

This has been considered comprehensively in the proposed approach as set out in this LRD Stage 3 Application and is detailed in this report in Section 7.2, and in the Masterplan Report (Hawkins Brown, 2022).

3.2.4.1.2 Policy in relation to Residential Development

The City Development Plan Policy Objectives seeks to build upon and enhance the National Planning Framework (NPF) and the Regional Spatial and Economic Strategy (RSES). In order to achieve compact growth, 50% of housing must be provided for within the built-up area of Dublin City and Suburbs. In order to achieve this goal, the Plan recognises that housing delivery in Dublin City should accord with the provisions of the Core Strategy which sets out the appropriate locations for future potential development.

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In this regard it is the policy of DCC:

QH7: *To promote residential development at sustainable urban densities throughout the city in accordance with the core strategy, having regard to the need for high standards of urban design and architecture and to successfully integrate with the character of the surrounding area.*

QH8: *To promote the sustainable development of vacant or under-utilised infill sites and to favourably consider higher density proposals which respect the design of the surrounding development and the character of the area.*

QH18: *To promote the provision of high quality apartments within sustainable neighbourhoods by achieving suitable levels of amenity within individual apartments, and within each apartment development, and ensuring that suitable social infrastructure and other support facilities are available in the neighbourhood, in accordance with the standards for residential accommodation.*

QH19: *To promote the optimum quality and supply of apartments for a range of needs and aspirations, including households with children, in attractive, sustainable, mixed-income, mixed-use neighbourhoods supported by appropriate social and other infrastructure.*

QH20: *To ensure apartment developments on City Council sites are models of international best practice and deliver the highest quality energy efficient apartments with all the necessary infrastructure where a need is identified, to include community hubs, sports and recreational green open spaces and public parks and suitable shops contributing to the creation of attractive, sustainable, mixed-use and mixed-income neighbourhoods.*

The Proposed Development is in line with the objectives as set out in the Development Plan.

3.3 The EIA Directive

The EIA Directive (85/337/EEC) has been in force since 1985 and applies to a wide range of defined public and private projects. The EIA Directive was amended in 1997, 2003, 2009, 2011 and 2014 by Directives 97/11/EC; 2003/35/EC, 2009/31/EC, 2011/92/EU and 2014/52/EU. The EIA Directive requires environmental impact assessments to be carried out for certain projects as listed in Annex I of the Directive. The EIA Directive, and amendments, are transposed into Irish law through the Planning and Development Acts 1996 to 2019 in particular S.I. No. 296 of 2018.

Schedule 5, Part 1, of the Planning Regulations transposes Annex 1 of the EIA Directive directly into Irish planning legislation. An EIAR is required to accompany a planning application for development of a class set out in Schedule 5, Part 1 of the Planning Regulations which exceeds a limit, quantity or threshold set for that class of development.

Schedule 5, Part 2 of the Planning Regulations defines projects that are assessed on the basis of set mandatory thresholds for the project class listed below:

"Schedule 5, Part 2 - Infrastructure projects

"10(b) (i) Construction of more than 500 dwelling units.

The Proposed Development consists of the construction of a residential and nursing home development set out in 7 no. blocks, ranging in height from 4 to 7 storeys, to accommodate 580 no. apartments, residential tenant amenity spaces, a crèche, and a 100-bedspace nursing home. As the Proposed Development consists of the construction of 580 dwelling units, it is above the 500 dwelling unit threshold, and accordingly a mandatory EIAR is required.

In August 2018 the Department of Housing, Planning and Local Government published a document entitled '*Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment*'. This document has been used in the preparation of this EIAR.

In May 2022, the EPA published the Final "*Guidelines on the information to be contained in Environmental Impact Assessment Reports*". The Guidelines have been updated following the introduction of transposing legislation and are now formally adopted. The preparation of these updated Guidelines has involved extensive consultation. Participants in this consultation included government departments, national agencies, regional and local government, independent statutory bodies, non-governmental organisations, members of the public, developers and bodies representing various professional, industrial and sectoral groups. The Guidelines emphasise the importance of the methods used in the preparation of an EIAR to ensure that the information presented is adequate and relevant. This document has been used in the preparation of this EIAR.

The Revised EIA Directive defines EIA as a process. Article 1(2) (g) states that EIA means:

"(i) the preparation of an environmental impact assessment report by the developer, as referred to in Article 5(1) and (2);

(ii) the carrying out of consultations as referred to in Article 6 and, where relevant, Article 7;

(iii) the examination by the competent authority of the information presented in the environmental impact assessment report and any supplementary information provided, where necessary, by the developer in accordance with Article 5(3), and any relevant information received through the consultations under Articles 6 and 7;

(iv) the reasoned conclusion by the competent authority on the significant effects of the project on the environment, taking into account the results of the examination referred to in point

(iii) and, where appropriate, its own supplementary examination; and

(v) the integration of the competent authority's reasoned conclusion into any of the decisions referred to in Article 8a".

The Revised EIA Directive requires the EIA to identify, describe and assess, in an appropriate manner and in light of each individual case, the direct and indirect significant effects of the Proposed Development on factors of the environment including:

- (a) population and human health;
- (b) biodiversity, with particular attention to species and habitats protected under the Habitats and Birds Directives;
- (c) land, soil, water, air and climate;
- (d) material assets, cultural heritage and the landscape;
- (e) the interaction between the factors referred to in points (a) to (d).

The requirements of the Revised EIA Directive in relation to each Chapter are addressed in the EIAR as follows;

- Chapter 2: Description of Development
- Chapter 3: Planning and Policy Context
- Chapter 4: Population and Human Health
- Chapter 5: Biodiversity;
- Chapter 6: Land and Soils;
- Chapter 7: Hydrology;
- Chapter 8: Air Quality and Climate;
- Chapter 9: Noise and Vibration;
- Chapter 10: Landscape and Visual Amenity;
- Chapter 11: Archaeology and Cultural Heritage;
- Chapter 12: Material Assets including Traffic;
- Chapter 13: Risk Management;
- Chapter 14: Interactions;
- Chapter 15: Mitigation and Monitoring Measures.

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4 POPULATION AND HUMAN HEALTH

4.1 Introduction

This chapter of the EIA Report considers the likely impacts of the Proposed Development on human beings, living, working, and visiting in the vicinity of the application site east of St. Paul's College, Sybil Hill, Raheny, Dublin 5 on lands which are zoned Z15. A small section of the site to the northeast, is zoned Z9, however no residential development is proposed on the lands contained within the application boundary which are zoned Z9. The Chapter details the likely direct and indirect effects of the Proposed Development on population and human health.

Human beings are one of the most significant elements of the environment to be considered, therefore any likely impact on the status of humans by a development proposal must be comprehensively addressed. One of the principal concerns in any Proposed Development is that the local population experiences no reduction in the quality of life as a result of the development on either a permanent or temporary basis. This chapter also examines the socio-economic impacts of the development proposal focusing on pertinent issues such as residential amenity, economic activity, tourism and population levels.

The section on Population and Human Health is broad ranging and covers the existence, wellbeing, and activities of people through the format of considering people as 'groups' or 'populations'. The assessment of impacts on human beings involves the identification of relevant key populations that may be affected by the Proposed Development and quantifiable documentary research.

Key populations have been identified as persons residing and engaging in activities near the application site, persons with a stake in the general economy of the local and regional area, and persons enjoying the recreational and cultural amenities of the area.

4.1.1 Quality Assurance and Competence

This Chapter was prepared by Louise Hewitt, Environmental Consultant, Enviroguide Consulting. Louise has a Master of Science (Hons) in Environmental Resource Management from University College Dublin and a Bachelor of Science (Hons) in Biology from Maynooth University. Louise has experience preparing Environmental Impact Assessment (EIA) Screening Reports, Introduction Chapters, Population and Human Health Chapters and Archaeology and Cultural Heritage Chapters of EIARs. The chapter has been co-authored and reviewed by Janet O' Shea, Technical Director, Enviroguide Consulting. Janet has a Bachelor of Science in Environmental Health along with over 15 years' experience as an Environmental Professional including Environmental Impact Assessments.

4.2 Study Methodology

A desk-based study was undertaken to assess information regarding population, age structure, economic activity, employment, and unemployment within the vicinity of the Proposed Development.

The 2022 Census of Ireland was held on Sunday the 3rd of April 2022. The preliminary results were released on the 23rd of June 2022 however the main results will be published over several months starting in April 2023. The preliminary 2022 census results have been reviewed however they do not contain the required region-specific information for the purpose of this Social Infrastructure Report (Appendix B). As such, the more robust and complete 2016 census results have been used in this assessment (Accessed June 2022). The remaining information analysed as part of the desktop study was accessed in June 2022.

The scope of the evaluation is based on a review of data available from the Central Statistics Office (CSO), legislation, guidance documents and EIARs. The aim of the study was to assess the current baseline environment.

The likely impact of the Proposed Development on the local population is assessed in this EIAR in relation to:

- Population;
- Socio Economic impacts;
- Tourism and Amenity;
- Air quality;
- Water;
- Noise; and
- Traffic.

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The Proposed Development is located within the Clontarf Local Electoral Area (LEA) which has been selected as the study area. This LEA is made up of 16 electoral divisions: Beaumont D, Beaumont E, Beaumont F, Clontarf East A, Clontarf East B, Clontarf East C, Clontarf East D, Clontarf East E, Clontarf West A, Clontarf West B, Clontarf West C, Clontarf West D, Clontarf West E, Drumcondra South A, Grace Park and Harmonstown B. A map of this area is detailed in Figure 4-1. As the electoral divisions are small areas, a representative sample of population from one electoral division would not be a representative sample of the age demography of the area.



Figure 4-1: Local Electoral Area Boundary (Source Local Electoral Area Boundary Committee No. 2)

4.2.1 Information Sources

The principal sources of information are as follows.

- Census and employment information published by the Central Statistics Office (CSO). Available at <https://data.cso.ie/#>
- The Dublin City Development Plan (2016-2022), Available at: <https://www.dublincity.ie/dublin-city-development-plan-2016-2022>
- The Draft Dublin City Development Plan (2022-2028), Available at: <https://www.dublincity.ie/sites/default/files/2021-12/volume-1-draft-dublin-city-development-plan-2022-2028-low-res.pdf>
- Regional Planning Guidelines of the Greater Dublin Area 2010-2022, and
- Ordnance Survey Ireland (OSI) mapping and aerial photography.

The EPA defines Sensitive Receptors such as residential receptors, schools, commercial premises, amenity areas and hospitals (Odour Emissions Guidance Note, September 2019). The Proposed Development includes 580 no. apartments which could be classed as residential receptors, a creche which could fall under the school category and a 100-bed nursing home which could fall under the hospital category. As all elements of the Proposed Development could be classed as sensitive receptors they have been assessed in this Chapter with the same sensitivity.

Baseline information relating to the existing community amenities have been assessed in the Social Infrastructure Report (Enviroguide Consulting, 2022) which has been submitted as a standalone document as part of this planning application (Appendix B). The following sources have been used to assess the community amenities:

- Google search including google maps
- Social Media Community Pages
- Failte Ireland
- Discover Ireland
- YourLocal.ie
- Dublin City Council – Raheny Library information

The Institute of Public Health in Ireland has issued a document “Health Impact Assessment Guidance” which details the link between human health and the built environment (Figure 4-2). This document also details the negative health impacts associated with unemployment. Unemployment affects both physical and mental health and is an important determinant of health inequalities in adults of working age. Unemployed people have a higher risk of lower levels of psychological wellbeing ranging from symptoms of depression and anxiety to self-harm and suicide. Unemployment can also impact other health determinants for example housing and nutrition. Based on this information, employment generated as a result of the Proposed Development has been assessed throughout this Chapter.



Figure 4-2: Health impact of the built environment

In line with the EPA Guidelines (EPA, 2022), the following terms are defined when quantifying the quality of effects. See Table 4-1.

Table 4-1: Definition of Quality of Effects

Quality	Definition
Positive Effects	A change which improves the quality of the environment
Neutral Effects	No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error
Negative/adverse Effects	A change which reduces the quality of the environment

In line with the EPA Guidelines (EPA, 2022), the following terms are defined when quantifying the significance of impacts. See Table 4-2.

Table 4-2: Definition of Significance of Effects

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

In line with the EPA Guidelines (EPA, 2022), the following terms are defined when quantifying the duration and frequency of effects. See Table 4-3.

Table 4-3: Definition of Duration of Effects

Quality	Definition
Momentary Effects	Effects lasting from seconds to minutes
Brief Effects	Effects lasting less than a day
Temporary Effects	Effects lasting less than a year
Short-term Effects	Effects lasting one to seven years.
Medium-term Effects	Effects lasting seven to fifteen years.
Long-term Effects	Effects lasting fifteen to sixty years
Permanent Effects	Effects lasting over sixty years
Reversible Effects	Effects that can be undone, for example through remediation or restoration

4.3 The Existing and Receiving Environment (Baseline Situation)

The site of the Proposed Development is located adjacent to St. Paul's College secondary school located at Sybil Hill Road, Raheny, Dublin 5. It is within the administrative jurisdiction of Dublin City Council. Nearby areas include Killester, Clontarf, Artane, Kilbarrack, Coolock and Donaghmede, and Howth Head dominates the skyline.

The Proposed Development is in an area that can be characterised as a well-planned and settled mature residential area substantially developed in the 1940s and 1950s in the Raheny and Killester areas.

Raheny is bisected by the Howth Road (R105) and the R809 (coming from Bull Island, in turn Watermill Road, Main Street, Station Road) and is also accessed from the Malahide Road (R107), the coastal James Larkin Road (R807) and the R104 (including the Oscar Traynor Road and Kilbarrack Road).

The area is well serviced with public transport, including access to rail, buses, and established walking and cycling paths. Raheny, Harmonstown and Killester railway stations serve the DART suburban railway system and the Dublin-Belfast main line Raheny is also served by Dublin Bus (routes 29A, 31, 32, 31A and the rare 31d and 32x, and at night, 29N and 31N). There is also a local taxi rank.

The district, which is located in the Clontarf Local Electoral Area (LEA), within Dublin City Council, is home to two large municipal parks, St. Anne's Park and Bull Island with its 4.5km beach.

Directly across the road from St. Pauls is Sybil Hill Nursing Home, which houses the Provincial House of the Little Sisters of the Poor. This is a substantial nursing home in terms of its size

and a 5-storey building that faces onto the road frontage. A primary school occupies the northern part of that plot, accessed from Howth Road.

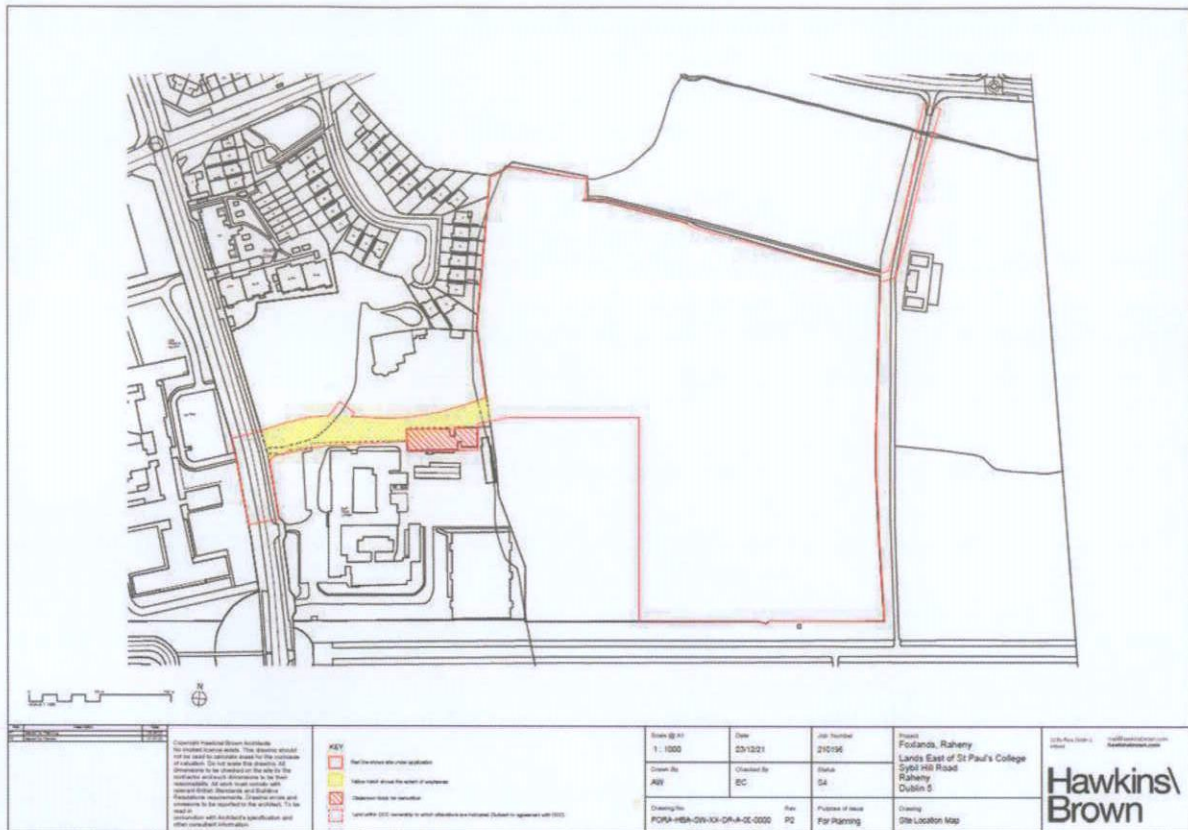
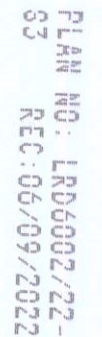


Figure 4-3 : Site Layout Map (Hawkins Brown, Drawing FORA-HBA-SW-XX-DR-A-00-0000)



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4.4 Characteristics of the Proposed Development

Raheny 3 Limited Partnership are applying for permission for development on lands east of St Paul's College, Sybil Hill Road, Raheny, Dublin 5. The 6.7 ha site is bound to the north, east and south by St Anne's Park and to the west by residential development at The Meadows, Sybil Hill House (a Protected Structure) and St Paul's College. Vehicular access to the site is from Sybil Hill Road.

The Proposed Development consists of the construction of a residential and nursing home development set out in 7 no. blocks, ranging in height from 4-7 storeys to accommodate 580 no. apartments, residential tenant amenity spaces, a crèche and a 100-bed nursing home. The site will accommodate car parking spaces, bicycle parking spaces, storage, services and plant areas at both basement and podium level.

Landscaping will include extensive communal amenity areas, and a significant public open space provision on the east and south of the site. The proposed application includes all site landscaping works, green roofs, substations, boundary treatments, lighting, servicing, signage, surface water attenuation facilities and associated and ancillary works, including site development works and services above and below ground. For a full description of the Proposed Development please refer to the Statutory Notices.

4.4.1 Population and Demographic Analysis

In terms of the County, Region and the State, population structure and change are more strongly influenced by migration and emigration rates than by birth and death rates. The mid to late 1980s in Ireland was a period of heavy population outflow, mainly due to the poor economic and employment situation in the country at that time. The most recent population estimates (June 2022) published by the Central Statistics Office indicate that the combination of a net inward migration and high birth rates have resulted in the population of Ireland has exceeded 5 million for the first time since 1851. Population projections for Ireland up to 2046 anticipate a population of approximately five million under the most pessimistic scenario and over 6.7 million under the most optimistic scenario. Population projections for Northern Ireland up to 2034 anticipate a population of approximately two million.

The Greater Dublin Area (GDA) which includes Dublin City and County, showed a significant population growth of 18.7% between 2006 and 2016. Significant population pressures have been exerted on certain parts of the GDA, particularly those areas which are within close commuting distance of Dublin.

In the case of the GDA, population levels specified in the Greater Dublin Regional Planning Guidelines 2010 – 2022 are projected to be in excess of 2 million by the year 2022.

According to Census 2022, the total population of Dublin is 1,450,701 which represents a 7.7% increase from the value of 1,347,359 in 2016.

Table 4-4: Population Change in Greater Dublin Area, 2016 to 2022 Census (Source: CSO)

County	Population 2016 Census Data	Preliminary 2022 Census Data	Change in Number of Persons	Percentage change in Population
Dublin	1,347,359	1,450,701	103,342	7.7
Kildare	222,504	246,977	24,473	11.0
Meath	195,044	220,296	25,252	12.9
Wicklow	142,425	155,485	13,060	9.2
Total	1,907,332	2,073,459	166,127	40.8

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4.4.2 Population and Age

The CSO data for 2016 records that there were 554,554 people living in Dublin City, the council area where the Proposed Development is located. Table 4-5 shows the breakdown of the population of Dublin City based on their age range group during the 2016 Census against the Dublin City & Suburbs and State average. This table is further broken down into percentages of the population within these age ranges.

Table 4-5: City, City & Suburbs and National Population Categorisation by Age

Age Range	Dublin City		Dublin City & Suburbs		Ireland	
	No. of People	% of People	No. of People	% of People	No. of People	% of People
0-4 years	30,683	5.5	76,662	5.9	331,515	7
5-24 years	125,795	22.7	292,138	22.6	1,251,489	26.3
25-34 years	119,756	21.6	331,026	25.6	659,410	13.8
35-44 years	87,582	15.8	189,061	14.6	746,881	15.7
45-54 years	65,836	11.9	141,965	11.0	626,045	13.1
55-64 years	52,547	9.5	114,914	8.9	508,958	10.7
65-74 years	38,011	6.9	82,382	6.4	373,508	7.8
75 years and over	34,344	6.2	65,004	5.0	264,059	5.5
Total	554,554		1,293,152		4,761,865	

The study area has been defined in Section 4.2 of this Chapter as the Clontarf Local Electoral Area (LEA) (Figure 4-1).

An analysis of the CSO Census Statistics for 2011 and 2016 for the Clontarf LEA was completed and is shown in Table 4-6. This table breaks down the age profile of the area and details the percentages of population in each age bracket. The Table also shows data from 2011 as a comparison of population fluctuation in the area.

Table 4-6: Age Profile of the Clontarf Local Electoral Area

	0-4 years		5-12 years		13-18 years		19-24 years		25-44 years		45-64 years		65-69 years		70 years +	
	2011	2016	2011	2016	2011	2016	2011	2016	2011	2016	2011	2016	2011	2016	2011	2016
Beaumont D	74	99	195	120	207	162	212	219	495	538	751	611	99	188	116	198
Beaumont E	117	128	140	167	112	95	179	156	505	524	455	417	168	128	325	436
Beaumont F	195	194	305	306	253	239	269	357	980	1,003	861	831	162	216	412	444
Clontarf East A	202	209	332	360	233	235	189	231	812	802	819	922	114	134	600	545
Clontarf East B	431	496	603	661	515	482	466	511	1,919	1,984	1,777	1,841	273	333	775	799
Clontarf East C	165	163	324	294	229	236	211	227	759	736	845	856	141	180	439	491
Clontarf East D	156	134	226	279	195	176	189	203	652	643	722	797	116	120	417	414
Clontarf East E	110	110	163	192	106	141	113	104	399	419	434	462	64	86	286	277
Clontarf West A	219	207	363	346	198	278	256	209	978	1,022	886	1,086	85	120	451	390
Clontarf West B	149	141	181	193	125	132	174	144	729	748	582	635	114	132	262	286
Clontarf West C	213	183	214	281	157	176	215	236	1,404	1,481	782	843	110	136	271	323
Clontarf West D	126	151	107	158	75	89	196	167	879	988	411	478	59	67	213	199
Clontarf West E	157	163	184	220	155	147	162	149	655	766	564	588	76	91	371	344
Drumcondra South A	255	253	289	294	232	212	486	537	1,865	2,135	960	1,542	132	247	352	402
Grace Park	263	276	466	471	454	393	549	526	1,512	1,622	1,542	1,454	247	342	637	722
Harmonstown B	151	192	276	263	184	222	221	190	754	784	656	742	64	79	378	286
Total No. of Persons	2,983	3,099	4,368	4,605	3,430	3,415	4,087	4,166	15,297	16,195	13,047	14,105	2,024	2,599	6,305	6,556
Total Percentage	5.8	5.7	8.5	8.4	6.7	6.2	7.9	7.6	29.7	29.6	25.3	25.8	3.9	4.7	12.2	12.0

Table 4-6 shows that the age range of population has remained relatively similar for the Clontarf LEA for all ages between the 2011 Census and 2016 Census, with a slight increase of population (1.2%) for people ages 65-69 years.

As evident from Tables 4-5 and 4-6, the population ranging between 25 and 44 years in the Clontarf LEA comprises 29.6% of the overall population of the area. This is comparable to the State average of 29.5%. Children ranging from 0-4 years in the Clontarf LEA comprise 5.7%, slightly lower than the State average of 7%. Young people ranging from 5-24 years make up 22.2% of the population of Clontarf LEA, lower than the national average of 26.4%.

The population ranging between 45 and 64 years in the Clontarf LEA comprises 25.8% of the population of the Clontarf LEA, higher than the national average of 23.8%.

The population in the Clontarf LEA aged 65 and over comprises 16.7% of the population of the area. The State average of people aged 70 and older is 13.3%.

4.4.3 Economic Activity & Employment

The labour force is defined as the number of people above the legal working age that are available to work. The labour force participation rate is the number of people who are employed and unemployed but looking for a job, divided by the total working-age population.

In 2016, there were 2,304,037 persons in the labour force in Ireland. This represented an increase of 71,834 (3.2%) on 2011 statistics. The substantial increase in retired persons (up 19.2% to 545,407) has impacted on the labour force participation rate, which fell to 61.4%.

Table 4-7 shows the percentage of the total population aged 15+ who were in the labour force during the 2016 Census. This figure is further broken down into the percentages that were at work or unemployed. It also shows the percentage of the total population aged 15+ who were not in the labour force, i.e. those who were students, retired, unable to work or performing home duties.

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Table 4-7: Economic Status of the Population Aged 15+ in 2016 (Source: CSO)

Status		Ireland		Dublin City		Clontarf LEA	
% of population aged 15+ who are in the labour force		No. of People	% of People	No. of People	% of People	No. of People	% of People
% of which are:	Persons at work	2,006,641	53	265,293	56	25,720	56
	Unemployed looking for first regular job	31,434	1	4,686	1	279	0.6
	Unemployed having lost or given up previous job	265,962	7	34,514	7	1,889	4
% of population aged 15+ who are not in the labour force		No. of People	% of People	No. of People	% of People	No. of People	% of People
% of which are:	Student or pupil	427,128	11	53,067	11	5,223	11
	Looking after home/family	305,556	8	29,111	6	2,875	6
	Retired	545,407	15	63,637	14	8,144	19
	Unable to work due to permanent sickness or disability	158,348	4	18,665	4	1,392	3
	Others not in labour force	14,837	0	2368	1	175	0.4

When assessing the percentage of people in the labour force, it is noted that 56% of the population in Dublin City area and 56% of the population in the Clontarf LEA are in the labour force. This reflects the high number of people of a working profile living within the area. This figure is higher than the State average of 53%. The number of people unemployed having lost or given up their previous job or looking for first regular job is 4.6% on the Clontarf LEA, lower than the State average of 8%.

The most recent publication of monthly unemployment statistics was issued by the CSO in August 2022 for reference month July 2022. The monthly unemployment release contains a series of monthly unemployment rates and volumes. These series are based primarily on the Labour Force Survey and are compiled in accordance with agreed international practice. These statistics are the definitive measure of monthly unemployment. The Live Register is used to provide a monthly series of the numbers of people (with some exceptions) registering for Jobseekers Benefit or Jobseekers Allowance or for various other statutory entitlements at local offices of the Department of Social Protection.

Table 4-8 details the most recent information available from the CSO from August 2022 on the number of persons on the Live Register in Kilbarrack. Kilbarrack is the closest Social Welfare Office to the Proposed Development and provides services to all of Dublin 5 including Raheny. In July 2022, 1 person was on the Live Register in the Kilbarrack area.

Table 4-8: Number of Persons on Live Register, Kilbarrack (Source: CSO)

Month	December 2021	January 2022	February 2022	March 2022	April 2022	May 2022	June 2022	July 2022
Number of Persons on Live Register Kilbarrack	2083	2000	11	2	1	2	No Value	1

As with employment, the number of persons in the labour force is also influenced by changes in the size of the working age population (demographic effect). Up to the start of 2008 this demographic effect had been adding at least 30,000 to the labour force, Nationally, on an annual basis, primarily driven by net inward migration. With the decline in inward migration the positive demographic effect started to fall in the second half of 2007 and continued to decline throughout 2008 and 2009 before becoming negative in Q3 2009. The negative demographic effect continued for each quarter until Q1 2014. The demographic effect has been positive since Q2 2014 and in Q1 2019 a positive demographic effect contributed an increase of 36,000 to the overall change in the labour force.

Tables 4-9 and 4-10 show the level of education and the area of study of the Clontarf LEA population at the time of the 2016 Census.

Table 4-9: Level of Education Clontarf LEA (Source CSO)

Level of Education in Clontarf LEA	Total No. of People	Total Percentage
No formal education	358	0.9
Primary education	3285	8.6
Lower secondary	4064	10.6
Upper secondary	6259	16.4
Technical or vocational qualification	2441	6.4
Advanced certificate/Completed apprenticeship	1421	3.7
Higher certificate	1641	4.3
Ordinary bachelor's degree or national diploma	3211	8.4
Honours bachelor's degree, professional qualification, or both	6361	16.7
Postgraduate diploma or degree	6605	17.3
Doctorate (Ph.D.) or higher	751	2.0
Not stated	1779	4.7

Table 4-10: Area of Study Clontarf LEA (Source CSO)

Area of Study (Clontarf LEA)	Total No. of People	Total Percentage
Education and teacher training	1995	5.2
Arts	1335	3.5
Humanities	1304	3.4
Social sciences, business and law	8870	23.2
Science, mathematics and computing	2676	7.0
Engineering, manufacturing and construction	2798	7.3
Agriculture and veterinary	160	0.4
Health and welfare	2778	7.3
Services	1243	3.3
Other subjects	29	0.1
Not stated	14988	39.3

As detailed in Table 4-10 the main area of study stated in the Clontarf LEA is social science, business and law.

4.4.4 Travel & Commuting

The Clontarf LEA is made up of 16 electoral divisions.

In 2016 there were 17,758 students commuting to school or college from the area and 25,240 people commuting to work from the area. Tables 4-11 and 4-12 show the means of transport used.

Table 4-11 shows that the majority of students travel to school or college on foot (40.2%) with car passengers (20.7%), bus, minibus, coach (17.6%) and bicycle (11.3%) being the next popular means of transport to school and college from the area.

Table 4-11: Commuting Methods to School and College from Clontarf LEA

Means of Transport	No. of People (Clontarf LEA)	Percentage of People
On foot - School or college	7,146	40.2
Bicycle - School or college	2,003	11.3
Bus, minibus or coach - School or college	3,125	17.6
Train, DART or LUAS - School or college	812	4.6
Motorcycle or scooter - School or college	13	0.1
Car driver - School or college	500	2.8
Car passenger - School or college	3,683	20.7
Van - School or college	9	0.1
Other (incl. lorry) - School or college	2	0.0
Work mainly at or from home - School or college	17	0.1
Not stated - School or college	448	2.5
Total - School or college	17,758	

Table 4-12 shows that the majority of people travel to work by car (41.7% as a driver; 2% as a passenger). The other main means of transport are on foot (10.1%), bus, minibus or coach (16.6%) and bicycle (10.9%).

Table 4-12: Commuting to Work from Clontarf LEA

Means of Transport	Total Clontarf LEA	Percentage of People
On foot – Work	2,554	10.1
Bicycle – Work	2,755	10.9
Bus, minibus or coach – Work	4,192	16.6
Train, DART or LUAS – Work	2,419	9.6
Motorcycle or scooter – Work	203	0.8
Car driver – Work	10,519	41.7
Car passenger – Work	498	2.0
Van – Work	618	2.4
Other (incl. lorry) – Work	47	0.2
Work mainly at or from home – Work	706	2.8
Not stated – Work	729	2.9
Total – Work	25,240	

Table 4-13: Commuting Times for Clontarf LEA

Commute Times	Under 15 mins	1/4 hour - under 1/2 hour	1/2 hour - under 3/4 hour	3/4 hour - under 1 hour	1 hour - under 1 1/2 hours	1 1/2 hours and over	Not stated
Total Commuter Numbers (for those working outside of the home)	6,961	11,144	9,276	3,394	2,186	445	1,787
Percentage of Commuter (for those working outside of the home)	19.8	31.7	26.4	9.6	6.2	1.3	5.1

Demographic analysis of travel trends, as outlined in Table 4-13 within the Clontarf LEA indicate that the majority of people commute to the surrounding environs, and other employment centres in the immediate vicinity daily. Tables 4-11 and 4-12 shows that 35,193 people are commuting to work, school or college from the Clontarf LEA. According to the CSO, the average journey time of workers who commute from this area was between 15 minutes and 30 minutes. Table 4-13 shows that 51.5% of the population travel a distance of between 0 minutes and ½ hour, with a further 26.4% travelling between ½ hour and ¾ hour. The settlement's position is an important residential base for young people and families within the city environs.

4.4.5 Community & Amenities

The Proposed Development is located approximately 5km northeast of Dublin City Centre, which is a highly developed and concentrated area of residential, community and leisure receptors. Dublin City has a range of community facilities including parks / open spaces, sports / recreational, playgrounds, youth centres and libraries.

The most notable amenities in the direct vicinity of the Proposed Development are located within St. Anne's Park. The park is the second largest municipal park in Dublin. As well as extensive walks and green areas, the park contains numerous sporting facilities, including extensive GAA and soccer playing fields, tennis and golf. The park also contains non-sport amenities. Bisected by a small river, the park features an artificial pond and a number of follies, a large rose garden, a fine collection of trees with walks, a playground, cafe and recreational areas. The park also hosts markets on some weekends.

The Proposed Development is located 1.13km from North Bull Island at the area known as Dollymount. This island contains the amenity of Dollymount Strand as well as two golf courses. The island is also famous for its wildlife, and the lagoon and mudflats between the island and the mainland is a favourite location for birdwatching.

The Proposed Development is in close proximity to the seafront, with a promenade running continuously from Alfie Byrne Road to the wooden bridge at Dollymount. The seafront is highly popular with runners, walkers, sailors and cyclists.

Raheny has a strong network of community groups and clubs, which are voluntary groups. These local community groups include the Raheny Heritage Society, Tidy Village Group, Raheny Drama and Variety Group, Raheny Toastmasters, Raheny St. John Ambulance

Division, Raheny Order of Malta Unit, Raheny Community First Responders and some church-related groups, such as the local conference of the Society of St. Vincent de Paul.

With a strong sense of community in nearby Clontarf, there is a wide variety of community groups that are extremely active including Foroige Youth Club, Clontarf Hockey Club, Coast Road Runners, Clontarf Parish Tennis Club, St. Pauls Karate Club, Clontarf Junior Swimming Club, Metropolitan School of Dance and various Baby Toddler Playgroups.

The St. Anne's Residents' Association (SARA), with some allied bodies, operates a community hall on All Saints' Drive, while the Grange Woodbine Association has hall facilities on Station Road. Clontarf Residents' Association is located in Clontarf East.

Raheny and Clontarf have various girl guides and scout organisations. Raheny Scout Group, a unit of Scouting Ireland, meet at their den on the banks of the Santry River, opposite the Church of Our Lady Mother of Divine Grace on the Howth Road. Raheny Guides, also known as Buion An Leabh Prague of the Catholic Guides of Ireland, have been in existence since 1966, meeting weekly. The Cygnets (age 5–7) meet in the CARA Hall and the Brigins (age 6–10), Guides (age 10–16) and Rangers (age 14–19) meet in Scoil Aine School Hall. Clontarf has a longstanding Clontarf Scout Troop, which was established in 1931. Clontarf also has two Boys' Brigade companies - the 12th, attached to Clontarf Church of Ireland, and the 39th, attached to the Presbyterian parish, and a Girls' Brigade company (5th Company Clontarf Presbyterian) attached to Clontarf & Scots Presbyterian Church.

The community library based in Raheny assists and facilitates several other groups in the area including conversation exchange group (where people can practice language skills with native speakers through conversation), creative writers' group, adult book club, film club, GIY (Grow it Yourself) Group, knitting circle and whist group. Children's activities include a children's book club, a children's creative writing group and a toddler group.

The library also provides useful facilities to the local residents, including free broadband and wireless internet service, self-service printing/scanning, photocopying, Microsoft Office suite available, study space, children's learning zone, garden, citizen's information centre, large print book collection, daily newspapers as well as application forms for motor tax, passport etc. and a community noticeboard / information. The nearby Marino Library also offers these services.

The Proposed Development includes a creche facility which will offer the Early Childhood Care and Education (ECCE) scheme. The ECCE programme is a universal two-year pre-school programme available to all children within the eligible age range. It provides children with their first formal experience of early learning prior to commencing primary school. The programme is provided for three hours per day, five days per week over 38 weeks per year and the programme year runs from September to June each year. Childcare services taking part in the ECCE programme must provide an appropriate pre-school educational programme which adheres to the principles of Síolta, the national framework for early years care and education. There is no charge to parents for the playschool or daycare hours provided under the ECCE scheme. The State capitation fee pays the playschool or daycare service to provide these ECCE hours (Department of Children, Equality, Disability, Integration and Youth, August 2022). The creche offers an opportunity for families in the Proposed Development and the surrounding area to avail of childcare services regardless of their financial status.

The Social Infrastructure Report (Enviroguide Consulting, 2022) has detailed the existing infrastructure and capacity of the area to support the Proposed Development. This includes an assessment of the existing infrastructure and the capacity of the surrounding area to support the Proposed Development (Appendix B).

4.4.6 Landscape and Visual

The main area of the site comprises open, relatively flat rough grassland field located to the north and east of the sportsground at St Paul's College. While the area appears relatively flat, there is a slight fall of around 4 metres from northwest to southeast. The western boundary of the main site area is enclosed in part by the sports grounds/floodlit pitch of St Paul's College, and in part by the eastern rear boundary wall of Sybil Hill House and in part by the rear boundary wall at 'The Meadows' estate.

While St Anne's Park lies to the north, east and south of the site, it is physically and visually separated from St Anne's Park by boundary fencing and dense tree planting. A short section of the northern boundary is defined by a high wall which is a possible remnant of a previous walled garden. To the north and east the boundary fence is backed by a belt of semi-mature planting located within St Anne's Park. The planting is dense and effectively screens out views between the site and the Park.

The southern boundary with St Anne's Park runs contiguous with part of the distinctive Holm Oak and Pine tree-lined Avenue. While views along the avenue are strongly focused and aligned along the avenue and its enclosure of mature trees, passing glimpsed views of the site are available under, and occasionally between, the canopies of the evergreen trees.

The boundary between St. Paul's College and Sybil Hill House is partly defined by a semi-mature line of cherry trees. A 'Ha-Ha' style feature in the lawn defines a more distinct boundary in the landscape, as do groups of mature trees to the south and west of Sybil Hill House.

A new recently completed residential apartment development 'Ardilaun Court' lies to the immediate north of Sybil Hill House and to the rear of residential properties on the west side of 'The Meadows'.

As noted, the main development site area comprises an open relatively flat rough grassland field. In the northwest of the site, a number of mature trees lie to the east / rear of 'The Meadows' estate. Some of the trees are in poor condition and are recommended for removal in the Tree Survey Report. Otherwise, there are no other mature trees within the main development area, however, the area is surrounded and enclosed to the north, east and south, by mature plantings/trees within St Anne's Park.

The significant regional amenity and conservation area of St Anne's Park encircles the site to the immediate north, east and south. The Park includes a distinctive tree-lined avenue located directly south of the site, as well as a variety of open spaces enclosed by mature tree belts and laid out to sports pitches. Some of the pitches are floodlit, and a new all-weather facility has been installed to the north of the Park. A Millennium Arboretum plantation is located immediately east of the site and north of the Avenue. The central core of the park, including

the Rose Garden, the Red Stables and the playground are all located circa 500m to the east of the site.

Residential estates, including All Saints Road, Howth Road, Furry Park, Vernon, and Mount Pleasant lie to the immediate north, west and south of St. Anne's Park / Sybil Hill Road. The prominent multi-storey nursing home / convent of the Little Sisters of the Poor is located immediately west of Sybil Hill Road.

4.4.7 Human Health

Health, as defined by the World Health Organization (WHO), is "*a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity*". The Healthy Ireland Framework 2013-2025 defines health as 'everyone achieving his or her potential to enjoy complete physical, mental and social wellbeing. Healthy people contribute to the health and quality of the society in which they live, work and play'. This framework also states that health is much more than an absence of disease or disability, and that individual health, and the health of a country affects the quality of everyone's lived experience.

Health is an essential resource for everyday life, a public good and an asset for health and human development. A healthy population is a major asset for society and improving the health and wellbeing of the nation is a priority for Government. Healthy Ireland Framework 2013-2025 is a collective response to the challenges facing Ireland's future health and wellbeing.

Table 4-14: Health Status of Clontarf LEA

Health Status of Clontarf LEA	Very good	Good	Fair	Bad	Very bad	Not stated
Total Number of People	33,651	14,123	4,375	724	164	1,391
Total Percentage of People	61.8	25.9	8.0	1.3	0.3	2.6

Table 4-14 shows that the majority of people in Clontarf LEA (87.8%) have self-identified themselves in the 2016 Census as having 'very good health' or 'good health'.

4.4.8 Social Health

According to the World Health Organisation, poor social and economic circumstances affect health throughout life. Good health involves reducing levels of educational failure, reducing insecurity and unemployment, and improving housing standards.

Health is influenced, either positively or negatively, by a variety of factors. Some of these factors are genetic or biological and are relatively fixed. '*Social determinants of health*' arise from the social and economic conditions in which people live. They are not so fixed such as type of housing and environments, access to health or education services, incomes generated and the type of work people do, can all influence a person's health, and the lifestyle decisions people make.

A range of factors have been identified as social determinants of health, these generally include the wider socio-economic context, inequality, poverty, social exclusion, socio-economic position, income, public policies, health services, employment, education, housing, transport, the built environment, health behaviours or lifestyles, social and community support networks and stress.

People who are less well off or who belong to socially excluded groups tend to fare badly in relation to these social determinants. Being at work on the other hand provides not only an income, but also access to social networks, a sense of identity and opportunities for development or progression.

Figure 4-5 presents the social determinants of health adapted from Dalghren and Whitehead (1991) and Grant and Barton (2006) as presented in Healthy Ireland.

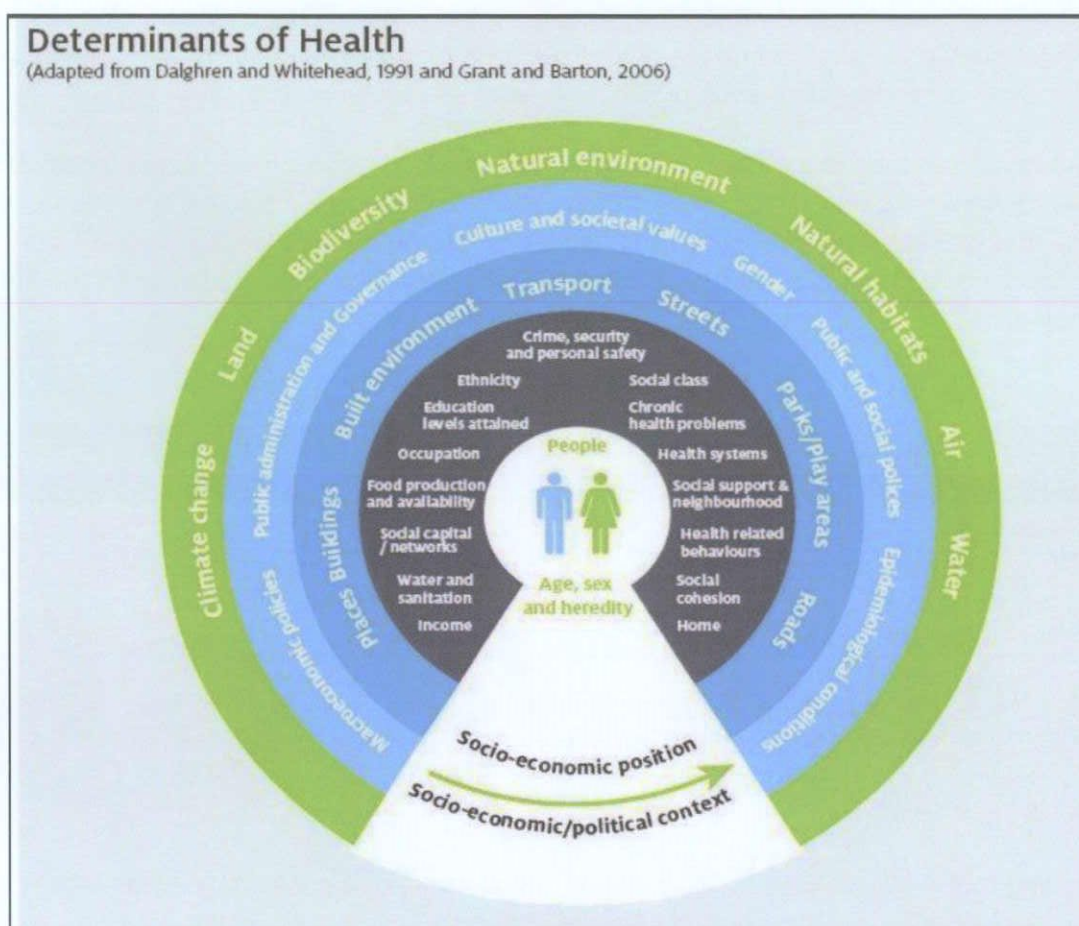


Figure 4-5: Social Determinants of Health (Healthy Ireland, DOH 2013)

Section 4.4.3 of this Chapter states 56% of the population in the Clontarf LEA are in the labour force. This reflects the high number of people of a working profile living within the area. The percentage of people working (employer or own account worker and employee) is 56.6% for the Clontarf LEA, which is marginally higher than the percentage for the State of 53.3%.

As detailed in Table 4-14, the majority of people in the Clontarf LEA (87.8%) have self-identified themselves in the 2016 Census as having 'good health' or 'very good health'. The

high employment levels, coupled with the self-identification of health status in Clontarf LEA, indicating that positive social health conditions exist.

4.5 Potential Impact of the Proposed Development

The population in the vicinity of the Site of the Proposed Development has been assessed in terms of demography, economic activity and employment, tourism and amenity, landscape and visual, human health and social health.

'Environmental factors play a central role in human development, health and disease. Broadly defined, the environment, including infectious agents, is one of three primary factors that affect human health. The other two are genetic factors and personal behaviour. As the impact of the environment on human health is so great, protecting the environment has long been a mainstay of public health practice. National and local efforts to ensure clean air and safe supplies of food and water, to manage sewage and municipal wastes, and to control or eliminate vector-borne illnesses have contributed a great deal to improvements in public health' (Centre for Environmental Research, 2010). The Proposed Development will manage municipal wastes in an environmentally sound manner, thus resulting in a positive effect on the health of the community.

The Proposed Development has the potential to provide employment opportunities and health improvements. Employment and income are among the most significant determinants of long-term health, influencing a range of factors including the quality of housing, education, diet, lifestyle, coping skills, access to services and social networks.

The Proposed Development will result in a significant number of new jobs being created. It is proposed that approximately 24 jobs will be created in the creche facility, 1-2 permanent apartment building management jobs, and 110 jobs in the nursing home facility during the Operational Phase of this development having both a direct and indirect positive impact on the local economy and employment.

The Proposed Development will also create additional indirect employment, for example at shops, cafes, fuel stations etc, in the vicinity of the Proposed Development. The Proposed Development will have a slight positive long-term effect in terms of additional direct and indirect employment and on the local socio-economic environment.

4.5.1 Construction Phase

The Proposed Development has the potential to cause additional traffic, noise, dust, and visual impacts. Each of these impacts have been assessed in full in the respective chapters of this EIAR and in the following subsections. The expected duration of the construction phase is 18 months.

4.5.1.1 Human Health

The Proposed Development has the potential to provide health improvements due to the creation of additional employment. Employment and income are among the most significant determinants of long-term social health. This will be a positive impact due to the creation of direct and indirect employment during the construction phase. It is anticipated that up to 300

no. construction personnel will be employed either directly or indirectly during the Construction Phase which is anticipated to extend over a period of 18 months.

4.5.1.2 Socio-economic

The Proposed Development will allow for the creation of direct employment. There will be approximately 300 workers directly employed during the Construction Phase of the project. The Proposed Development will also create additional indirect employment for suppliers, drivers delivering supplies to and from the Site and workers on the Site utilising local shops and other businesses in the surrounding areas which will benefit the local economy. Therefore, the Proposed Development will have a slight positive impact in terms of additional direct and indirect employment and on the local socio-economic environment and will be short-term in duration.

4.5.1.3 Traffic

There is potential for construction traffic to impact the surrounding population and human health from a noise and dust perspective in relation to the surrounding road network. Deliveries to and from the site by heavy good vehicles will impact on noise levels, whilst dust may result from vehicles travelling along gravel roads and from general earthwork activities. The number of construction related vehicle movements have been detailed in the Preliminary Construction, & Demolition Waste Management Plan. The Preliminary CDWMP and CEMP has detailed mitigation measures to ensure there are no significant impacts as a result of construction vehicles.

4.5.1.4 Air Quality and Climate

Nuisance dust emissions from construction activities, including traffic, are a common and well recognised problem which can negatively impact air quality. Fine particles from these sources are recognised as a potential significant cause of pollution and can be damaging to the health of the surrounding population during the Construction Phase.

According to the Health Service Executive (HSE), the health effects associated with the main pollutants of concern are:

- Nitrogen Dioxide, Sulphur Dioxide, Ozone - Irritate the airways of the lungs, increasing the symptoms of those suffering from lung diseases.
- Particles (PM10, PM2.5) - Can be carried deep into the lungs where they can cause inflammation and a worsening of heart and lung diseases.
- Carbon Monoxide - Prevents the uptake of oxygen by the blood and poses a greater risk to those suffering from heart disease.

Chapter 8 of this EIAR has concluded that there will be no significant impacts on air quality as a result of the Proposed Development and as such there will be no significant impact on human health.

4.5.1.5 Noise and Vibrations

Noise generating activities associated with the Construction Phase have been identified in Chapter 9 Noise and Vibrations of this EIAR. During the Construction Phase all operations will

comply with the BS5228:2009 "Noise and Vibration Control on Construction and Open Sites". The noise-generating activities associated with the Site are as follows:

- Site clearance, including demolition works of the prefab building within the grounds;
- Building construction works;
- Trucks entering and exiting the Site.

Noise exposure can cause a variety of human health effects including annoyance, sleep disturbance, raised stress levels, work impacts for commercial receptors or individuals who work from home.

The Construction Phase is intended to be an 18–24-month programme. The operational hours for the site will be 08:00 to 17:00 Mondays to Fridays and 08:00 to 14:00 Saturdays. No work is permitted on Sundays or public holidays. Deviation from these hours will only be allowed in exceptional circumstance with prior written approval from the planning authority.

When assessing noise and population and human health, particular consideration has been given to residential properties or noise sensitive receptors such as schools, hospitals, nursing homes and recreational spaces within close proximity to the Proposed Development. Three noise sensitive locations (NSLs) have been identified in relation to the Proposed Development Site. The boundary of the closest NSL to the proposed construction activities is located at 40m from the activities and the closest NSL to the proposed demolition activities is located at 20m from the activities. Chapter 9 of this EIAR has determined there will be no significant noise impacts and that construction activities will not exceed any outlined thresholds. As such, there will be no significant impacts on human health as a result of noise.

Amplitude Acoustics have been engaged as Acoustic Consultants for the Proposed Development. As part of the post planning pre-construction acoustic design, Amplitude Acoustics will be undertaking site measurements, an inward noise impact assessment, operational noise assessment and construction noise and vibration assessment. A letter of confirmation is provided by Amplitude Acoustics and can be found in Appendix C. A request for further information (FI) is expected. The assessments detailed above will be conducted once an FI is issued.

4.5.1.6 Hydrology

During the Construction Phase there is potential for demolition and excavation works to impact ground water and surface water quality. Pollution of water bodies and ground water can occur from accidental spills of fuel or chemicals used during construction. Mismanaged construction waste can also enter water bodies if not disposed of or stored correctly. Any water quality impacts can negatively impact the human health of residents of the Proposed Development and surrounding dwellings. Chapter 7 of this EIAR has concluded there will be no significant impact on the receiving groundwater and surface water environment. This will ensure there will not be a significant impact on population and human health as a result of the Construction Phase of the Proposed Development.

4.5.1.7 Landscape and Visual Impact

The landscape and visual amenity of an area can affect the emotional and physiological health of those within it. During the Construction Phase, the Site landscape will undergo a change

which will have a visual impact. This will potentially impact the visual amenity of the nearby visual receptors which include residential dwellings, St. Pauls School and St Anne's Park.

The significance of the landscape impact is considered to be moderate and will last for the duration of the construction phase (18-24 months). Site hoardings will be erected to screen early-stage ground works and ground-based activity and reduce the impact on nearby receptors. As there will be no significant impact on the Landscape and Visual amenity there will be no associated impact on human health.

4.5.1.8 Community Amenities

The Construction Phase will involve deliveries and movement of vehicles and workers to and from site. As St Annes Park, an important local amenity in the community, is located to the north, east and south of the site there is potential for these activities to impact the human health of those using the park. The Proposed Development is physically and visually separated from St Anne's Park by boundary fencing and dense tree planting. Connectivity and permeability are a key design objective for the development masterplan and one entry point is proposed to the east of the site to St Anne's Park. This provides a direct route to the proposed public amenity space as well as promoting connectivity to the residential development.

As per the CDWMP, all deliveries to the construction site will be made to the sole site access from Sybil Hill Road. It has been predicted that there will be approximately 10 arrivals and departures per day to and from the application site. Based on this construction route it is not expected that there will be a significant impact to any of the entrances to St. Anne's Park.

4.5.2 Operational Phase

4.5.2.1 Population & Demographic Settlement Patterns

The changing demographic profile with additional people moving into the locality post completion of the development will ensure many community facilities remain sustainable rather than add additional pressure on them. After completion of the Proposed Development, the changing demographic profile is likely to ensure a balanced age profile within the local area. The Proposed Development will be imperceptible in significance in terms of changing age profile and long-term in duration.

4.5.2.2 Human Health

The Proposed Development has the potential to provide health improvements due to the creation of additional employment. Employment and income are among the most significant determinants of long-term health. This will be a positive impact due to the creation of approximately 135 jobs in total during the operational phase from direct employment. Additional indirect employment will be created as a result of the Proposed Development.

Nursing home, childcare and school facilities have been assessed in the Social Infrastructure Report (Appendix B). This report concluded that there are several childcare and nursing home facilities, primary schools, secondary schools and third level institutions in the area that can accommodate the future residents of the Proposed Development.

The Proposed Development may result in the spread of COVID-19 if social distancing and hygiene measures are not adhered to at the facility during the operational phase. There will be approximately 135 workers employed during the operational stage in the proposed nursing home & creche facilities. During the operational phase of the Proposed Development, it is expected that HSE guidelines will be adhered to in relation to social distancing, cough and sneeze etiquette, face masks and hand washing. Appropriate welfare facilities will be provided.

It is expected that all workers employed during the operational phase of the Proposed Development will comply with the relevant HSE guidelines and any Government protocols that will be in place at that point in time in relation to Covid-19. If all COVID-19 safety protocols and hygiene measures are adhered to it is considered that the Proposed Development poses no additional COVID-19 risk.

4.5.2.3 Socio-Economic

The Proposed Development will allow for the creation of new employment. It is proposed that approximately 135 people directly employed during the operational phase having a positive impact, both directly and indirectly to the local economy and employment.

The Proposed Development has the potential to increase the level of direct and indirect employment associated with the operation of the nursing home, creche and property management services. The development will have economic benefits such as positive effects in terms of generating economic activity with spin-off economic activity created for local retail and service providers.

This will have a positive, moderate, long term socio-economic effect.

4.5.2.4 Landscape & Visual Effects

The potential landscape and visual effects of the Proposed Development are fully assessed in Chapter 10 of this EIA Report. The site will be transformed from a relatively flat greenfield site to a site containing 7 no. blocks of residential dwellings, creche and nursing home that mostly range in height from 4 to 7 storeys. The Landscape and Visual Chapter has concluded that the Proposed Development is compatible with the existing townscape and character. Mitigation measures have been included in the form of the design of the Proposed Development during the operational phase, particularly the landscape design, which will help to assimilate the built elements of the development and complement the parkland character of the surroundings. Overall, the Proposed Development will not result in any significant landscape / townscape or visual impacts.

4.5.2.5 Noise

Noise exposure can cause a variety of human health effects including annoyance, sleep disturbance, raised stress levels, work impacts for commercial receptors or individuals who work from home.

There will be an increase in the population of the surrounding area as a result of the Proposed Development which has the potential to increase traffic volumes, and subsequently traffic related noise, on the local road network. No traffic routes are predicted to experience

increases of more than 25% in total traffic flows during the Operational Phase and therefore no detailed assessment is required as per the DMRB Guidelines. Refer to Chapter 12 of the EIAR for a detailed traffic assessment report.

The impact of noise from operational traffic will be unnoticeable and will not have a negative impact.

Amplitude Acoustics have been engaged as Acoustic Consultants for the Proposed Development. As part of the post planning pre-construction acoustic design, Amplitude Acoustics will be undertaking site measurements, an inward noise impact assessment, operational noise assessment and construction noise and vibration assessment. A letter of confirmation is provided by Amplitude Acoustics and can be found in Appendix C. A request for further information (FI) is expected. The assessments detailed above will be conducted once an FI is issued.

4.5.2.6 Traffic and Transport

Insufficient physical activity has been identified by the World Health Organisation as risk factor for global mortality. The provision of linkages to public transport and adequate pedestrian and cyclist facilities as part of the Proposed Development, will result in a positive effect on sustainable transport modes and will have a slight positive impact on the human health of the future residents.

Increased population as a result of the Proposed Development has the potential to increase traffic congestion on the surrounding road network thus negatively impacting the human health of road users in both private vehicles and public transport. A full assessment of traffic and transport effects are presented in Chapter 12.1 of this EIA Report. The traffic assessment concludes that whilst the surrounding road network can cater for the Proposed Development, the increase in traffic over the baseline condition will result in a moderate impact on the surrounding roads network. As such, there will be no significant impact on population and human health as a result of traffic.

The Social Infrastructure Report (Appendix B) (Enviroguide Consulting, 2022) has assessed the existing public transport facilities in the surrounding area in terms of bus, rail, pedestrian facilities and cycling facilities. The analysis of the existing infrastructure capacity in this Social Infrastructure Report deems the Social Infrastructure of the area to be suitable to accommodate the characteristics of the Proposed Development.

4.5.2.7 Community Amenities

The Site is currently not accessible to or being utilised by the public. Upon completion, the Proposed Development represents the provision of additional amenities in the area; the creche and nursing home are to be used both by future residents and the wider community. Community amenities have been detailed in the Social Infrastructure Report submitted as a standalone document as part of this planning application (Enviroguide Consulting, 2022) (included in Appendix B). This report concluded that there is sufficient capacity for the surrounding area to support the Proposed Development both in terms of community amenities and other social infrastructure. The increased population as a result of the Proposed Development will sustain the existing community facilities such as sports clubs and other recreational facilities.

The Proposed Development includes pedestrian and cycle-friendly access to St. Anne's Park to the north-east and south-east of the Proposed Development to ensure connectivity to the park for the future residents (Design Statement, Hawkins Brown, 2022).

Based on the findings of the Social Infrastructure Report, there will be no significant impact on the surrounding community amenities as a result of the Proposed Development and there is sufficient capacity for the surrounding area to support the Proposed Development. This has been assessed in the Social Infrastructure Report under the following headings: Education, Childcare, Nursing Home Facilities, Sport, Recreation and Open Space, Public Safety, Art and Culture, Religious and Faith Institutions, Retail, Community Support and Amenities. There are sufficient retail facilities such as supermarkets, food stores, convenience stores in the area that can accommodate the future residents of the Proposed Development (Appendix B).

4.5.3 Potential Cumulative Impacts

Cumulative Impacts can be defined as "impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project". Effects which are caused by the interaction of effects, or by associated or off-site projects, are classed as indirect effects. Cumulative effects are often indirect, arising from the cumulation of different effects that are individually minor. Such effects are not caused or controlled by the project developer.

The cumulative effects of the Proposed Development on the Population and Human Health have been assessed taking other planned, existing, and permitted developments in the surrounding area into account. Table 4-15 details the planning applications in the surrounding area.

Planning Ref No.	Applicant Name	Summary of Development	Cumulative Impact Assessment
2857/18 Decision: Grant Permission. Decision Date: 19/12/2018	MKN Developments Limited	Amendments to the permitted development (Reg. Ref. 4242/15; ABP Ref. PL29N.246250 and as amended by Reg. Ref. 2977/17, ABP Ref. PL29N.249043) at this 0.53 hectare site at Sybil Hill Road, Raheny Dublin 5. The site is bounded by St. Pauls School to the south, Sybil Hill Road to the west, The Meadows residential development to the east and north and the Kare Social Services Centre to the north. The site formerly incorporated No. 1, 1A and 1B Sybil Hill Road (and lands to the rear of same). The proposed amendments consist of: - The provision of an additional penthouse unit to Block A at 5th floor level and the extension of the 4th floor level to provide for 2 no. additional units (1 no. 3 bed unit and 1 no. 4 bed unit) to Block A increasing the unit number from 49 no. to 51 no. in Block A and from 76 no. to 78 no. overall (71 no. apartments and 7 no. houses); - The proposed additional units will result in a part increase in height of Block A at the southwestern corner fronting Sybil Hill Road from 16.1m to 19.25m; - The proposed extension to the 4th floor level to provide for 1 no. 3 bed units will be set back c. 5.6m from the western boundary along Sybil Hill Road with the penthouse unit at the new 5th floor	The Planning Authority (DCC) granted permission for the development subject to 11 no. condition(s). The conditions relate to working hours, noise control, public road cleaning, traffic management and waste management. Specific conditions have been set by the Drainage Division regarding surface and foul water sewers and SuDS measures, which must be strictly adhered to. Therefore, there are no cumulative impacts anticipated with this development.

Planning Ref No.	Applicant Name	Summary of Development	Cumulative Impact Assessment
		level being set back c.2.5m from the western boundary with Sybil Hill Road. - Amendments to communal open space at 4th floor level to accommodate the additional residential units; - Minor elevational changes to Block A including the provision of private roof terraces at 4th and 5th floor level; - SUDs drainage and all ancillary and associated site development and landscaping works.	
3167/19 Decision: Grant Permission. Decision Date: 09/09/2019	Sean Carroll Garages Ltd.	Planning permission for development approved under Dublin City Council Reg. Ref. 4353/16 at the existing petrol filling station consisting of revisions to existing shop and forecourt including: (i) Change of use and internal alterations to ground floor to provide additional retail floorspace of 8 sq.m and ancillary facility for sales of hot food for consumption off the premises, (ii) New ground floor window and pay hatch to front elevation, (iii) Revisions to car parking layout, and (iv) all associated site, drainage and boundary development works.	The Planning Authority (DCC) granted permission for the development subject to 8 no. condition(s). The conditions relate to the sale of hot food, visual amenity, noise control, and traffic safety. Therefore, there are no cumulative impacts anticipated with this development.
3047/21 Decision: Grant Permission. Decision Date: 01 Oct 2021	The Board of Management of Greenlanes National School	Planning permission for the construction of a single storey extension to the rear of the existing school at the northwestern side of the site and including all associated site works.	The Planning Authority (DCC) granted permission for the development subject to 8 no. condition(s). The conditions relate to working hours, noise control, public road cleaning, transport and parking. Conditions have been set by the Drainage Division regarding surface and foul water sewers and SuDS measures, which must be strictly adhered to. Therefore, there are no cumulative impacts anticipated with this development.
2998/20 Decision: Grant Permission. Decision Date: 19 Oct 2020	St. Paul's College, Raheny	The development will consist of the following: construction of (i) a pergola structure consisting of a timber frame with retractable awning system above; (ii) sand and cement rendered block walls (0.8 m in height) with precast concrete capping to surround the proposed pergola structure; (iii) raised planted bedding along the block walls; and (iv) all site works necessary to facilitate the development. The proposed structure is located within the internal courtyard area at St. Paul's College.	The Planning Authority (DCC) granted permission for the development subject to 6 no. condition(s). The conditions relate to working hours, noise control, public road cleaning, transport and drainage. Therefore, there are no

Planning Ref No.	Applicant Name	Summary of Development	Cumulative Impact Assessment
			cumulative impacts anticipated with this development.
3803/21 Decision: Grant Permission. Decision Date: 17 Feb 2022	The Society of Jesus	<p>PROTECTED STRUCTURE: Permission for development at this site, which contains a Protected Structure known as Manresa House. The proposed development will consist of:</p> <ol style="list-style-type: none"> 1) a new single storey, flat-roofed building located to the northeast of the protected structure, to provide for new reception, dining, cooking and associated ancillary spaces, with roof lights, solar panels and part sedum roof; 2) a new single-storey, flat-roofed open loggia structure forming a covered route from the existing Retreat Building to the proposed new building; 3) associated hard landscaping, including new terrace and external steps, 2no. disabled parking bays, and extensive planting works to the courtyard; 4) landscaping works, including the provision of 36 no. car-parking spaces, new planting to the west lawn and the formation of a new stormwater attenuation pond; and 5) the removal of an existing single-storey, pitched roof timber structure. 	<p>The Planning Authority (DCC) granted permission for the development subject to 12 no. condition(s). The conditions relate to working hours, noise control, public road cleaning, surface water drainage and SuDS, transport, parking and maintaining the integrity of the protected structure. Therefore, there are no cumulative impacts anticipated with this development.</p>
2038/18 Decision: Grant Permission. Decision Date: 08 Jan 2019	MKN Property Group	<p>PROTECTED STRUCTURE: Permission for a residential development of 72 no. units across 4 no. blocks with a single level basement, consisting of the change of use of the existing Verville Retreat building from nursing home use to residential use and the change of use of the existing former outbuilding to residential use. The overall development will comprise of the following: Block A: construction of a 4-storey building (3 storeys with a setback fourth storey) comprising 14 no. apartments (12 no. 2 bedroom units and 2 no. 3 bedroom units) with balconies/terraces to the north and south elevations; Block B: The change of use of the existing 4 storey Verville Retreat building from nursing home use to residential use comprising 9 no. apartments (3 no. 1 bedroom units and 6 no. 2 bedroom units). Demolition of later additions and extensions to the existing Verville Retreat building as well as associated modifications to elevations and internal modifications/reconfiguration of the refurbishments to the existing building in order to accommodate the provision of the new apartment units and the construction of a new external stair core at the buildings eastern elevation; Block C: Construction of a 4 storey building (3 storeys with a setback fourth storey) comprising 48 no. apartments (1 no. studio apartment, 20 no. 1 bedroom units, 21 no. 2 bedroom apartments and 6 no. 3 bedroom apartments) with balconies/terraces to all elevations and roof garden; Block D: The conversion of the existing single storey outbuilding into 1 no. single storey, 2 bedroom mews dwelling with associated internal and external modifications to accommodate the proposed change of use; A</p>	<p>The Planning Authority (DCC) granted Retention Permission under planning ref. no. 3081/20 on 28 Oct 2020. The development is subject to the conditions of the original planning grant, with additional conditions relating to drainage. Therefore, there are no cumulative impacts anticipated with this development.</p>

Planning Ref No.	Applicant Name	Summary of Development	Cumulative Impact Assessment
		basement level comprising a total of 69 no car parking spaces, 80 no. bicycle parking spaces, ancillary plant room and refuse storage areas; Revisions and improvements to the existing vehicular entrance to Vernon Avenue; Demolition of the existing single storey block to the north of Verville Retreat; landscaping (including communal and private open space); Boundary treatment; and, all associated engineering and site development works necessary to facilitate the development.	
4656/18 Decision: Grant Permission. Decision Date: 27 Mar 2019	Clontarf Hospital	Permission for development at Castle Avenue, Clontarf, Dublin 3. The development will consist of the removal of the existing maintenance portacabins and demolition of the existing hard standing area, removal of 4 young trees which will be replaced in the area to suit the development, removal of 3 car spaces and the construction of a single storey maintenance building including, workshop, office, store and bin store and associated site works adjacent to the existing services yard.	The Planning Authority (DCC) granted permission for the development subject to 12 no. condition(s). The conditions relate to working hours, noise control, public road cleaning, surface water drainage and SuDS, public infrastructure, public health and safety, amenity, ecology and sustainable development. Therefore, there are no cumulative impacts anticipated with this development.

4.5.4 "Do Nothing" Impact

A do-nothing scenario would result in the subject lands remaining as greenfield lands. If the development were not to proceed there would be no immediate impact on the existing population, or economic activity for residents living in the area. However, due to the size of the Proposed Development site in relation to other areas of land zoned for residential development in the environs, it is considered that the housing targets for the settlement set out in the City Development Plan could not be achieved.

If the lands were to remain as greenfield lands, this would be an under-utilisation of zoned and serviceable urban lands from a sustainable planning and development perspective, particularly considering the location of the lands. A do-nothing scenario would result in a continual decline of the population of the area. A failure to deliver the Proposed Development would result in a growing need for additional residential units within the Dublin Metropolitan Area not being met, with implications for use of greenfield lands more remote from the city centre and from established services in the transport, education, social and commercial sectors.

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4.6 Avoidance, Remedial & Mitigation Measures

4.6.1 Construction Phase

No specific mitigation measures are required during the Construction Phase of the Proposed Development in relation to population and settlements, given the lack of direct effects resulting from the Proposed Development. However, mitigation measures in relation to air emissions (dust), noise, traffic, waste etc. are identified in their respective chapters in this EIA Report.

4.6.2 Operational Phase

No specific mitigation measures are required during the Operational Phase of the Proposed Development in relation to population and settlements, given the lack of direct effects resulting from the Proposed Development. However, mitigation measures in relation to air emissions, noise, traffic, waste etc. are identified in their respective chapters in this EIA Report.

4.6.3 "Worst Case" Scenario

Not applicable.

4.7 Residual Impacts

The Proposed Development will bring a new population into the area. This new population will support existing schools, shops, public transport and the local community. Additional facilities will be provided in the area including the creche and nursing home facility. It is considered that there will be a slight positive impact on the population and human health. No specific mitigation measures have been proposed for population and human health so residual impacts will be slight positive.

No long term, adverse effects are envisaged to arise.

4.8 Monitoring

4.8.1 Construction Phase

No specific monitoring measures are required in relation to population and settlements, given the lack of direct effects resulting from the Proposed Development. However, monitoring in relation to noise and traffic are identified in their respective chapters in this EIA Report.

4.8.2 Operational Phase

No specific monitoring measures are required in relation to population and settlements, given the lack of direct effects resulting from the Proposed Development. However, monitoring in relation to noise and traffic are identified in their respective Chapters in this EIA Report.

4.9 Interactions

4.9.1 Noise

Construction activities such as site clearance, building construction works, and trucks and vehicles entering and exiting the Site have the potential to interact with the surrounding

population and human health and cause noise disturbance. The impact assessment of noise and vibration has concluded that additional noise associated with the construction and operational phase will not cause a significant impact. The operation of on-site machinery will be intermittent and last only for the duration of the Construction Phase. As such, there will be no significant impact on population and human health. The operational noise and vibration impact is not significant with a neutral effect. Noise is fully assessed in Chapter 9 of this EIAR.

4.9.2 Air

Interactions with air quality during the construction and operational phase has the potential to cause dust nuisance issues impacting on human health. However, Chapter 8 has concluded that there will be no significant air quality impacts. All ambient air quality legislative limits will be complied with and therefore the predicted impact is not significant with a neutral effect on human health. Air quality is discussed further in Chapter 8 of this EIAR.

4.9.3 Land and Soil

Dust from the site and from soil spillages on the existing road network around the site may impact human health, especially during dry conditions. Best practise measures and mitigation measures have been identified in Chapter 6 of this EIAR. No significant impacts are predicted in relation to land and soil and as such there will be no significant impact on population and human health.

4.9.4 Hydrology

Pollution events can impact the water quality and thus impact the human health of the surrounding population. Appropriate surface water and foul water control measures will be implemented as part of the Proposed Development. No public health issues associated with the water conditions at the Site have been identified for the Construction Phase or Operational Phase of the Proposed Development. There are no likely significant adverse impacts as a result of Hydrology and as such there will be no significant impacts on population and human health. Hydrology has been fully assessed in Chapter 7 of this EIAR.

4.9.5 Landscape and Visual

The Proposed Development will alter the visual appearance of the Site which is predominantly a greenfield Site. It is not considered that the Proposed Development by virtue of its visual appearance and in the context of the proposed zoning of the Site of the Proposed Development and the rural and residential nature of the surrounding landscape, will not cause any significant impacts and as such there will be no significant impact on population and human health.

4.9.6 Material Assets – Waste and Utilities

The improper removal, handling and storage of hazardous waste has the potential to negatively impact on the health of construction workers. The Preliminary Construction and Demolition Waste Management Plan (CDWMP) (Waterman Moylan, 2022) and CEMP (Enviroguide, 2022) details mitigation measures to ensure the safety of the workers. Extended power or telecommunications outages, or disruption to water supply or sewerage systems for existing properties in the area could negatively impact on the surrounding human population and their overall health. Chapter 12 of this EIAR has concluded there will be no significant

impacts on the Material Assets (Waste and Utilities) as a result of the Proposed Development subsequently there will be no significant impact on population and human health.

4.9.7 Material Assets: Traffic

Construction activities will result in an increased number of HGV movements during the Construction Phase. The Proposed Development will also result in an increase in the population of the surrounding area and subsequently an increase in the number of vehicles. There is potential for significant impacts on population and human health in relation to the capacity and operation of the surrounding road network. No traffic routes are predicted to experience increases of more than 25% in total traffic flows during the Operational Phase. The overall impact of the Proposed Development on the transportation infrastructure in the local area will not be significant and subsequently there will be no significant impact on population and human health.

4.10 Difficulties Encountered When Compiling

No difficulties were encountered in the preparation of this Chapter of the EIAR.

4.11 References

The Central Statistics Office (CSO)

Dublin City Development Plan (2016-2022)

The Regional Planning Guidelines of the Greater Dublin Area 2010-2022

Ordinance Survey Ireland (OSI)

Odour Emissions Guidance Note (Air Guidance Note AG9), Environmental Protection Agency (September 2019).

WHO Ottawa Charter for Health Promotion First International Conference on Health Promotion Ottawa, 21 November 1986 - WHO/HPR/HEP/95.1. 1986.

WHO Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19-22 June, 1946; signed on 22 July 1946 by the representatives of 61 States (Official Records of the World Health Organization, no. 2, p. 100) and entered into force on 7 April 1948. 1946.

Healthy Ireland Framework 2013-2025

Health Impact Assessment Guidance, Institute of Public Health in Ireland 2009

Farrell, C., McAvoy, H., Wilde, J. and Combat Poverty Agency (2008), Tackling Health Inequalities – An All-Ireland Approach to Social Determinants. Dublin: Combat Poverty Agency/Institute of Public Health in Ireland.

Wilkinson, Richard; Marmot, Michael, eds. (2003). The Social Determinants of Health: The Solid Facts (PDF) (2nd ed.). World Health Organization Europe.

Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions (European Communities 1999)

5 BIODIVERSITY

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5.1 Introduction

This Chapter describes the ecology of the Site of the Proposed Development and its zone of influence, with emphasis on habitats, flora and fauna and outlines the methodology of assessment. The Proposed Development is located in the northern suburbs of Dublin City, c. 5km from the city centre, in an established residential area. The site of the Proposed Development is located east of the R808 Sybil Hill Road, immediately east of St Paul's College (Secondary School) and Sybil Hill House (a protected structure), in Raheny, Dublin 5. The R808 Sybil Hill Road runs north-south connecting the R105 Howth Road (north of the Proposed Development) with the R807 Clontarf Road (to the south).

It provides an assessment of the impacts of the Proposed Development on habitats and species, particularly those protected by national and international legislation or considered to be of particular conservation importance, and proposes measures for the mitigation of these impacts, where appropriate.

The Chapter has been completed having regard to the *Guidelines for Ecological Impact Assessment in the UK and Ireland*, by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018), and the National Roads Authority's (NRA) *Ecological Assessment Guidelines* (NRA, 2009) together with the guidance outlined in the Environmental Protection Agency documents *Guidelines on the information to be contained in Environmental Impact Assessment Reports* (May 2022) and *Advice Notes for Preparing Environmental Impact Statements* (Draft, September 2015).

5.1.1 Quality Assurance and Competence

All surveying and reporting have been carried out by qualified and experienced ecologists and environmental consultants. Liam Gaffney, Senior Ecologist with Enviroguide Consulting, undertook on-site surveys, desktop research and report writing for this report. Liam Gaffney has a M.Sc. Hons. (Wildlife Conservation and Management) from University College Dublin, and a wealth of experience in desktop research, literature scoping-review, and report writing; as well as practical field experience (Habitat surveys, Invasive species surveys, Wintering bird surveys, large mammals, fresh water macro-invertebrates etc.). Liam has extensive experience in compiling Biodiversity Chapters of EIARs, EclA, AA screening and NIS reports, and in the overall assessment of potential impacts to ecological receptors from a range of development types. Liam is also a Qualifying member of CIEEM, the Chartered Institute of Ecology and Environmental Management.

Dr Siobhán Atkinson is a Senior Ecologist at Enviroguide Consulting and is responsible for carrying out freshwater surveys. Siobhán has a B.Sc. (Hons) in Environmental Biology and a Ph.D. in Freshwater Biology from University College Dublin, and extensive experience in Geographic Information Systems (GIS), desktop research, literature review and reporting, as well as practical field and laboratory experience including environmental DNA analysis, freshwater macroinvertebrate sampling, and identification, physical river habitat surveys, fish sampling and processing and terrestrial habitat surveying. Siobhán has prepared Ecological Impact Assessments (EclA), Stage I and Stage II Appropriate Assessment Reports, Habitat

Surveys and Invasive Species Surveys and input and reviewed Ecological and Environmental assessments for several EIA Reports. Siobhán is the first author of several publications relating to barriers to riverine connectivity in Ireland.

Eric Dempsey is an Environmental Consultant and Ornithologist who has worked on a wide range of conservation, research, and ecological monitoring projects across Ireland. Eric is the author of the best-selling books, *The Complete Field Guide to Ireland's Birds* and *Finding Birds in Ireland* and is experienced in coordinating and undertaking surveys along with being highly proficient in report writing and data management. Eric is highly experienced with all survey methodology and has inputted in various Environmental Impact Assessment Reports, Environmental Assessments and Appropriate Assessments.

External consultant Rob Gandola completed amphibian surveys as part of this assessment. Rob has an MSc in Ecology from Bangor University, Wales and a BSc (hons) Zoology from UCD. He provides training and professional advice to Local and National Authorities, heritage rangers, NGOs, and community groups in Ireland and Northern Ireland, and regularly carries out surveys and implements monitoring projects on their behalf. He is also holds the position of Senior Scientific Officer for the Herpetological society of Ireland.

Brian Keeley is a Professional Ecologist/ Bat Ecologist, and Co-director of Wildlife Services Ireland. Brian Keeley was a founder member of the Dublin Bat Group in 1989 and was also a founder-member of Bat Conservation Ireland, of which he is currently Chairperson. Wildlife Services Ireland are active with the Bailieborough branch of the Irish Wildlife Trust and have established a network of IWT nature reserves in the North Meath, Cavan and Monaghan area on farms volunteered by the owners for this purpose

5.2 Relevant Legislation

An Ecological Impact Assessment (EclA) is a process of identifying, quantifying, and evaluating potential effects of development-related, or other actions, on habitats, species and ecosystems (CIEEM, 2016). The Proposed Development that is the subject of this Biodiversity chapter meets the requirements for an Environmental Impact Assessment (EIA) under Schedule 5, Part 2 10, (b) of the Planning and Development Regulations 2001, as amended.

5.2.1 National Legislation

5.2.1.1 Wildlife Act 1976 and amendments

The Wildlife Act 1976 was enacted to provide protection to birds, animals, and plants in Ireland and to control activities which may have an adverse impact on the conservation of wildlife. In regard to the listed species, it is an offence to disturb, injure or damage their breeding or resting place wherever these occur without an appropriate licence from National Parks and Wildlife Service (NPWS). This list includes all birds along with their nests and eggs. Intentional destruction of an active nest from the building stage up until the chicks have fledged is an offence. This includes the cutting of hedgerows from the 1st of March to the 31st of August.

The Act also provides a mechanism to give statutory protection to Natural Heritage Areas (NHAs) from the date they are proposed for designation i.e., at a time they become proposed Heritage Areas (pNHAs). The Wildlife Amendment Act 2000 widened the scope of the Act to

include most species, including the majority of fish and aquatic invertebrate species which were excluded from the 1976 Act.

5.2.1.2 EU Habitats Directive 1992 and EC (Birds and Natural Habitats) Regulations 2011

The EU Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive 1992) provides protection to particular species and habitats throughout Europe. The Habitats Directive has been transposed into Irish law through the EC (Birds and Natural Habitats) Regulations 2011.

Annex IV of the EU Habitats Directive provides protection to a number of listed species, wherever they occur. Under Regulation 23 of the Habitat Directive any person who, in regard to the listed species; *"Deliberately captures or kills any specimen of these species in the wild, deliberately disturbs these species particularly during the period of breeding, rearing, hibernation and migration, deliberately takes or destroys the eggs from the wild, or damages or destroys a breeding site or resting place of such an animal shall be guilty of an offence."*

5.2.1.3 Flora (Protection) Order, 2015

The Flora (Protection) Order (S.I. No. 356/2015) affords protection to several species of plant in Ireland, including 68 vascular plants, 40 mosses, 25 liverworts, 1 stonewort and 1 lichen. This Act makes it illegal for anyone to uproot, cut or damage any of the listed plant species and it also forbids anyone from altering, interfering, or damaging their habitats. This protection is not confined to within designated conservation sites and applies wherever the plants are found.

5.2.1.4 Inland Fisheries Acts 1959 to 2017

The Inland Fisheries Act 2010 established Inland Fisheries Ireland (Iascach Intíre Éireann) and defined its functions as the state agency responsible for the conservation, protection, management, marketing, development and improvement of our inland fisheries and sea angling resources. Ireland has over 74,000 kilometres of rivers and streams and around 128,000 hectares of lakes, all of which fall under the jurisdiction of Inland Fisheries Ireland. The Fisheries (Consolidation) Act, 1959 (and additional legislation to 2017) provides for the conservation and management of both freshwater and marine fishes in and around Ireland. It covers areas such as the use of gear and fishing restrictions, including trade in fish. Furthermore, it outlines the Minister's regulation-making powers.

5.2.1.5 Invasive Species Legislation

Certain plant species and their hybrids are listed as Invasive Alien Plant Species in Part 1 of the Third Schedule of the *European Communities (Birds and Natural Habitats) Regulations 2011* (SI 477 of 2011, as amended). In addition, soils and other material containing such invasive plant material, are classified in Part 3 of the Third Schedule as vector materials and are subject to the same strict legal controls.

Failure to comply with the legal requirements set down in this legislation can result in either civil or criminal prosecution, or both, with very severe penalties accruing. Convicted parties under the Act can be fined up to €500,000.00, jailed for up to 3 years, or both.

Extracts from the relevant sections of the regulations are reproduced below.

"49(2) Save in accordance with a licence granted [by the Department of Arts, Heritage and the Gaeltacht], any person who plants, disperses, allows or causes to disperse, spreads or otherwise causes to grow in anyplace [a restricted non-native plant], shall be guilty of an offence.

49(3) ... it shall be a defence to a charge of committing an offence under paragraph (1) or (2) to prove that the accused took all reasonable steps and exercised all due diligence to avoid committing the offence.

50(1) Save in accordance with a licence, a person shall be guilty of an offence if he or she [...] offers or exposes for sale, transportation, distribution, introduction, or release—

(a) an animal or plant listed in Part 1 or Part 2 of the Third Schedule,

(b) anything from which an animal or plant referred to in subparagraph (a) can be reproduced or propagated, or

(c) a vector material listed in the Third Schedule, in any place in the State specified in the third column of the Third Schedule in relation to such an animal, plant or vector material."

5.2.1.6 Planning and Development Act 2000 - 2022, (as amended).

The Planning and Development Act 2000 – 2022 (as amended) forms the foundations for planning in Ireland. This Act covers a huge range of planning-related issues and consolidates a wide range of legislation. The principal regulations underpinning the Planning and Development Acts are the Planning and Development Regulations 2001 (S.I. No. 600 of 2001). A number of Regulations amending the 2001 Regulations have been made, which, taken together, are collectively cited as the Planning and Development Regulations 2001 to 2022.

5.2.2 EU Legislation

5.2.2.1 EU Birds Directive

The Birds Directive provides a level of general protection for all wild birds throughout the European Union. Annex I of the Birds Directive includes a total of 194 bird species that are considered rare, vulnerable to habitat changes or in danger of extinction within the European Union. Article 4 establishes that there should be a sustainable management of hunting of listed species, and that any large scale non-selective killing of birds must be outlawed. The Directive requires the designation of Special Protection Areas (SPAs) for: listed and rare species, regularly occurring migratory species and for wetlands which attract large numbers of birds. There are 25 Annex I species that regularly occur in Ireland and a total of 154 Special Protection Areas have been designated.

5.2.2.2 EU Habitats Directive

The Habitats Directive aims to protect 220 habitats and approx. 1000 species throughout Europe. The habitats and species are listed in the Directive's annexes where Annex I covers habitats and Annex II, IV and V cover species. There are 59 Annex I habitats in Ireland and 33 Annex IV species which require strict protection wherever they occur. The Directive requires the designation of Special Areas of Conservation for areas of habitat deemed to be of European interest. The SACs together with the SPAs from the Birds Directive form a network of protected sites called Natura 2000.

5.2.2.3 Water Framework Directive

The EU Water Framework Directive (WFD) 2000/60/EC is an important piece of environmental legislation which aims to protect and improve water quality. It applies to rivers, lakes, groundwater, estuaries, and coastal waters. The Water Framework Directive was agreed by all individual EU member states in 2000, and its first cycle ran from 2009 – 2015. The Directive runs in 6-year cycles, so the second (current) cycle runs from 2016 – 2021. The aim of the WFD is to prevent any deterioration in the existing status of water quality, including the protection of good and high water quality status where it exists. The WFD requires member states to manage their water resources on an integrated basis to achieve at least 'good' ecological status, through River Basin Management Plans (RBMP), by 2027.

5.2.2.4 EIA Directive

Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment, as amended by Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014, hereafter referred to as the EIA Directive.

5.2.3 International Conventions

5.2.3.1 Bern and Bonn Convention

The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1982) was enacted to conserve all species and their habitats. The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention 1979, enacted 1983) was introduced in order to give protection to migratory species across borders in Europe.

5.2.3.2 Ramsar Convention

The Ramsar Convention on Wetlands is an intergovernmental treaty signed in Ramsar, Iran, in 1971. The treaty is a commitment for national action and international cooperation for the conservation of wetlands and their resources. In Ireland there are currently 45 Ramsar sites which cover a total area of 66,994ha.

5.3 Study Methodology

This section details the steps and methodology employed to undertake the ecological impact assessment of the Proposed Development.

5.3.1 Desk Study

A desk study was carried out to collate and review available information, datasets and documentation sources pertaining to the site's natural environment. The desk study, completed in December 2021, relied on the following sources:

- Information on species records¹ and distributions, obtained from the National Biodiversity Data Centre (NBDC) at maps.biodiversityireland.ie;

¹ The proposed development site lies within the 10km grid square O23, the 2km grid square O23D and the 1km grid square O2037. Records from the last 30 years from available datasets are given in the relevant sections of this report.

- Information on waterbodies, catchment areas and hydrological connections obtained from the Environmental Protection Agency (EPA) at gis.epa.ie;
- Information on bedrock, groundwater, aquifers and their statuses, obtained from Geological Survey Ireland (GSI) at www.gsi.ie;
- Information on the network designated conservation sites, site boundaries, qualifying interests and conservation objectives, obtained from the National Parks and Wildlife Service (NPWS) at www.npws.ie;
- Satellite imagery and mapping obtained from various sources and dates including Google, Digital Globe, Bing and Ordnance Survey Ireland;
- Information on the existence of permitted development, or developments awaiting decision, in the vicinity of the Proposed Development from Dublin City Council, available at www.dublincity.ie ; Fingal County Council www.fingalcoco.ie and An Bord Pleanála www.pleanala.ie
- Information on the extent, nature and location of the Proposed Development, provided by the applicant and/or their design team;
- Information on the construction methods to be followed as part of the Proposed Development, taken from the Construction Environment Management Plan (CEMP) submitted with this application;
- Information on the potential for flood events at the site of the Proposed Development, informed by the Flood Risk Assessment submitted with this application;
- The applicable 1% international population estimate figures for relevant SCI species taken from Wetlands International (2012);
- The applicable 1% national population estimate figures for relevant Species of Conservation Interest (SCI) species taken from Burke *et al.* (2018); and
- Data on the usage of coastal sites in Dublin by Light-bellied Brent Geese from the Irish Wetland Bird Survey (I-WeBS), a scheme that is funded by the National Parks and Wildlife Service of the Department of Culture, Heritage & the Gaeltacht and that is co-ordinated by BirdWatch Ireland.

A comprehensive list of all the specific documents and information sources consulted in the completion of this Chapter is provided in Section 5.12.

5.3.2 Field Surveys

A suite of ecological surveys has been carried out at the Site of the Proposed Development between 2015 and 2022.

Surveys for 2018, 2019, 2020, 2021 and 2022 were undertaken by Enviroguide Consulting (EG), the authors of this report. Surveys carried out from 2015 to 2017 were undertaken by Scott Cawley (SC) Ltd. in respect to a previous strategic housing development application at the Site (Planning Reference: 300559-18).

5.3.2.1 Habitat Surveying and Mapping

Five (5 no.) habitat surveys were conducted at the site of the Proposed Development on the 18th May 2015, 6th July 2017, 14th May 2019, 25th May 2021 and 10th December 2021.

Habitats were categorised according to the Heritage Council's 'A Guide to Habitats in Ireland' (Fossitt, 2000) to level 3. The habitat mapping exercise had regard to the 'Best Practice Guidance for Habitat Survey and Mapping' (Smith *et al.*, 2010) published by the Heritage Council. Aerial photography was used together with GPS to accurately enable field navigation. Habitat categories, characteristic plant species and other ecological features and resources were recorded on field sheets.

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5.3.2.2 Bat Surveys

A suite of bat surveys has been completed as part of this assessment, as detailed in the following sections.

5.3.2.2.1 Potential Bat Roost (PBR) and Commuting/foraging Habitat Survey

Bat roost inspection surveys were carried out on the 16th of May 2019 and the 26th July 2022. Survey methodology followed the best-practice techniques outlined in the Bat Conservation Trusts "Bat Surveys for Professional Ecologists" (3rd edition, 2016) guidelines. The buildings within the site of the Proposed Development, including the existing prefab building scheduled for demolition as part of the Proposed Development at that time, were systematically inspected both externally and internally for any signs of roosting bats. This included searches for live/dead specimens, droppings, urine splashes and fur-oil stains.

Mature trees located within the site of the Proposed Development were also inspected from ground-level for their suitability to support roosting bats.

26th July 2022 Surveys

Potential Bat Roost (PBR) and commuting/foraging habitat suitability surveys were conducted during the day of the 26th of July, prior to the bat activity survey. The PBR survey assessed the prefabricated (prefab) classroom marked for demolition in the west of the Site, along with the mature trees set for felling in the north-western section.

The prefab was assessed externally during the daylight for any PBR features or access points by which bats may enter or exit the structure e.g., building damage, cavity spaces, broken windows etc. The perimeter of the structure was walked by the surveyor and notes and photos taken of any PBR features present. The prefab was then inspected internally with each room checked for PBR features or access points that might be used by bats to enter/exit the structure. It is noted that the western half of the building was sealed off and inaccessible on the night of survey, however the eastern half was accessed and surveyed.

Daytime inspections were undertaken of all of the trees within the Site of the Proposed Development in order to make a list of trees within the Site that may be suitable as roosting sites for bats. Inspections were undertaken visually, from the ground, with the aid of a strong torch beam. Trees within the Site were assessed for Potential Roost Features (PRFs) which were used to determine the potential bat roost value of trees as per Table 4.1 in the Bat Conservation Trust's *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, 2016). Evidence of bat usage was sought in the form of actual bats (visible or audible), bat droppings, urine staining, grease marks (oily secretions from glands present on stonework) and claw marks. In addition, the presence of bat fly pupae (bat parasite) also can indicate that bat usage, of a crevice for example, has occurred in the past.

The Site was assessed during daytime walkabout surveys (26/07/2022), in relation to potential bat foraging habitat and commuting routes. Bat habitats and commuting routes identified were considered in relation to the wider landscape to determine landscape connectivity for local bat populations through the examination of aerial photographs.

5.3.2.2.2 Activity Surveys

Two no. dusk transect bat activity surveys were carried out at the Site of the Proposed Development; one on 7th September 2021 and one on 26th July 2022.

Survey methodology followed the best-practice techniques outlined in the Bat Conservation Trusts "*Bat Surveys for Professional Ecologists*" Good Practice Guidelines (3rd edition, 2016) guidelines. Post-sunset (dusk) activity surveys were commenced approximately 15 minutes before sunset and lasted until approximately 1.5 – 2 hours after sunset.

26th July 2022 Dusk Activity Survey

A dusk bat activity survey was undertaken at the Site on the evening of the 26/07/2022. The bat activity survey commenced at 21:15 and finished at 00:00. Sunset on the night was 21:30. The survey was conducted in optimal conditions for bat surveys i.e., calm, dry and warm with temperatures of 19c and 13c at the start and end of the survey, respectively.

The bat surveyors were equipped with an Elekon BatLogger M2 full spectrum bat detector, powerful head torches and handheld torch, along with aerial maps of the Site.

A predetermined transect of the Site based on the daytime walkover was walked during the activity survey, allowing the Site's field boundaries and areas of vegetation to be surveyed for bat usage. Where activity was noted, the surveyors remained in place for several minutes to ensure a representation of the activity was recorded.

5.3.2.2.3 Emergence Survey

16th May 2019

A bat emergence survey was carried out at the existing pre-fab building structure to be demolished as part of the Proposed Development on 16th May 2019. The survey began approximately 15 minutes before sunset and lasted until approximately 1.5 hours after sunset. A *SSF Bat2* heterodyne bat detector was used to detect any bats emerging from the structure during the survey. The details of all records (frequency, time, location) were recorded on field sheets and 1:250 field map.

26th July 2022

An emergence survey was carried out at the beginning of the activity survey; lasting from 21:20 to 22:00, with one surveyor focusing on a potential entrance point to the prefab along its south-western corner (See Figure 5-1), and the other surveyor focusing on a mature Horse Chestnut Tree (Tree tag 38) located adjacent to the north of the prefab; due to it supporting visible cavities at height (moderate-high roost suitability) (See Figure 5-2).

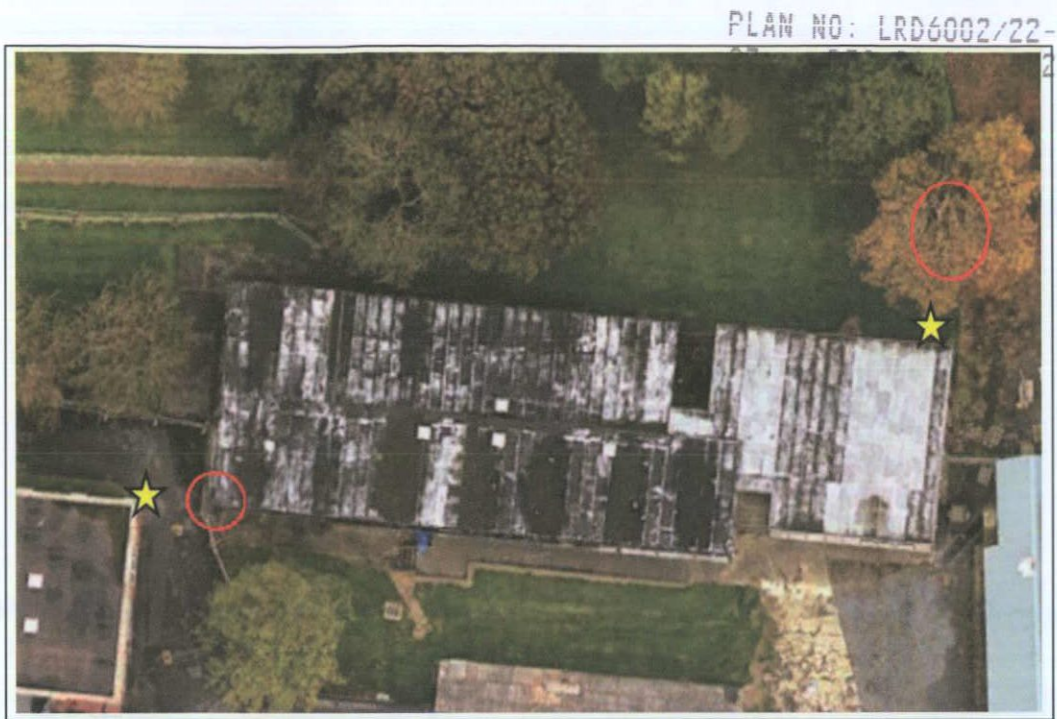


Figure 5-1 Image showing the locations of the surveyors during the emergence survey conducted on 26th July 2022. Red circles indicate the focus point of each surveyor i.e., the south-western corner of the prefab and tree 38 to the north-west



Figure 5-2 Tree 38, the subject of the emergence survey. Visible holes observed at height (red circles) and close up image of main hole.