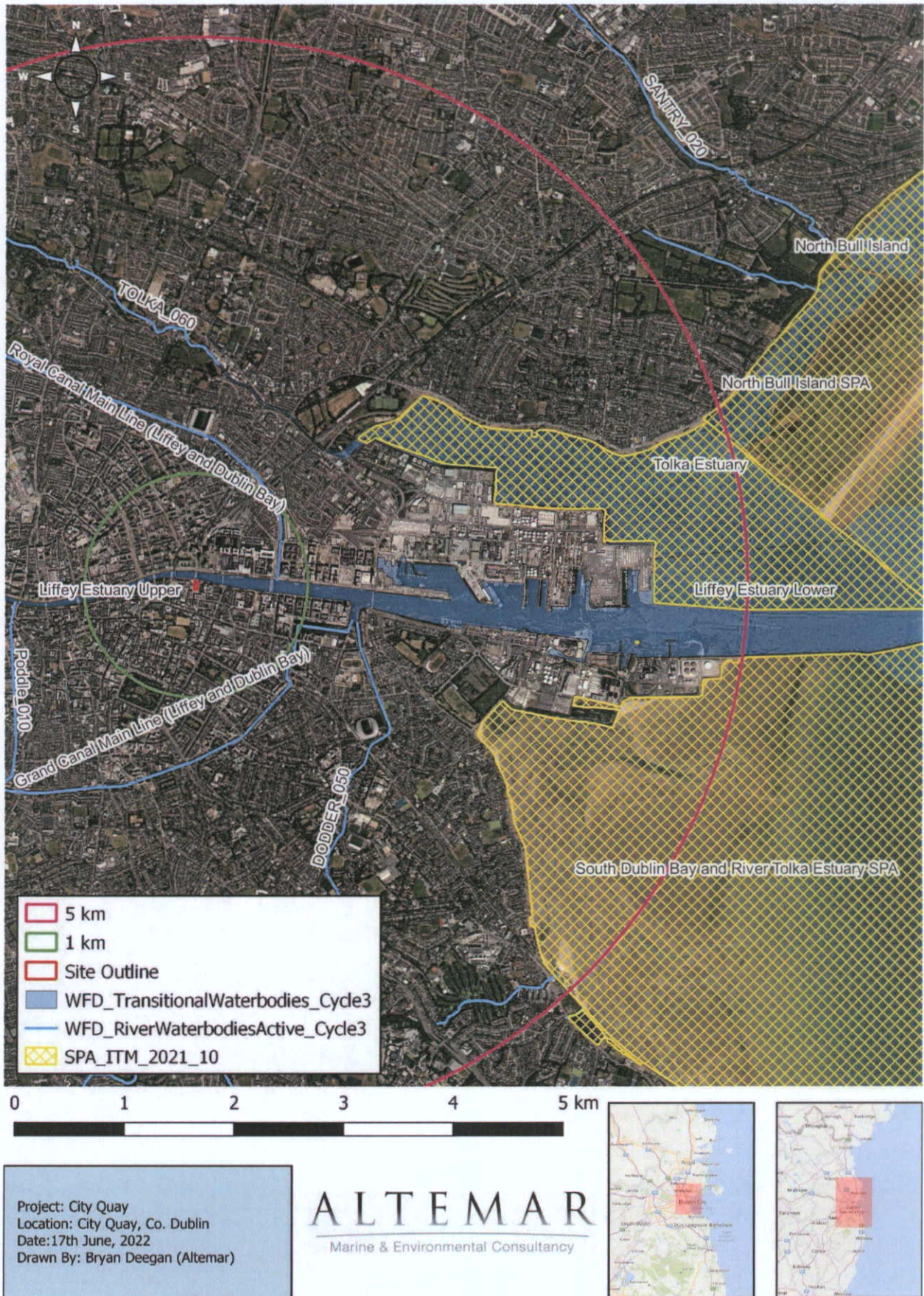


Figure 6.8 – Waterbodies and SPAs proximate to the proposed development site

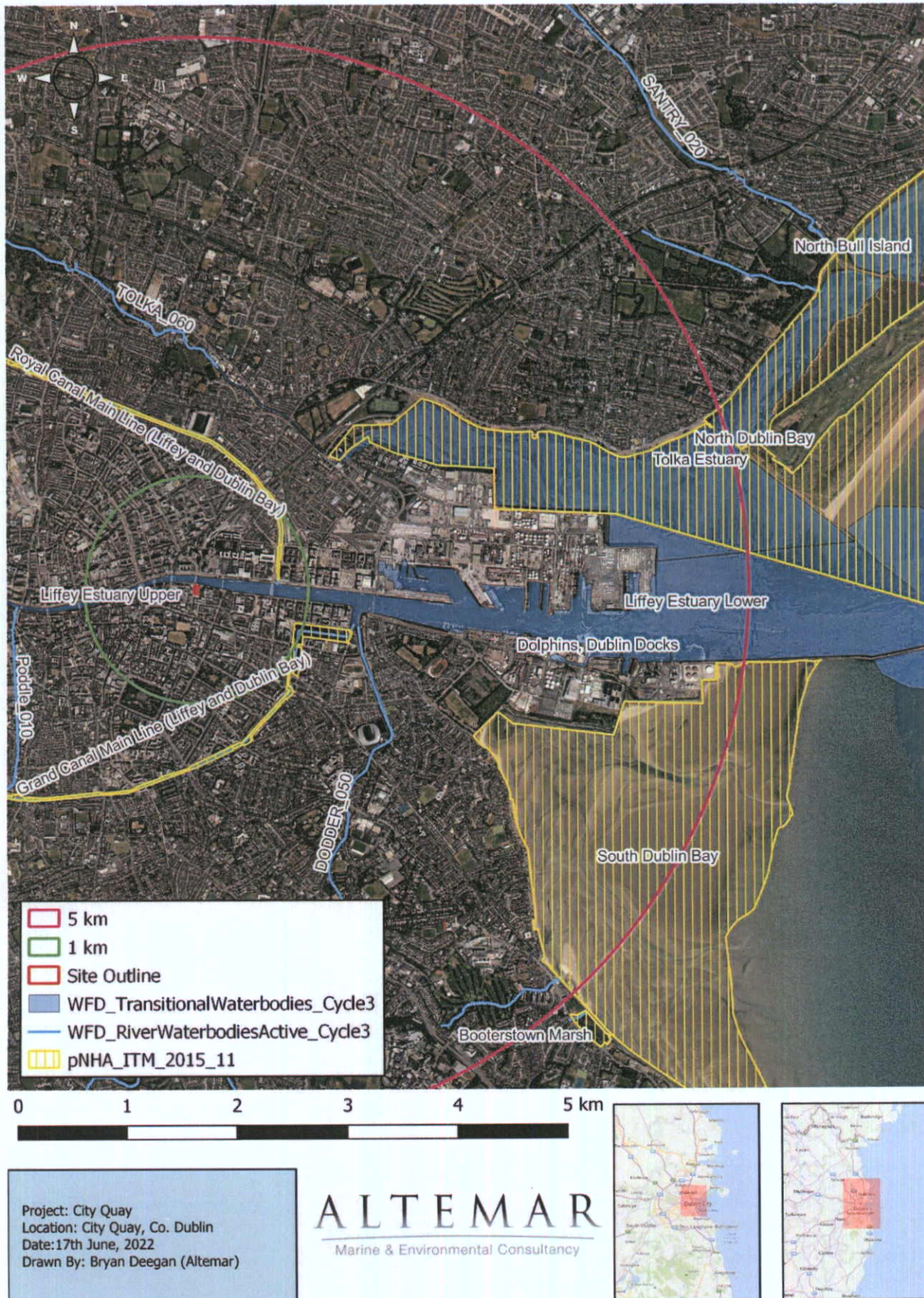


Figure 6.9 – Waterbodies and pNHAs proximate to the proposed development site

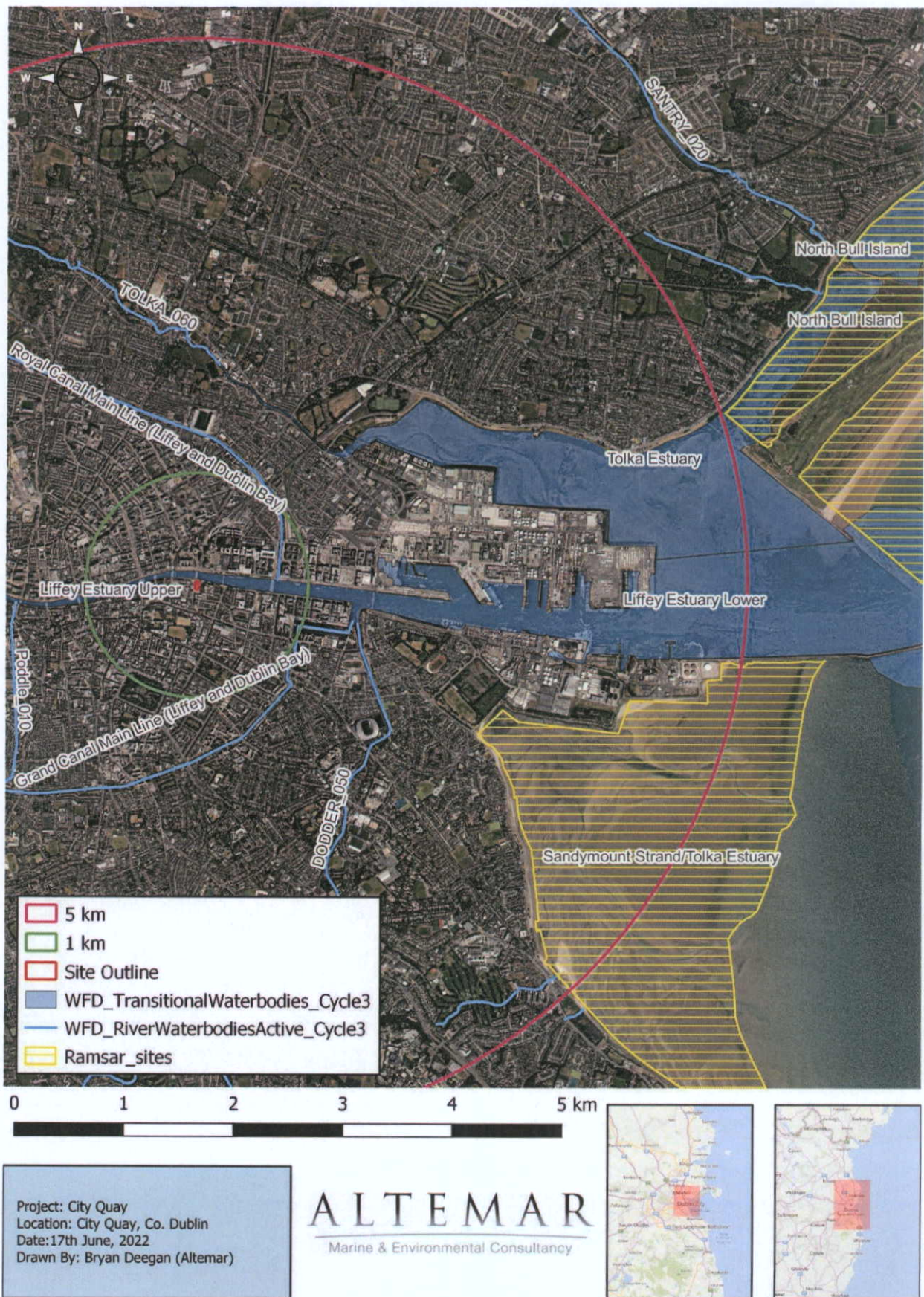


Figure 6.10 – Waterbodies and Ramsar sites proximate to the proposed development site

6.4.3 Species Data

6.39 It should be noted that no species of conservation importance were noted on site, based on NPWS and NBDC records at fine resolution. Species recorded within the 2km² grid (O13S) are seen in Table 6.3a.

Table 6.3a Species recorded within the 2km² grid (O13S (NBDC Records))

Date of Record	Species Name	Designation
28/06/2020	Common Frog (<i>Rana temporaria</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex V Protected Species: Wildlife Acts
05/06/2016	Black Guillemot (<i>Cephus grylle</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
17/10/2014	Black-headed Gull (<i>Larus ridibundus</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
31/12/2011	Black-legged Kittiwake (<i>Rissa tridactyla</i>)	Protected Species: Wildlife Acts Threatened Species: OSPAR Convention Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
01/01/2017	Brent Goose (<i>Branta bernicla</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
02/08/2016	Common Kingfisher (<i>Alcedo atthis</i>)	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex I Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
31/12/2011	Common Linnet (<i>Carduelis cannabina</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
31/12/2011	Common Starling (<i>Sturnus vulgaris</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
18/06/2017	Common Tern (<i>Sterna hirundo</i>)	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex I Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
13/02/2013	Common Wood Pigeon (<i>Columba palumbus</i>)	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section I Bird Species
31/12/2011	Great Cormorant (<i>Phalacrocorax carbo</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
06/06/2017	Herring Gull (<i>Larus argentatus</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
31/12/2011	House Sparrow (<i>Passer domesticus</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
31/12/2011	Lesser Black-backed Gull (<i>Larus fuscus</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
02/08/2016	Little Egret (<i>Egretta garzetta</i>)	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex I Bird Species
04/06/2016	Mallard (<i>Anas platyrhynchos</i>)	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section I Bird Species

31/12/2011	Mew Gull (<i>Larus canus</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
01/01/2017	Mute Swan (<i>Cygnus olor</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
30/12/2016	Rock Pigeon (<i>Columba livia</i>)	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species
31/12/2011	Tufted Duck (<i>Aythya fuligula</i>)	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section II Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
26/04/2020	Butterfly-bush (<i>Buddleja davidii</i>)	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species
22/05/2013	Cherry Laurel (<i>Prunus laurocerasus</i>)	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species
18/09/2012	Giant Hogweed (<i>Heracleum mantegazzianum</i>)	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
31/07/2009	Indian Balsam (<i>Impatiens glandulifera</i>)	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
07/06/2018	Japanese Knotweed (<i>Fallopia japonica</i>)	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
10/09/2019	Narrow-leaved Ragwort (<i>Senecio inaequidens</i>)	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species
26/04/2020	Sycamore (<i>Acer pseudoplatanus</i>)	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species
22/05/2013	Three-cornered Garlic (<i>Allium triquetrum</i>)	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
22/05/2013	Traveller's-joy (<i>Clematis vitalba</i>)	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species
09/08/2021	Harlequin Ladybird (<i>Harmonia axyridis</i>)	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
03/04/2008	Andrena (<i>Melandrena nigroaenea</i>)	Threatened Species: Vulnerable
06/07/2020	Large Red Tailed Bumble Bee (<i>Bombus (Melanobombus) lapidarius</i>)	Threatened Species: Near threatened
15/07/1977	Megachile (<i>Delomegachile willughbiella</i>)	Threatened Species: Near threatened
06/07/1977	Megachile (<i>Megachile centuncularis</i>)	Threatened Species: Near threatened
04/05/2020	Moss Carder-bee (<i>Bombus (Thoracombus) muscorum</i>)	Threatened Species: Near threatened
28/11/2018	Common Dolphin (<i>Delphinus delphis</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
24/01/2001	Striped Dolphin (<i>Stenella coeruleoalba</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
26/05/2013	Eastern Grey Squirrel (<i>Sciurus carolinensis</i>)	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species Invasive Species: Invasive Species >> EU Regulation No. 1143/2014 Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
04/05/1980	European Otter (<i>Lutra lutra</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex II Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts

25/04/2015	House Mouse (<i>Mus musculus</i>)	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species
15/09/2010	Lesser Noctule (<i>Nyctalus leisleri</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
15/09/2010	Nathusius's Pipistrelle (<i>Pipistrellus nathusii</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
15/09/2010	Pipistrelle (<i>Pipistrellus pipistrellus sensu lato</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
18/05/2006	Soprano Pipistrelle (<i>Pipistrellus pygmaeus</i>)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
01/06/2020	West European Hedgehog (<i>Erinaceus europaeus</i>)	Protected Species: Wildlife Acts

- 6.40 An assessment of files received from the NPWS (Code No. 2022_120) which contain records of rare and protected species and grid references for sightings of these species was carried out as part of this assessment. The following table provides a summary of the species identified, the year of identification, survey name and Grid Reference.

Table 6.3b Recorded species within NPWS Records proximate to the site

Sample ID	Species	Survey Name	Sample Year
5031	Twaite Shad (<i>Alosa fallax</i>)	Shad records Central Fisheries Board	N/A
9330	Common Frog (<i>Rana temporaria</i>)	Frog – National Frog Survey 2011 additional records	2011

6.5 HABITATS AND SPECIES

- 6.41 The field surveys were carried out by Bryan Deegan (MCIEEM) on the 9th and 21st September 2021 and 10th August 2022. Habitats within the proposed development site were classified according to Fossitt (2000) (Figure 6.11) and the species noted within each habitat are described. Wintering bird and flightline assessments were carried out by Hugh Delaney (ornithologist) on the 14th and 27th December 2021. Bat surveys, that included an internal and external examination of the buildings on site were carried out on the 9th and 21st September 2021 and 10th August 2022. Habitats within the proposed site outline were classified according to Fossitt (2000) (Figure 6.11).

BL3 Buildings and artificial surfaces

- 6.42 A derelict building (Plate 6.1) with a single small outbuilding is present on site. In addition, there is a large car park to the rear which consists of hard standing and is in active use. As is seen in Appendix 6.1 a bat emergent survey was carried out in the vicinity of these buildings and no bats were observed within or emerging from buildings on site. No species of conservation importance were noted associated with the Buildings and artificial surfaces.
- 6.43 Species on site included thistles (*Cirsium arvense*, *C. vulgare*), creeping buttercup (*Ranunculus repens*), dandelion (*Taraxacum spp.*), docks (*Rumex spp.*), daisy (*Bellis perennis*), clover (*Trifolium repens*), plantains (*Plantago spp.*), nettle (*Urtica dioica*), ivy (*Hedera helix*), red valerian (*Centranthus ruber*), bramble (*Rubus fruticosus*), butterfly-bush (*Buddleja davidii*) and rosebay willowherb (*Chamaenerion angustifolium*). No species of conservation importance or invasive species were noted.



Plate 6.1. (Anticlockwise from top left) Derelict building, Carpark at rear and outbuilding.