ARMSTRONG
FENTON
ASSOCIATES

PROJECT: Strategic Housing Development

Environmental Impact Assessment Report

Volume I – Non Technical Summary

for proposed development at

Santry Avenue & Swords Road, Santry, Dublin 9.

CLIENT: Dwyer Nolan Developments Ltd

DATE: 16|07|21

Planning &
Development
Consultants

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1.0 Introduction

1.1 Introduction & Methodology

This "*Non-Technical Summary*" (hereafter NTS) relates to a strategic housing application to An Bord Pleanála for a proposed residential development of 350 no. dwellings, 5 no. retail / commercial units and a community use unit located at ground floor level facing onto Santry Avenue and Swords Road. A one storey residential amenity unit, facing onto Santry Avenue, is also provided for between Blocks A & D on a site measuring c. 1.5 hectares located at the junction of Santry Avenue and Swords Road, Santry, Dublin 9.

The central purpose of the Environmental Impact Assessment Report (EIAR) is to undertake an appraisal of the likely and significant impacts on the environment of the proposed development in parallel with the project design process, and to document this process in the EIAR . This is then submitted to the competent / consent authority to enable it assess the likely significant effects of the project on the environment. This assessment will then inform the decision as to whether the development should be permitted to proceed.

A full description of the proposed development lands together with a description of the proposed development is provided in Chapter 3 of the accompanying EIAR document. The subject site, of 1.5 hectares, is bounded to the north by Santry Avenue, to the east by Swords Road, to the west by Santry Avenue Industrial Estate, and to the south by the permitted Santry Place development (granted under Dublin City Council Ref's. 2713/17 & 2737/19). Vehicular access to the development will be via 2 no. access points: (i) on Santry Avenue in the north-west of the site (ii) off Swords Road in the south-east of the site both of which are permitted under the adjoining development at Santry Place.

The Dublin City Development Plan 2016-2022, (hereafter CDP) provides a development strategy for the proper planning and sustainable development of the subject site area.

1.2 Proposed Development

This project relates to a proposed mixed-use / residential development and the development to which this application relates is described as follows:

1.2.1. Dwyer Nolan Developments Ltd. intends to apply to An Bord Pleanála for permission for a strategic housing development, on a site of c. 1.5 hectares, located at the junction of Santry Avenue and Swords Road, Santry, Dublin 9. The development site is bounded to the north by Santry Avenue, to the east by Swords Road, to the west by Santry Avenue Industrial Estate, and to the south by the permitted Santry Place development (granted under Dublin City Council Ref's. 2713/17 & 2737/19).

1.2.2 The proposed development provides for 350 no. apartments, comprised of 113 no. 1 bed, 218 no. 2 bed, & 19 no. 3 bed dwellings, in 4 no. seven to fourteen storey buildings, over basement level, with 5 no. retail / commercial units and a community use unit located at ground floor level facing onto Santry Avenue and Swords Road. A one storey residential amenity unit, facing onto Santry Avenue, is also provided for between Blocks A & D.

1.2.3 The development consists of the following:

Demolition of the existing building on site i.e. the existing Chadwicks Builders Merchants (c. 4,196.8m^2).

Construction of 350 no. 1, 2, & 3 bed apartments, retail / commercial and community uses in 4 no. buildings that are subdivided into Blocks A-G as follows:

- Block A is a 7 to 14 storey block consisting of 59 no. apartments comprised of 26 no. 1 bed & 33 no. 2 bed dwellings, with 2 no. commercial/retail units located on the ground floor (c. 132.4m^2 & 173m^2 respectively). Adjoining same is Block B, which is a 7 storey block consisting of 38 no. apartments comprised of 6 no. 1 bed, 20 no. 2 bed, & 12 no. 3 bed dwellings, with 2 no. commercial/retail units located on the ground floor (c. 162.3m^2 & 130.4m^2 respectively). Refuse storage areas are also provided for at ground floor level.

- Block C is a 7 storey block consisting of 55 no. apartments comprised of 13 no. 1 bed & 42 no. 2 bed dwellings. Refuse storage areas are provided for at ground floor level. Adjoining same is Block D which is a 7 to 10 storey block consisting of 51 no. apartments comprised of 25 no. 1 bed, 19 no. 2 bed, & 7 no. 3 bed dwellings, with 1 no. commercial unit / café located on the ground floor (c. 163.3m^2). A refuse storage area is also provided for at ground floor level.

- Block E is a 7 to 10 storey block consisting of 58 no. apartments comprised of 10 no. 1 bed & 48 no. 2 bed dwellings, with 1 no. community use unit located on the ground floor (c. 188.1m^2). A refuse storage area, substation, & switchroom are also provided for at ground floor level. Adjoining same is Block F which is a 7 storey block consisting of 55 no. apartments comprised of 13 no. 1 bed & 42 no. 2 bed dwellings. A refuse storage area & bicycle storage area are also provided for at ground floor level.

- Block G is a 7 storey block consisting of 34 no. apartments comprised of 20 no. 1 bed & 14 no. 2 bed dwellings. A refuse storage area & bicycle storage area are also provided for at ground floor level.

- Construction of a 1 storey residential amenity unit (c. 187.9m^2) located between Blocks A & D.

- Construction of basement level car parking (c.5,470.8m^2) accommodating 173 no. car parking spaces & 719 no. bicycle parking spaces. Internal access to the basement level is provided from the cores of Blocks A, B, C, D, E, & F. External vehicular access to the basement level is from the south, between Blocks B & C. 36 no. car parking spaces & 58 no. bicycle parking spaces are also provided for within the site at surface level.

- Public open space of c. 1,915m^2 is provided for between Blocks C, D, E, & F. Communal open space of c. 3,122m^2 provided for between (i) Blocks E, F, & G, (ii) Blocks A, B, C, & D, and (iii) in the form of roof gardens located on Blocks A, C, & F and the proposed residential amenity use unit. The development includes for hard and soft landscaping & boundary treatments. Private open spaces are provided as terraces at ground floor level of each block and balconies at all upper levels.

- Vehicular access to the development will be via 2 no. existing / permitted access points: (i) on Santry Avenue in the north-west of the site (ii) off Swords Road in the south-east of the site, as permitted under the adjoining Santry Place development (Ref. 2713/17).

- The development includes for all associated site development works above and below ground, bin & bicycle storage, plant (M&E), sub-stations, public lighting, servicing, signage, surface water attenuation facilities etc.

1.3 Requirement for EIA (Screening)

Screening is the term used to describe the process for determining whether a proposed development requires an EIA by reference to mandatory legislative threshold requirements or by reference to the type and scale of the proposed development and the significance or the environmental sensitivity of the receiving baseline environment.

Annex I of the EIA Directive 85/337/EC requires as mandatory the preparation of an EIA for all development projects listed therein.

Schedule 5 (Part 1) of the Planning & Development Regulations 2001 (as amended) transposes Annex 1 of the EIA Directive directly into Irish land use planning legislation. The Directive prescribes mandatory thresholds in respect to Annex 1 projects.

Annex II of the EIA Directive provides EU Member States discretion in determining the need for an EIA on a case-by-case basis for certain classes of project having regard to the overriding consideration that projects likely to have significant effects on the environment should be subject to EIA.

The proposed development falls below the threshold for a mandatory EIAR. The subject proposal comprises 350 no. dwellings and is on a site of less than 10 hectares. Therefore, a mandatory EIA is not required. However, when assessed in conjunction with neighbouring developments i.e.:

- directly to the south (permitted under Dublin City Council Ref. 2737/19. i.e. named Santry Place),
- lands to the northeast of Omni Park Shopping Centre (permitted under An Bord Pleanála Ref. 307011) and
- south-east (permitted under An Bord Pleanála Ref. 303358-19 and Ref. 306987 i.e. Swiss Cottage) of the application lands;

the Applicant is cognisant of the cumulative impacts which the permitted and proposed developments may have and as such has prepared this EIAR to accompany their planning application in order to allow for a comprehensive assessment of the proposed development.

1.4 Purpose of This EIAR

The objective of this EIAR is to identify and predict the likely environmental impacts of the proposed development; to describe the means and extent by which they can be reduced or ameliorated; to interpret and communicate information about the likely impacts; and to provide an input into the decision making and planning process.

The EIAR is the primary element of the Environmental Impact Assessment (EIA) process and is recognised as a key mechanism in promoting sustainable development, identifying environmental issues, and in ensuring that such issues are properly addressed within the capacity of the planning system.

1.5 Information to be contained in a non-technical summary

This Non-Technical Summary (NTS) has been prepared in accordance with *inter alia* the requirements of the EU 2014 EIA Directive, Planning and Development Acts 2000-2018 as well as the Planning and Development Regulations, 2001, as amended (in particular by the European Union (Planning & Development) (Environmental Impact Assessment) Regulations 2018.

EIA Process Overview

One of the main purposes of the EIA process is to identify the likely significant impacts on the human environment, the natural environment and on cultural heritage associated with the proposed development, and to determine how to eliminate or minimise these impacts. The EIAR summarises the environmental information collected during the impact assessment of the proposed development.

A new definition of environmental impact assessment is now contained in Section 170A of the Planning and Development Act, 2000, as amended which reflects to the process as described under Article 1(2)(g) 4 of Directive 2014/52/EU and goes on to say that it includes:

> *(i) an examination, analysis and evaluation, carried out by the planning authority or the Board, as the case may be, in accordance with this Part and regulations made thereunder, that identifies, describes and assesses, in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of the proposed development on the following:*
>
> *(I) population and human health;*
>
> *(II) biodiversity, with particular attention to species and habitats protected under the Habitats Directive and the Birds Directive;*
>
> *(III) land, soil, water, air and climate;*
>
> *(IV) material assets, cultural heritage and the landscape;*
>
> *(V) the interaction between the factors mentioned in clauses (I) to (IV), and*
>
> *(ii) as regards the factors mentioned in subparagraph (i)(I) to (V), such examination, analysis and evaluation of the expected direct and indirect significant effects on the environment derived from the vulnerability of the proposed development to risks of major accidents or disasters, or both major accidents and disasters, that are relevant to that development;*

Several interacting steps typify are involve in the various stages of the EIA process, which may be referred to in outline as including:

- Screening;
- Scoping;
- Preparation of EIA Report;
- The examination by the Competent Authority (CA) of the information presented in the environmental impact assessment report;

Screening: Screening is the term used to describe the process for determining whether a proposed development requires an EIA.

Scoping: This stage firstly identifies the extent of the proposed development and associated site, which will be assessed as part of the EIA process, and secondly, it identifies the environmental issues likely to be important during the course of completing the EIA process through consultation with statutory and non-statutory stakeholders. Where relevant, scoping requests were issued and the responses received have been considered as part of the compilation of the EIAR. The content of the EIAR has been informed by national guidelines, guidelines issued by the European Commission and other policy documents which

are set out at Section 1.4 of the EIAR. In addition, pre-planning meetings with the various departments of Dublin City Council and also with An Bord Pleanàla (at SDH pre-application stage) all informed the EIAR.

Preparation of EIAR Report: The main elements in the preparation of an EIA Report relate to the consideration of alternatives, project description, description of the receiving environment, identification and assessment of impacts, monitoring and mitigation proposals.

The examination by the CA of the information presented in the environmental impact assessment report. The planning authority and An Bord Pleanála must consider each application for development consent on its own merits, taking into account all material considerations, including the reasoned conclusion in respect of EIA, before making its decision to grant, with or without conditions, or to refuse consent.

1.6 Format and Structure of The EIAR

1.6.1 EIAR Structure

The structure of the EIAR is laid out in the preface of each part for clarity. It consists of two volumes as follows:

- Volume I: Non-Technical Summary (this document)
- Volume II: Environmental Impact Assessment Report.

Volume II is the main volume of the EIAR. It provides information on the location and scale of the proposed development, details on design and impacts on the environment (both positive and negative) as a result of the proposed development. Each of the environmental aspects as listed below are examined in terms of the existing or baseline environment, identification of potential construction and operational stage impacts and where necessary proposed mitigation measures are identified.

The preparation of an EIAR requires the assimilation, co-ordination and presentation of a wide range of relevant information in order to allow for the overall assessment of a proposed development. For clarity and to allow for ease of presentation and consistency when considering the various elements of the proposed development, a systematic structure is used for the main body of the EIAR document. The structure used in this EIAR document is a "*Grouped Format structure".* This structure examines each environmental topic in a separate chapter of the EIAR document. The structure of the EIAR Volume II document is set out in Table 1.1 over:

Chapter	Title
1	Introduction
2	Planning Policy Context
3	Description of Project and Alternatives
4	Population and Human Health
5	Biodiversity
6	Land, Soil and Geology
7	Water
8	Air Quality and Climate
9	Noise
10	Material Assets: Built Services
11	Material Assets: Transportation
12	Material Assets: Resource and Waste Management
13	Archaeology and Cultural Heritage
14	The Landscape
15	Identification of Significant Impacts / Interactions
16	Summary of EIA Mitigation and Monitoring Measures

Table 1 – Structure of EIAR – Volume II

1.7 Availability of EIAR Doc

A copy of the EIAR document and Non-Technical Summary of the EIAR document is available for purchase at the offices of An Bord Pleanála and Dublin City Council (Planning Authority) at a fee not exceeding the reasonable cost of reproducing the document. It can also be viewed on the SHD website – www.santryavenueshd.ie. set up by the applicant.

1.8 Statement of Difficulties Encountered

No particular difficulties, such as technical deficiencies or lack of knowledge, were encountered in compiling any of the specified information contained in this statement, such that the prediction of impacts has not been possible. Where any specific difficulties were encountered these are outlined in the relevant chapter of the EIAR.

1.9 Errors

While every effort has been made to ensure that the content of this EIAR document is error free and consistent there may be instances in this document where typographical errors and/or minor inconsistencies do occur. These typographical errors and/or minor inconsistencies are unlikely to have any material impact on the overall findings and assessment contained in this EIAR.

1.10 EIAR Study team

The EIAR was prepared by a study team led by Armstrong Fenton Associates Planning and Development Consultants, who were responsible for the overall management and co-ordination of the document. The

EIAR team is set out in Chapter 1, Table 1.2 of Volume II of the EIAR.

2.0 Description of Project and Alternatives

2.1 Information on the site location, design and size of the proposed development

The subject site (i.e. the red line boundaries of application detailed on the drawings accompanying the application) measures approximately 1.5ha in area and is located at the junction of Santry Avenue and Swords Road, with frontage onto both roads (being bounded to the east by Swords Road and to the north by Santry Avenue) and is currently occupied by Chadwicks building providers (formerly Heiton Buckley). Access to the subject site is currently limited to an existing site entrance off / onto Santry Avenue.

Under the CDP the subject site is zoned Z3 with the objective "*to provide for and improve neighbourhood facilities*". The CDP recognises the importance of Z3 zoned lands in the contribution of meeting the housing delivery requirements of the city. In line with the CDP, the subject site represents a highly suitable location for the provision of infill residential development. The objective of the Z3 land use zoning objective is to provide for and improve neighbourhood facilities. The proposed development complies with the requirements of the zoning objective with the provision of a community use hub unit, residential amenity unit and 5 no. commercial / retail units facing onto Swords Road and Santry Avenue.

Vehicular access to the development will be via 2 no. existing / permitted access points: (i) on Santry Avenue in the north-west of the site (ii) off Swords Road in the south-east of the site, as permitted under the adjoining Santry Place development (Ref. 2713/17).

The subject site is currently in brownfield condition. To the north, the site is bounded by Santry Avenue. Beyond Santry Avenue is Santry Demesne Park which provides a range of open space, sporting and recreational facilities including Morton Stadium and Santry Community Garden. To the east, Swords Road borders the application site, with retail connivence stores opposite the site. To the west, the subject site is bounded by the Santry Avenue Industrial Estate. The neighbouring lands bounding the southern boundary of the site are currently being developed by the Applicant as part of the permitted residential scheme known as Santry Place (Ref.s 2713/17 & 2737/19).

With the Santry Place development to the south currently nearing completion, the subject application is considered to represent an ideal opportunity for an integrated mixed-use development which will continue the recent regeneration of the Santry area. To this end, we note the following developments in the vicinity of the subject site which have been recently permitted and /or are under construction:

- **ABP-306987-20 -** Permission for the development of 120 no. apartments and associated site development works on the former Swiss Cottage lands, Swords Road, Santry, Dublin 9. The development included for building heights of 3 no. storeys to 7 no. storeys and caters for a density of c. 250 no. dwellings per hectare. The development supersedes and amended the previously permitted development granted under ABP-303358-19. The site is located approximately 100 meters to the south-east of the subject application site.

- **ABP-307011-20 -** Permission for the development 324 no. apartments, a creche and associated site development works on lands to the northeast of Omni Park Shopping Centre, Swords Road, Santry, Dublin 9. The development included for building heights of 5 no. storeys to 12 no. storeys and caters for a density of c. 250 no. dwellings per hectare. The site is located approximately 250 meters to the south of the subject application site.

It is considered that the proposed development is in keeping with the aforementioned recently permitted developments at Santry Place, Swiss Cottage and the site to the northeast of Omni Shopping Centre, particularly in terms of height and density, and represents sustainable and coherent planning of this important corner location on an entrance route into Dublin city. The EIAR submitted at this time is deemed appropriate, to review the cumulative impact of the proposed scheme given the quantity of units permitted in the permissions listed above.

The Site Layout Plan (Fig. 1) prepared by Davey & Smith Architects illustrates the proposed development.

A summary of the proposed development includes the following works:

- Residential development (350 no. dwellings);
- Commercial / Retail units (5 no. Units);
- Community use unit;
- Residential amenity unit;
- Communal, Public and private open spaces;
- Landscaping;
- Car / Bicycle parking and bin storage;
- Services infrastructure, utilities and public lighting;
- ESB Substation;
- Building and directional signage and
- All associated infrastructural and site development works.

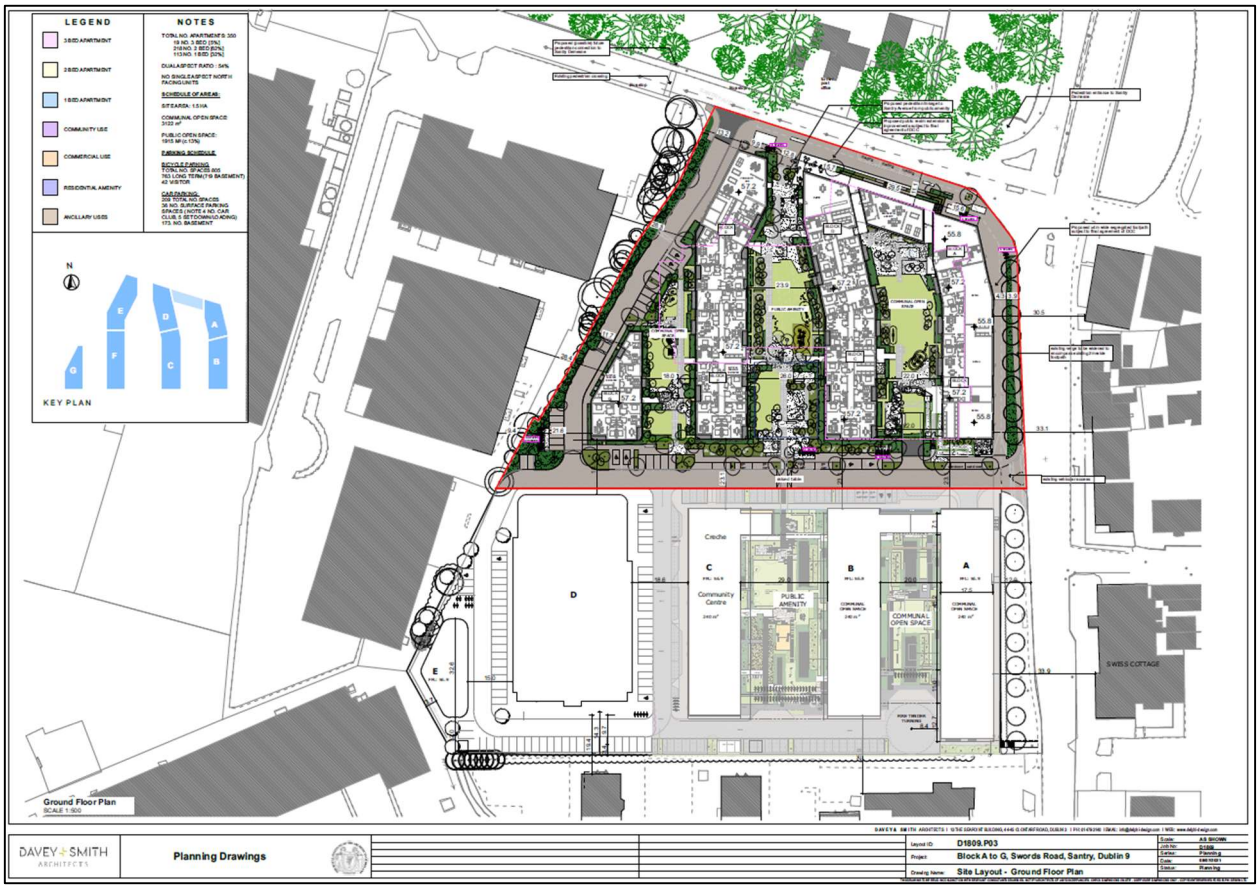

Figure 1 - Site layout plan put forward for permission.

2.1.1 Demolition

Permission is sought to demolish the existing building on site i.e. the existing Chadwicks Builders Merchants (c. 4,196.8m^2).

2.2 Residential Development

In summary, the proposed development comprises the construction of 350 no. dwellings comprised of 113 no. 1 bed, 218 no. 2 bed, & 19 no. 3 bed dwellings, in 4 no. seven to fourteen storey buildings, over basement level – details of which are set in Table 2.1 over:

Block	Total No. of Dwellings	No. of 1 beds	No. of 2 beds	No. of 3 beds
Block A	59	26	33	N/A
Block B	38	6	20	12
Block C	55	13	42	N/A
Block D	51	25	19	7
Block E	58	10	48	N/A
Block F	55	13	42	N/A
Block G	34	20	14	N/A
Total	**350**	**113**	**218**	**19**

Table 2 – Overall Residential Development Mix

A wide variety of apartment typologies have been developed to ensure that the scheme provides for high quality design, based upon the 12 urban design criteria set out in the Urban Design Manual (2009), the details of which are set out in Statement of Consistency and the Architectural Design Statement which accompany the application.

Due to the prominent location of the site addressing two main roads, the proposed development has been designed to provide for a strong urban form and good street frontage. In light of the orientation of the site and having regard to both permitted developments and the changing nature of the immediate environs, the buildings are orientated in a north-south direction, whilst addressing the streets they abut. The proposed blocks are defined by variations in building type and design, internal road layout and hierarchy and related open spaces.

The varying heights of the proposed buildings break up the mass and volume of the scheme, with only one tall building of 14 storeys proposed, which will act as a landmark to the prominent corner at the junction of Swords Road and Santry Avenue. The proposed height of 7 storeys at the southern end of the scheme, marries in with the adjoining Santry Place, currently under construction, but also presents an appropriate

urban street edge onto Swords Road. The introduction of 10 storey buildings fronting onto Santry Avenue sit side by side of the tallest building thus creating a variance and natural transition between 7 and 14 storeys.

2.3 Non-Residential Development

2.3.1 Commercial / Retail Uses

The development includes 5 no. commercial / retail uses located on the ground floors of Blocks A, B and D. These commercial / retail uses have been strategically located, fronting on to both Santry Avenue and Swords Road, to cater for active frontage and bring a new vibrancy to a highly visible corner location in this urban community. The proposed commercial / retail uses are also put forward in recognition of the Z3 (Neighbourhood Centres) zoning attached to the site. In accordance with the vision for Z3 lands, these uses will create a new focal point in the neighbourhood by providing a range of convenience type services to both the existing and future local population. It is also considered that these commercial / retail units compliment larger existing commercial / retail facilities in the area, particularly the Aldi supermarket to the west and the Omni Shopping Centre to the south, whist not detracting from the vibrancy of the shopping centre.

The provision of 5 no. commercial / retail units at ground floor level, forming a strong ground floor frontage, directly addressing the adjoining streetscapes, and adjacent to an existing large urban park (Santry Demesne), will provide for an attractive new range of facilities to serve local needs in compliance with the zoning objective attached to the site.

2.3.2 Proposed Community Use Unit

In accordance with the Z3 "*Neighbourhood Centres"* zoning attached to the site, the proposed development provides for a community use unit on the ground floor of Block E, addressing Santry Avenue, of 188.1m². The rationale for this proposed community hub is to provide for new community space available to both future and existing residents of the Santry area

The location of the community hub fronting onto Santry Avenue and adjoining commercial and resident support/amenity space will ensure that there will be a consistent level of activity in this part of the development.

The provision of this community unit is put forward in recognition of the Z3 zoning on the site, the nature and scale of the overall proposed development, plus the changing nature of the environs in recent times due to on-going and permitted development in the immediate vicinity. It is considered that the proposed community unit will form an important community space capable of catering for a number of potential functions and will offer focal point for both local, existing residents in the area as well as future residents of the proposed development.

2.3.3 Residential Amenity Use

In addition to the above commercial / retail and community uses, the proposed development includes for a one storey residential amenity use unit (187.9m²) located between Blocks A & D which fronts onto Santry Avenue. It is considered that the proposed residential amenity use unit will be capable of supporting a range

of services while also providing for recreation space to future residents of the development, helping to create a sense of community between residents of the proposed apartment blocks. The residential amenity use unit also provides for a focused entrance point to this new development on Santry Avenue, aiding the creation of a sense of place and identity for the development.

The dedicated residential amenity unit fronts onto the new public realm at Santry Avenue, adjacent to the proposed commercial unit / café at ground floor of Block D and the commercial unit at ground floor of Block A. To the west, on the ground floor of Block E is the proposed community use unit, so the location of all of these units alongside each other and fronting onto the street will create a vibrancy along the new street front and provide residents with essential amenity space. The community unit as well as the commercial units will create a homely and welcoming atmosphere within the development.

Roof terraces / garden terrace amenity space are provides on the roofs of Blocks A, C, & F and the proposed residential amenity use unit, which will offer recreational meeting areas for residents to socialise and enjoy rooftop views of Dublin City and Santry Demesne Park to the north.

2.4 Car Parking and Cycle Parking Provision

In total, the proposed development caters for 209 no. car parking spaces provided for in the form of basement level parking and surface level parking. The basement level measures c. 5,470.8 sq.m and includes for 173 no. car parking spaces (inclusive of 12 no. disabled parking spaces). The basement level is internally accessible from cores of Blocks A, B, C, D, E, & F, while external vehicular access to same is from the south, between Blocks B & C.

An additional 36 no. car parking spaces (inclusive of 6 no. disabled parking spaces, 4 no. club car/car sharing spaces & 5 no. set down spaces) are also provided for within the site at surface level.

In total, the proposed development caters for 805 no. bicycle parking spaces, provided in the form of basement level parking, surface level parking, and within the proposed buildings. Of the proposed bicycle parking provision, 719 no. bicycle parking spaces are catered for at basement level. In Block F, at ground floor level, 18 no. bicycle parking spaces are accommodated, while in Block G, also at ground floor level, 10 no. bicycle parking spaces are accommodated. 58 no. bicycle parking spaces (including 42 no. visitor spaces) are also provided for within the site at surface level.

With regard to bicycle parking, the Apartments Guidelines recommend the provision of 1 no. bicycle parking space per bedroom and 1 no. visitor space for every 2 no. apartments. Based on the proposed dwelling mix, this equates to a provision of 781 no. bicycle parking spaces. The proposed development caters for a total of 805. bicycle parking spaces which is considered appropriate, and in compliance with the bicycle parking standards of the Apartment Guidelines.

2.5 Access

Vehicular access to the proposed development will be via 2 no. existing / permitted access points: (i) on Santry Avenue in the north-west of the site (ii) off Swords Road in the south-east of the site, as permitted under the adjoining Santry Place development (Ref. 2713/17).

2.6 Construction Management Strategy

A Construction & Demolition Waste Management Plan (CDWMP) has been prepared for the proposed development and accompanies the planning application. Certain assumptions are made in the CDWMP based on the information available at this time and, for the avoidance of doubt, it is not proposed or intended that the applicant / contractor(s) are bound by these proposals which may change depending on the timing and circumstances pertaining at the time of construction.

On receipt of a grant of planning and prior to the commencement of works, a detailed final Construction Management Plan (CMP) will be prepared. The contractor will be required to comply with and implement the requirements and mitigation measures as set out in this EIAR and any conditions imposed as part of planning permission. An Outline CMP has been prepared for the proposed project and is included with the planning application documentation. In addition, a Mobility Management Plan (MMP) has also been prepared and is also included as part of this application. Certain assumptions are made in both the Outline CMP and MMP based on the information available at this time and, for the avoidance of doubt, it is not proposed or intended that the applicant / contractor(s) are bound by these proposals which may change depending on the timing and circumstances pertaining at the time of construction.

A Construction and Environmental Management Plan has been prepared by DBFL Consulting Engineers which addresses noise and vibration, traffic management, working hours, pollution control, dust control, road cleaning, compound/public health facilities and staff parking associated with the construction works, and is submitted as part of this SHD planning application.

2.6.1 Construction Programme / Phasing

It is estimated that construction of the development will take approximately five years to complete. The applicant has provided an indicative construction programme in the Outline CMP (submitted with the Planning Application documentation) which depicts the sub-areas only for development. A phasing plan also accompanies the planning application – please refer to Davey & Smith Architects drawing no. D1809.P18 and Fig. 2.2 below. The intended sequence of development may change post grant of planning permission as a detailed construction programme is dependent on contractor appointment, market and other considerations.

Phasing Sequence	No. of Units	Other
First Phase	97	Blocks A & B, Communal Open Space
Second Phase	106	Blocks C & D, Public Open Space
Third Phase	147	Blocks E, F & G, Remainder of Works

Table 3 - Summary of phasing proposals

Figure 2– Proposed Phasing

2.6.2 Construction Activities

The construction works associated with the project will be contained within the application site boundary. These works will include excavation, earthworks, etc.

Some construction activity may take place off-site within the control of the developer. These activities may include access and haul routes, site compound(s), storage of materials and soil/excavated material, screening and processing of existing materials for re-use within the development works, construction parking, staff welfare facilities etc. These areas will be identified in the detailed CMP.

Typically, construction will commence at 07.00 to 19.00 Mondays to Fridays inclusive, between 08.00 to 14.00 on Saturdays and not at all on Sundays and public holidays. During the construction period, due to exceptional circumstances, construction work may be necessary outside these standard hours. If necessary, this will be agreed in advance with DCC.

The contractor will be guided by the Construction & Demolition Waste Management Plan which accompanies the application with regard to re-use, recovery, recycle and disposal of waste produced during construction. Chapter 12 of the EIAR, Material Assets: Resource and Waste Management, also considered the re-use recovery, recycle and disposal of waste arising from the development.

2.7 Direct and Indirect Effects Resulting from Use of Natural Resources

Details of significant direct and indirect effects arising from the proposed development are outlined in Chapters 4-15 which deal with *'Aspects of the Environment Considered'*. No significant adverse impact is predicted to arise from the use of natural resources.

2.8 Direct and Indirect Effects Resulting from Emission of Pollutants, Creation of Nuisances and Elimination of Waste

Details of emissions arising from the development together with any direct and indirect effects resulting from same have been comprehensively assessed and are outlined, where relevant, in the relevant in Chapters 4-15 which deal with '*Aspects of the Environment Considered'*. There will be no significant direct or indirect effects arising from these sources.

2.9 Forecasting Methods Used for Environmental Effects

The methods employed to forecast and the evidence used to identify the significant effects on the various aspects of the environment are standard techniques used by each of the particular individual disciplines. The general format followed was to identify the receiving environment, to add to that a projection of the *"loading"* placed on the various aspects of the environment by the development, to put forward amelioration measures, to lessen or remove an impact and thereby arrive at net predicted impact.

Where specific methodologies are employed for various sections they are referred to in the Receiving Environment (Baseline Scenario) sections in the EIAR. Some of the more detailed/specialised information sources and methodologies for a number of the environmental assessments are outlined hereunder.

2.10 Transboundary Impacts

Large-scale transboundary projects[1] are defined as projects which are implemented in at least two Member States or having at least two Parties of Origin, and which are likely to cause significant effects on the environment or significant adverse transboundary impact.

Having regard to the nature and extent of the proposed development, which comprises a residential development, located in Santry, within the administrative area of County Dublin, transboundary impacts on the environment are not considered relevant, in this regard.

2.11 Alternatives Examined

Chapter 3 of the EIAR (Volume II) also includes a summary of alternatives which were considered for the proposed development of the subject lands. These options were considered as the scheme progressed and the key considerations and amendments to the design having regard to the key environmental issues pertaining to the lands are summarised in this section of the EIAR.

[1] The definition is based on Articles 2(1) and 4 of the EIA Directive and Article 2(3) and (5) of the Espoo Convention, respectively. http://ec.europa.eu/environment/eia/pdf/Transboundry%20EIA%20Guide.pdf

2.11.1 Do Nothing Alternative

The "*Do Nothing"* Scenario describes the impacts of the proposed development, if it were not carried out.

The positive benefits to the national, regional and local community arising from the development of this site would not materialise in the *"Do Nothing"* scenario. In addition, the *"Do Nothing"* scenario would result in non-compliance with the NPF which contains the following relevant objectives:

- **National Policy Objective 3a** - Deliver at least 40% of all new homes nationally, within the built-up footprint of existing settlements;
- **National Policy Objective 32** - To target the delivery of 550,000 additional households to 2040.

This alternative is therefore not attractive with the site possibly remaining occupied by a tenant in the large industrial type building and associated yard on site.

2.11.2 Alternative Site Layouts

The proposed residential development has been prepared in accordance with the requirements of the National Planning Framework, the Regional Spatial and Economic Strategy for the Mid-East area as well as the relevant Section 28 Guidelines including those relating to Urban Development and Urban Heights 2018, the Apartment Guidelines 2018 and the Sustainable Residential Development in Urban Areas (2009) as well as, where relevant, the Dublin City Development Plan 2016-2022 and has been the subject of pre-application meetings with the Planning Authority prior to lodgement of the SHD application with An Bord Pleanála.

Insofar as the EIA is concerned, a number of iterations of the site layout and alternative designs were prepared and considered for the project. This involved taking into account the various technical and environmental considerations which are addressed in the EIA and which informed the design of the proposed development.

The design process, having taken into consideration the discussions held with the DCC, individual consultants who inform the chapters of this EIAR, and the feedback received from An Bord Pleanála at the Pre-Application Consultations, has resulted in the layout now put forward for permission, which is illustrated in Fig. 2.1 above. It is considered that this layout represents the best utilization of these zoned lands, complies with the objectives for the lands contained in the CDP and mitigates against significant environmental impacts.

In summary, the development proposal will, *inter alia*:

- Comply with the land-use zoning designation for the subject site
- Provide appropriate accommodation which can cater for different life stages by delivering apartments and duplex units in a mix of 1, 2 & 3 bedroom units
- Provide an appropriate density of development, which will develop a new urban quarter in Santry
- Comply with the Planning Authority's detailed quantitative standards for residential development as set out in the existing Dublin CDP and, where appropriate, Sustainable Urban Housing: Design

Standards for New Apartments Guidelines for Planning Authorities (2018)

- Provide a level of social housing (35 no. units) with equates to circa 10% of the overall quantum of proposed dwellings
- Support sustainable transport modes via the creation of pedestrian and cycle connections
- The proposed development also provides for 5 no. commercial / retail units at ground floor level facing onto Santry Avenue and Swords Road. The development provides a community use unit (188.1m^2) at ground floor level of Block E and a residential amenity unit (187.9m^2) at ground floor level located between Blocks A and D.
- Protect the existing residential amenity enjoyed by the residents of neighbouring developments
- Preserve, where feasible, the natural amenity characteristics of the site, and provide for new features where necessary in order to ensure that the visual impact of the development is minimised. This has been achieved by allocating areas of open space for recreation, all of which will be developed in accordance with the overall Landscape Plan for this proposed development.

2.11.3 Final Layout Alternative

With regard to the layout put forward for permission, the iterative process included alternative site layouts that were considered with the objective of submitting an overall high-quality designed scheme which has undergone a robust consideration of relevant alternatives in reference to the comparison of environmental effects and meets the requirements of the EIA Directive, based on the multidisciplinary review across all environmental topics.

The final design now put forward for permission presents the most effective utilization of this significant site whilst also fulfilling the objectives of the Planning Authority and providing for long term, sustainable housing for which there is a considerable demand at present and providing for a use of material, architectural form and colour to create a high level of visual amenity.

An Bord Pleanála Opinion

During the course of the pre-application tripartite meeting with the Board, and within the Opinion of the Board, which was issued thereafter, details were set out regarding the specific information to be included as part of a SHD planning application and included an Urban Design Analysis, Public Realm detailed drawings and cross sections of the same, a Daylight / Sunlight Analysis of the proposal, detailed Landscaping Plan, a Taken In Charge drawing, report to detail the proposed materials and finishes, a housing quality assessment, a Construction Traffic Management Plan and a Material Contravention Statement where necessary.

The proposed design consideration for the subject lands were the subject of 2 no. formal pre-application meetings with DCC as well as one formal SHD meeting with An Bord Pleanála (which DCC attended).

Following the receipt of detailed feedback from An Board Pleanála during the course of the pre-application meeting, and following receipt of the opinion of the Board, (as well as that received from DCC) which advised on further consideration relating to aspects of the proposed development, the applicant and design

team have undertaken a number of significant changes to the development proposal which is reflected within the final development proposal submitted for permission as part of a SHD planning application.

As noted within the development description sections of this chapter, the scheme now comprises a quantum of residential development consisting of 350 no. dwellings.

The key changes proposed related to:

- Moving of the location of the proposed 14 storey block of apartments from Block D to Block A
- Changes to the mix of dwelling types;
- Greater enclosure of streets through the location of buildings;
- Changes to the layout, distribution and function of open spaces;

Responses to each of these items have been provided as part of the SHD planning application pack, and the scheme has been updated and improved where necessary as a result.

The proposed development takes into account all effects raised with respect to the pre-application design submitted to An Bord Pleanála, and within the Board's Opinion, and provides for a sustainable development that has been optimised to emphasise positive environmental effects whilst reducing negative environmental impacts wherever possible.

The main consideration has been to achieve a design solution for the preferred layout which would enable all of the functional and operational requirements of the scheme to be met, whilst also ensuring the sensitive siting of new elements within the site. Having established the quantum, type and mix of residential units, a series of alternatives were considered by the design team. This process has enabled the final proposal to evolve. The need to provide for an appropriate level of enclosure of open spaces through the built form, in addition to landscaping, has driven the final layout form and design solution as proposed as part of the SHD planning application.

Alternative locations for the various built elements of the development were considered and examined at the design stage.

3.0 Non-Technical Summary of EIAR Chapters

3.1 Population and Human Health

This Chapter, prepared by Armstrong Fenton Associates Planning and Development Consultants, relates primarily to '*Human Beings'*- the potential impacts of the development proposal on human beings, population, and human health within the vicinity of the application site and an assessment of these issues.

One of the principle concerns in the development process is that people, as individuals or communities, should experience no diminution in their quality of life from the direct or indirect impacts arising from the construction and operation of a development. Ultimately, all the impacts of a development impinge on human beings, directly and indirectly, positively and negatively.

3.1.1 Potential Construction and Operational Phase Impacts

The construction phase of the proposed development is likely to result in a positive net improvement in economic activity in the area of the proposed development site, particularly in the construction sector and in associated and secondary building services industries. The sector has grown strongly in recent years and this development will help to further enhance growth and reduce the increasing pressure on the housing market.

The construction phase of the proposed development will primarily consist of site clearance, excavation and construction works, which are likely to take place over 3 no. main phases, which will be largely confined to the proposed development site. Notwithstanding the implementation of remedial and mitigation measures, there will be some minor temporary residual impacts on population (human beings) and human health most likely with respect to nuisance caused by construction activities. It is anticipated that subject to the careful implementation of the remedial and mitigation measures proposed throughout this EIAR document any adverse likely and significant environmental impacts will be avoided. Positive impacts are likely to arise out of an increase in employment and economic activity. The overall predicted likely and significant impact of the construction phase will be short-term, temporary and likely to be neutral.

The proposed development will result in a generally positive alteration to the existing brownfield site in terms of the provision of residential units to serve the growing residential population of the city in accordance with the objectives of Dublin City Council's Development Plan. Positive impacts on population and human health will include health benefits associated with the provision of a significant quantity of open space, pedestrian and cyclist accessibility to the site, including the provisions of connections from the development to Santry Demesne Park, a highly permeable layout which connects the site to existing development to the south and delivers the objectives of the CDP. The provision of 5 no. commercial / retail units on site, as well as a community use unit and residential amenity unit, enhances the quality of the development and helps to create sustainable communities.

3.1.2 Mitigation

The implementation of the range of remedial and mitigation measures included throughout this EIAR document is expected to have the impact of limiting any adverse significant and likely environmental impacts of the operational phase of the proposed development on population and human health.

Overall, subject to adherence to best practice and implementation of appropriate mitigation measures detailed in this EIAR, the overall temporary impacts associated with the construction phase (noise, dust,

visual, traffic disruption) are considered to represent a slight / moderate negative impact for the population. In order to avoid and / or reduce impacts on the adjoining residents, a CMP will be put in place prior to the commencement of development.

3.2 Biodiversity

This chapter was prepared by Rozalyn O'Hora[2] of Enviroguide Consulting and Aisling Walsh[3] of Ash Ecology Environmental Ltd. A separate stand-alone Appropriate Assessment (AA) Screening Report is also included in the planning application documentation. Under Article 6(3) of the Habitats Directive a screening for '*appropriate assessment'* of projects must be carried out to determine if significant effects are likely to arise to Natura 2000 sites. This assessment is carried out by the competent authority, in this case An Bord Pleanála.

Chapter 5 of the EIAR (Volume II) assesses potential impacts that may arise from the proposed development on biodiversity within the receiving environment; in accordance with the following guidance documents:

- Environmental Protection Agency (Draft, August 2017). *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports,*
- Environmental Protection Agency (Draft, September 2015). *Advice Notes for Preparing Environmental Impact Statements,*
- Chartered Institute of Ecology and Environmental Management (CIEEM) (2018), *Guidelines for Ecological Impact Assessment in the UK and Ireland.*
- National Roads Authority (2009). *Ecological Assessment Guidelines*

It aims to discuss the existing ecological environment, the potential impacts of the scheme and avoidance and mitigation measures in relation to habitats, flora and fauna in the zone of influence (ZOI) of the proposed development.

3.2.1 Consultation

Consultation was undertaken with Dwyer Nolan Developments Ltd / Dublin City Council with regard to the scope of works within the proposed project.

3.2.2 Methodology

A desktop 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 June 2021.

3.2.3 Field Survey Work

A habitat survey of the site of the proposed development was carried out by Enviroguide Ecologists on the 13th of May 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. Habitat categories,

[2] Project Ecologist has a M.Sc. Hons. (Ecological Assessment) from University College Cork, a BSc (Honours) in Environmental Science from National University of Ireland Galway

[3] Professional Ecologist and director of Ash Ecology Environmental Ltd., MSc in Biodiversity and Conservation (TCD), A BSc (Hons) Zoology (NUIG), a Diploma in Applied Aquatic Sciences (GMIT), a Post Graduate Diploma in Statistics (TCD), and a Certificate in Environmental Noise (Institute of Acoustics); full membership of the Chartered Institute of Ecology and Environmental Management (CIEEM).

characteristic plant species and other ecological features and resources were recorded on field sheets. Habitats within the surrounding area of the proposed development were classified based on views from the site and satellite imagery where necessary (Google Earth, Digital Globe and OSI).

Bird surveys were carried out in conjunction with the habitat and mammal surveys on the 13th of May 2021. The site was assessed for the presence of invasive plant species during the habitat surveys undertaken on the 13th of May 2021.

Mammal surveys of the site were carried out in conjunction with other field surveys. The site was searched for signs of mammals such as droppings, footprints, or sightings as per Bang and Dahlstrom (2001). The habitat types recorded throughout the survey area were used to assist in identifying the fauna considered likely to utilise the area.

During the course of the habitat surveys at the site of the proposed development, other species of fauna were noted, and are included in the report where applicable.

The results are as follows:

Rare and Protected Flora

The proposed development site is located within the Ordinance Survey National Grid 10km Squares O13 and O14, the 2km Squares O13U and O14Q and the 1km Squares O1639 and O1640. Species records available from the National Biodiversity Data Centre (NBDC) online database for the 2 km grid square (O13U and O14Q) were studied for the presence of rare or protected flora species. A review of the above datasets yielded no records. Furthermore, according to the Flora Protection Order - Bryophytes Map Viewer provided by the DAHG, there are no records for bryophytes listed on the Flora Protection Order within the vicinity of the proposed development.

No rare or protected flora were identified within the site of the proposed development during surveys.

Invasive Flora Species

The NBDC have records for thirty-four species of flora considered to be invasive in the 10km grid squares O13 and O14, twenty of these are considered medium impact, whereas fourteen are considered high impact. Eighteen species within the grid squares are listed under Schedule III of Regulation S.I. 477. Only two species of flora considered to be invasive are listed for the 2km (O14Q and O13U), grid squares within which the site of the proposed development is located, Butterfly-bush *Buddleja davidii* and Sycamore *Acer pseudoplatanus.* Both species are medium impact invasive species.

No high impact invasive plant species were recorded at the site during the walk over surveys carried out on the 13th of May 2021. Three non-native, potentially invasive species were found along the western fence line within the site boundary, a single Butterfly-bush *Buddleja davidii*, a number of Sycamore *Acer pseudoplatanus* saplings and Cotoneaster *Cotoneaster spp*. None of these species are listed under regulation S.I. 477. [4]

Source: National Biodiversity Data Centre [https://maps.biodiversityireland.ie/Map] [Accessed 05-05-2021]

[4] The NDBC have records of two medium impact invasive species within the 2km grid squares (O14Q and O13U) within which the Proposed Development is located. Three potentially invasive species were found by Enviroguide Consulting during the walk over survey on the 13th of May 2021.

Fauna

Mammals

The habitats within the site of the proposed development are of little or no value for mammals. The site is comprised mainly of the hard-standing and man-made habitats associated with the current buildings located at the site.

No evidence of mammal activity was noted during the field survey carried out on the 13th of May 2021. No evidence of Badger activity such as sets or latrines were recorded at the site. There is potential habitat for hedgehog and pygmy shrew along the hedgerows bordering the west and east of the site. There are no water courses or areas of woodland within the project site, there is therefore no potential habitat for hare, pine marten, deer or stoat within the proposed development site, although some of these species may be present in the vicinity of the site in Santry Demesne Park north of the proposed development site.

Red fox may frequent the site as they are a relatively widespread species. Although not afforded the same level of protection as the other mammal species mentioned above; wilful harming of the animal should be avoided. Fox is also protected from a variety of hunting/extermination techniques as per the **Wildlife Acts 1976 to 2012**; and from acts of cruelty as per the **Animal Health and Welfare Act 2013**. Should a suspected Fox den be identified on-site, it is recommended that a professional ecologist be consulted regarding how best to proceed. This species is not assessed further in this report.

Brown Rat, Rabbit, Grey Squirrel and Mink are considered to be non-native invasive species and as such are not considered further in this report.

Bats

The results of the bat survey carried out on the 28th of April 2021 found *'an absence of bat activity onsite during the survey despite the ambient weather conditions on the night and found the site itself to be of Lower Importance for bats for the following reasons:*

- *No bats were recorded during the bat survey carried out in ambient weather conditions during the appropriate time of year.*
- *The site is well illuminated due to the fact it is a live retail site (likely to deter bats).*
- *The site lacks mature trees and therefore commuting and foraging routes to other more suitable habitats.*
- *All buildings occupying the site lacked roosting suitability for bats.'*

Birds

Limited bird species were recorded during the site visit on the 13th of May 2021. A total of ten species were identified within the vicinity of the site, predominantly associated with the boundary vegetation and the occasional flyover.

Fish

Atlantic Salmon (Salmo salar)

There are no NBDC records of this species in the 10km national grid squares O13 and O14 in which the site of the proposed development. No suitable habitat for this species is present at the site of the proposed

development, however, they may occur downstream in the Santry River.

Lamprey (Lampetra sp. & Petromyzon marinus)

It is highly unlikely that Sea Lamprey will be affected by the proposed development. The most important locations for Sea Lamprey in Ireland are the Lower Shannon, the River Suir in Clonmel, the River Nore in Kilkenny, the River Moy in Ballina and the River Corrib in Galway (Igoe et al., 2004). Sea Lamprey were recorded in the River Liffey at Island Bridge in 1906 (Igoe et al., 2004).

Although juvenile lamprey typically inhabit slow flowing, silty habitats within rivers (Kelly & King, 2001), adult lamprey require similar spawning habitats to salmonids (clean gravels) and may occur downstream within the Santry River. There are no records for any species of lamprey within the 10km grid squares associated with the site of the proposed development. No suitable habitat for these species was present at the site of the proposed development**.**

European eel (Anguilla anguilla)

There are no NBDC records of European Eel within the 2km grid squares O14Q and O13U and no suitable habitat for this species is present on the site of the proposed development.

Invertebrates

White-clawed Crayfish (Austropotamobius pallipes)

There are no records for this species within the 10km grid squares O14 and O13 which encompasses the site of the proposed development and no suitable habitat types are present within the site. It is noted that this species' range is somewhat restricted to the midlands of Ireland. As such this species is not assessed further.

Marsh Fritillary (Euphydryas aurinia)

The site does not contain wet grassland, a habitat often inhabited by this species, and the intensive management of the farmland surrounding the site i.e., as intensive grassland, would make the presence of Devil's bit scabious unlikely. As such, it is deemed that the site does not provided suitable habitat for Marsh Fritillary.

Other species and species groups

There are no records of common lizard Zootoca vivipara within the 10km grid squares O14 and O13. The habitat at the site of the proposed development is not considered suitable for this species and this species is not assessed further.

3.2.4 Potential Impacts

Taking the baseline ecological data, the extent, the scale and the characteristics of the proposed development into account, the following potential impacts have been identified:

- Hedgerow removal;
- Impacts on Surface Water;
- Earthworks ;

- Noise and vibration.

These potential impacts are discussed in the following paragraphs.

Hedgerow removal

The removal of hedgerows could result in the loss of habitat connectivity and potential breeding bird habitat. This would result in moderate local scale impacts to biodiversity, if unmitigated.

Impacts on Surface Water

The operational phase elements of the project will be consistent with the urban context of the site and therefore, there are no long terms sources for impacts to surface water. The construction phase elements of the project could interact with water quality and therefore a CEMP is required. Further details on the hydrological interactions are detailed in chapter 7.

Earthworks

The existing site is agricultural and amenity grassland and there are no habitats present on site that are of high ecological value. The earthworks proposed within the project description will not have effects beyond the site boundary. Furthermore, the CEMP contains measures to reduce potential impacts in this regard (see below).

Noise / Vibration

The construction phase and movement of heavy vehicles across the site could cause localised disturbance of breeding birds that may use the perimeter vegetation. Given the low levels of activity identified on site by birds impacts in this regard be very low. This would be expected to have a probable, short-term impact at a local level but there is likely to be an existing degree of habituation to regular traffic on the site so this impact may not be across the whole area. Bird species are particularly sensitive to disturbance effects due to increased noise and on-site activity. Full details of the noise pollution data can be found in chapter 9.

An assessment of the project detail outlined in Chapter 3 indicates the potential impacts to biodiversity are predominantly associated with construction phase works which are temporary. The site was found to have low ecological value following the CIEEM (2016) Ecological Impact Assessment Guidelines; informed by the results of both the desktop study and the field surveys. The operational phase elements of the project are thought to have negligible impacts given the low ecological value of the existing habitats. The potential operational phase activities are consistent with the existing land use of the receiving environment, the on-site land use is changing from agricultural to residential; residential impacts are low level and confined to the site boundary.

Potential Impacts on Designated Sites

The AA Screening Report sets out the likelihood and significance of any potential impacts on European designated sites. The report which accompanies the application concludes that there are no significant adverse effects foreseen to be likely to affect the ecological integrity of any European sites. These complete, precise and definitive findings, based on the best available scientific evidence, remove all reasonable scientific doubt that the proposed development will have any significant effect on the Natura 2000 sites detailed above. It is also noted that, no avoidance or preventative/mitigation measures have

been taken into account in this Appropriate Assessment Screening Report and its conclusions.

Construction Phase

Natura 2000 sites

The proposed development does not overlap or adjoin any Natura 2000 site. Potential impacts on Natura 2000 sites are considered in the Appropriate Assessment accompanying this planning application.

Proposed Natural Heritage Areas

Similar to the analysis for the Natura 2000 sites provided above, the proposed development does not overlap or adjoin any national sites for nature conservation. There is a potential hydrological connection between Santry Demesne pNHA, North Dublin Bay pNHA and the site via the Santry River as storm drains from the proposed development flow into the Santry River.

The potential for surface water generated at the site of the proposed development to reach North Dublin Bay pNHA and cause significant effects is negligible due to, the downstream distance (over 6 river km) and consequent potential for dilution in the Santry River and Dublin Bay. Any potential surface water containing sediments, silts and/or pollutants would become diluted to non-discernible levels.

There is either a significant intervening distance, marine buffer or no hydrological or alternative pathway between the site of the proposed development and the remaining pNHAs in the zone of influence. Therefore, significant impacts on these sites are ruled out.

Impacts to Habitats and Flora

As noted in the Arborists report, it is intended to retain the existing tree lines along the western and eastern boundary. These trees will be retained and protected in accordance with BS 5837:2012, with the root protection area (EPA) clearly outlined. As such, no significant impacts will occur to this habitat type during the Operational Phase of the proposed development.

Some sections of hedgerows along the site boundary will likely be cleared as part of the proposed development works. This habitat has the potential to be utilised by small mammal species such as pygmy shrew and hedgehog for foraging/nesting. Therefore, it is considered that the loss/damage to this habitat would represent a *negative, permanent, slight* impact in the absence of suitable mitigation.

Some sections of mosaics of Dry meadows and Grassy Verges (GS2) / Recolonising bare ground (ED3) will be lost along the boundary of the site as a result of the proposed works. These semi-natural habitats act as *'biodiversity islands'* for insect, pollinators, birds and small mammal species; and are relatively important in biodiversity poor areas. However, this type of habitat will re-establish quite quickly if allowed. Therefore, the loss of this habitat type represents a *negative, short-term, slight* impact.

Watercourses are highly sensitive to contamination with excess sediment, fuel and cementitious materials during the Construction Phase of developments. There is a potential hydrological connection between the site and a local waterbody as storm drains from the site will flow into the Santry River. In the absence of mitigation measures there is a potential *negative short-term, moderate* impact to the Santry River during the Construction Phase via surface water run-off containing silt and/or pollutants from the site to this waterbody.

Impacts on Fauna

Mammals excl. bats

The negative impacts to terrestrial mammals will be largely as a result of habitat loss and disturbance. No mammals were recorded within the proposed development site during the survey on the 13th of May 2021 although Hedgehog and Pygmy Shrew may use some of the more vegetated margins of the Site.

The proposed development could have a *negative, permanent, significant* impact at a local level on the aforementioned mammal species, if they are present, in the absence of mitigation/compensatory measures, through the removal of hedgerows within the site of the proposed development.

Noise and dust generated during the Construction Phase has the potential to cause *negative, short-term, moderate* impacts in the form of disturbance to mammals at a local level. Increased lighting at the site also has the potential to cause *negative, temporary, slight* disturbances to mammals in the locality.

Small mammal species such as Pygmy Shrew, and in particular Hedgehog, have the potential to become entangled in construction materials such as netting and plastic sheeting, as well as other waste materials, causing entrapment and injury or death. This constitutes a *negative, short-term, significant* risk at a local level associated with the Construction Phase of the proposed development in the absence of suitable mitigation.

There is potential for negative impacts on Otter in the Santry river during the Construction Phase of the proposed development due to potential surface water containing silt, sediments or pollutants entering local surface water drains. This could potentially impact the prey population for otter utilising the waterbody. This constitutes a *negative, short-term moderate* impact in the absence of suitable mitigation.

Bats

The building within the proposed development site was examined for the suitability of bat roosting during the bat survey in April 2021. The building on site does not provide suitable habitat for roosting bats. The impact of the loss of this habitat is therefore considered to be negligible.

The impact of the proposed development on roosting, foraging and commuting bats is therefore considered to be *negligible*.

Birds

A total of ten bird species were recorded with the site of the proposed development during the site visit on 13th of May 2021. Nine of these species are green-listed species, with one amber-listed species (Herring Gull) seen flying over the site and on the rooftop of an adjacent building. The proposed development will have no impact on Herring Gull.

Local birds are likely to adapt to a certain degree of urban ambient noise due to the location of the site, the Construction Phase of the proposed development will likely result in elevated noise levels associated with the demolition and construction works. As a result, there is a potential risk of noise disturbance to birds in the vicinity of the Site, representing a *negative, short-term, slight* impact in the absence of suitable mitigation.

The bird species recorded on site were all associated with the treelines and hedgerow along the boundary

of the Site. Should hedgerow vegetation be cleared from the site during the breeding bird season (March 1st to August 31st) there is the potential for nesting birds to be harmed and nests to be destroyed. This would be in contravention of the Wildlife Acts and Amendments (2000) which provides protection to breeding bird species and their nests and young.

Therefore, in the absence of any mitigation or precaution, this risk represents a potential *negative, permanent, significant* impact to breeding birds.

Fish

There is potential for negative impacts on fish in the Santry river during the Construction Phase of the proposed development due to potential surface water containing silt, sediments or pollutants entering local surface water drains. This constitutes a *negative, short-term moderate* impact in the absence of suitable mitigation.

Operational Phase

Natura 2000 sites

The proposed development does not overlap or adjoin any Natura 2000 site. Potential impacts on Natura 2000 sites are considered in the Appropriate Assessment accompanying this planning application.

Proposed Natural Heritage Areas

Negative impacts as a result of the Operational Phase of the proposed development to pNHAs are not anticipated due to the surface water management measures incorporated into the project design. Surface water run-off from the proposed development will be treated via on-site SuDS measures which will reduce the flow rate of surface water run-off and largely eliminate the risk of pollution of waterbodies arising from surface water run-off during the Operational Phase of the proposed development.

Impacts to Habitats and Flora

It is not envisaged that there will be any significant impacts to habitats at the site of the proposed development associated with the Operational Phase. Surface water from the proposed development will ultimately enter the Santry River via a network of storm sewers. There will be no significant impacts to the Santry river as a result of the Operational Phase of the proposed development due to the suite of SuDS measures on site which will reduce the flow rate of surface water run-off and largely eliminate the risk of pollution of waterbodies arising from the proposed development.

Impacts to Fauna

The overall habitat quality at the site will improve as a result of the proposed development due to the proposed landscaping and planting design, this will have a positive, permanent, significant impact on fauna utilising the area. It is proposed to use native species to create new hedgerows, treelines, meadows and gardens. This will potentially provide new foraging, nesting/roosting and commuting habitat at the site and have an overall Positive impact on local biodiversity.

Mammals excl. bats

There is potential for a negative, permanent, slight local impact through the increased lighting associated with the Operational Phase of the proposed development.

As negative impacts as a result of the Operational Phase of the proposed development on waterbodies are not anticipated, negative impacts on Otter as a result of water quality issues in the Santry River are not expected.

Bats

The overall impact on bat species due to the operational phase of the proposed development is considered to be negligible, once the general recommendations and specific lighting mitigation measures are implemented from Section 4.0 of the bat survey report.

Birds

No significant effects on bird species are anticipated to arise as a result of the operational phase of the proposed development.

Fish

As negative impacts as a result of the Operational Phase of the proposed development on waterbodies are not anticipated, negative impacts on fish as a result of water quality issues in the Santry River are not expected.

3.2.5 Mitigation

Waterbodies

The potential for surface water generated at the site of the proposed development to reach Dublin Bay and cause significant effects is negligible due to, the downstream distance (over 6 river km) and consequent potential for dilution in the Santry River and Dublin Bay. Any potential surface water containing sediments, silts and/or pollutants would become diluted to non-discernible levels.

General protection of water quality measures listed in section 5.6.1 of the EIAR will act to reduce the likelihood of any potential impact on aquatic species and water quality within the waterbodies in the immediate vicinity of the proposed development, specifically the Santry River, during the Construction Phase of the proposed development.

All wastewater generated on-site during the Construction Phase will be stored and disposed of appropriately by discharge to foul sewer or by tankering off site. Under no circumstances will any untreated wastewater generated onsite (from equipment washing, road sweeping etc.) be released into nearby drains or watercourses.

Habitats and Flora

It is considered that there will be some loss of Hedgerows (WL1) and mosaics of Recolonising bare ground (ED3) and Dry meadows and grassy verges (GS2). To compensate for the loss of natural habitats at the

site, tree and hedgerow planting consisting of native, pollinator friendly tree/shrub species will be carried out within and around the perimeter of the Site.

The planting of native flora will improve local biodiversity and increase insect abundance. This will provide additional foraging/roosting habitat for mammals and birds at the site and improve the biodiversity value of the site in comparison to its current state.

Tree planting and retention

The loss of the hedgerow vegetation from the site to facilitate the proposed development is to be mitigated against with the planting of new trees, shrubs and hedge planting within the completed landscaped development. Tree planting will consist of native tree species such as Oak, Alder, Downy Birch and hazel where possible. The current treeline along the western and eastern boundary will also be protected and retained. It is concluded that the proposed development will thus have a positive impact on the habitat make-up at the site, and therefore no additional mitigation is necessary.

General mitigation measures for all fauna will see the reduction of noise impacts and dust related impacts on site.

Hedgehog and Pygmy Shrew

As noted in the British Hedgehog Preservation Society's publication Hedgehogs and development, during the Construction Phase of the proposed development Hedgehogs have the potential to be significantly impacted through the loss of suitable hibernation and nest sites in the form of piles of dead wood, vegetation and leaves. This can be mitigated through the careful removal of any dead wood/leaves on site to another part of the site where they will not be affected. Woody debris from the proposed clearance of vegetative areas on site can also be left in this out-of-the way location as compensatory Hedgehog habitat during the Construction Phase.

Hedgehog and Pygmy Shrew have the potential to be impacted locally by the proposed development through the loss of a small quantity of suitable hedgerow habitat across the site during the Construction Phase. The potential habitat for hedgehog and pygmy shrew on site is small in scale and restricted by the current buildings and hard standing areas. The landscape design for the proposed development includes the planting of meadows, hedgerows, treelines, groundcover and herbaceous planting. This will create a significant increase in habitats with biodiversity potential within the site boundary and result in an overall improvement in terms of habitat potential for the aforementioned species.

As best-practice, all construction-related rubbish on site e.g., plastic sheeting, netting etc. should be kept in a designated area on site and kept off ground level so as to protect Hedgehogs from entrapment and death. The above measures will also act to mitigate potential negative impacts on other small mammal species potentially found on site e.g., Pygmy Shrew.

Bats

There was no bat activity onsite during the survey in April 2021 despite the ambient weather conditions on the night, no trees with bat potential were identified on site. Although this site is not considered of importance to Bats, due to the proximity of Santry Demesne park north of the site there is some small potential for bats to utilise the site. Hedgerows and treelines form a major component for the commuting routes for bats as well as important feeding sites. The treeline along the western and eastern boundary of the site will remain intact, the hedgerow along the site boundary will likely be removed due to the

proposed works.

Birds

Any clearance of vegetation should be carried out outside the main breeding season, i.e., 1st March to 31st August, in compliance with the Wildlife Act 2000. Should any vegetation removal be required during this period, this vegetation should be checked for birds, and if any are noted during this evaluation prior to removal, a derogation licence is required from the NPWS. This would note the section of habitat that is a nest site, the precise location within the hedgerow/trees, the species of bird present; and also elaborate the means by which the birds would be protected prior to nest removal. If eggs have been laid, the nest should be protected until the young have fledged after which time the nest could be de-stroyed (under licence from the NPWS only). This would also require further compensatory measures including nesting sites for birds if practicable.

Fish

The mitigation measures outlined above will serve to protect fish present in the Santry River downstream of the proposed development.

Timing of vegetation clearance

The preferred period for vegetation clearance is within the months of September and October. Vegetation should be removed in sections working in a consisted direction to prevent entrapment of protected fauna potentially present (e.g., Hedgehog). Vegetation clearance should take place under the supervision of an ecologist to avoid any potential impact on bats, breeding birds or mammals. Where this seasonal restriction cannot be observed, a check for active roosts and nests will be carried out immediately prior to any site clearance by an appropriately qualified ecologist / ornithologist and repeated as required to ensure compliance with legislative requirements.

Biosecurity

The following will be adhered to, to avoid the introduction of invasive species to the proposed development site.

- Any material required on the site will be sourced from a stock that has been screened for the presence of any invasive species by a suitably qualified ecologist and where it is confirmed that none are present.

- All machinery will be thoroughly cleaned and disinfected prior to arrival on site to prevent the spread of invasive species.

Non-native Species

Although not considered to be '*high impact'* invasive species or listed under regulation S.I. 477, the non-native species recorded at the Site, Butterfly-bush Buddleja davidii, Sycamore Acer pseudoplatanus saplings and Cotoneaster Cotoneaster spp. should be controlled/removed as per the appropriate best-practive guidelines and under the supervision of an appropriate qualified invasive species professional. Removal and disposal should be carried out in accordance with appropriate guidelines such as TII (formerly NRA) Guidelines on The Management of Noxious Weeds and Non-Native Invasive Plant

Species on National Roads (2010), with consideration given to the prevention of spread of these plants.

Habitats and Flora

Soft landscaping will be managed in such a way as to promote pollinators (e.g., pollinator friendly mowing regime, planting of native wildflower meadows and native tree species).

As noted in the arborists report, the trees along the site boundary will be retained and protected in accordance with BS 5837:2012.

Fauna

Bats

It was noted by the bat ecologist during the survey in April 2021 that the existing baseline lighting conditions at the site are well illuminated after dusk, as expected no bat activity was detected during the survey despite ambient weather conditions and the appropriate time of year. According to the public lighting layout drawing for the proposed development, most of the light spill is generated from the existing luminaires along Santry Avenue.

The bat survey concluded that the building on the site (one block) were deemed Negligible for bat roost suitability. However, as a measure to increase Biodiversity on site, it is recommended to install a series of 5+ bat boxes on trees around the site during the operational phase to provide future roosting opportunities for bats. The type recommended is the 2F Schwegler Bat Box.

3.3 Land, Soil and Geology

This chapter was prepared by Laura McLoughlin, Senior Civil Engineer, B.Eng, C.Eng. and Daniel Hodnett, Graduate Civil Engineer, B.Eng. of DBFL Consulting Engineers of DBFL Consulting Engineers and comprises of an assessment of the likely impact of the proposed development on the soils and the geological environment, as well as identifying proposed mitigation measures required to minimise any impacts.

3.3.1 Potential Construction and Operational Phase Impacts

It is anticipated that the main construction activity impacting soils and geology will comprise the following:

Excavation of existing subsoil layers will be required in order to allow for basement excavation, drainage and utility installation and provision of underground attenuation of surface water. Underlying subsoil layers are expected to be generally suitable for reuse as non-structural fill.

In the context of materials imported to site, these will be natural stones sourced from locally available quarries in accordance with the appropriate statutory guidelines, greenfield/inert soil imported under a Waste Permit issued by the local authority; or materials that have been approved as by-products by the EPA in accordance with the EPA's criteria for determining a material is a by-product, per the provisions of article 27(1) of the European Communities (Waste Directive) Regulations, 2011.

Imported materials will be granular in nature and used in the construction of road pavement foundations, drainage and utility bedding and surrounds. Imported fill may be required to raise the development to the required level for drainage.

Materials will be brought to site and placed in their final position in the shortest possible time. Any imported material will be kept separate from the indigenous arisings from the site. All excavation to accommodate imported material will be precisely co-ordinated to ensure no surplus material is brought to site beyond the engineering requirement.

During the construction phase there is a risk of accidental pollution from the sources noted below. Accidental spills and leaks may result in contamination of the soils underlying the site.

- Storage of oils and fuels on site
- Oils and fuels leaking from construction machinery
- Spillage during refuelling and maintenance of construction machinery
- Use of cement and concrete during construction works

Groundwater vulnerability is mapped as *'low'* by the GSI at the proposed site. This vulnerability will likely be temporarily increased due to the removal of soils, subsoils and made ground cover during construction**.** Therefore, accidental spillages may have potential to impact on the *'locally important'* aquifer.

Any excavations associated with development of the site are expected to be moderate. The drainage infrastructure will require excavations of approximately 2.0m on average with 3.0m in the deepest sections. A basement is proposed for under blocks Blocks A, B, C, D, E & F and expected to be in the region of approximately 3m. It is possible that underlying geology may be disturbed in areas of deep excavation, this will be verified by site investigation works following the receipt of planning permission.

Once the construction stage is complete and the development is in-situ and operational, the geology beneath the proposed site will remain unchanged. Subsoil will either be covered by surface hardstanding, building footprint or landscaped areas.

There will be no direct discharges to soil or groundwater during the operational phase of the proposed development. Foul effluent and surface water will be discharged to the Irish Water sewer and Dublin City Council surface water drainage network following the required treatment measures.

There will be no significant storage or use of hazardous materials during the operational phase that could adversely impact subsoil, groundwater or surface water in the vicinity of the site. Accidental losses of oil, petrol or diesel on roadways or in car parks could cause contamination if these elements entered the underlying soil and groundwater. However, the presence of surface hardstanding throughout these areas would render this unlikely. In addition, all surface water will be routed through a suitably sized petrol interceptor before entering the public surface water network.

In the absence of mitigation measures, should accidental losses of oil, diesel, or petrol to ground occur, they would be considered direct, negative impacts of temporary duration, given that they would be confined to one-off releases. This would be considered a medium impact to a medium sensitivity environment, and the significance of the impact would be moderate.

3.3.2 Mitigation Measures

During demolition of existing structures any hazardous material identified on site will be removed by specialist contractors.

Excavation of existing subsoil layers has been minimised as far as reasonably practicable. Cut type earthworks operations will not be required to achieve designed site levels, however some cut type earthworks will be required to construct the basements and attenuation system. Cut material is considered likely to be suitable to be reused as non-structural fill elsewhere on site.

Disturbed subsoil layers will be stabilized as soon as practicable (e.g. backfill of service trenches, construction of road capping layers, construction of building foundations and completion of landscaping). The duration that subsoil layers are exposed is to be minimised in order to mitigate against weather effects.

Stockpiles of excavated subsoil material will be protected for the duration of the works.

Measures will be implemented to capture and treat sediment laden surface water runoff (e.g. sediment retention ponds, surface water inlet protection).

With regards to the importation of fill to site the source of aggregate, fill material and topsoil imported to site will be carefully selected and vetted in order to ensure that it is of a reputable origin and that it is *"clean"* (i.e. will not contaminate the environment). Project contract and procurement procedures will be developed to ensure that aggregate, fill material and topsoil are acquired from reputable sources with suitable environmental management systems as well as regulatory and legal compliance.

No large or long-term stockpiles of fill material will be held on the site. At any time, the extent of fill material held on site will be limited to that needed in the immediate vicinity of the active work area.

Smaller stockpiles of fill, where required, will be suitably protected to ensure no sediment laden runoff enters existing surface water drains. Such stockpiles are to be located in order to avoid double handling.

A construction traffic management plan will be developed and implemented in order to minimise the disturbance caused by large vehicles. This management plan shall include and detail:

- Predetermined haul routes for earthworks plant and vehicles delivering construction materials to site.
- Vehicle wheel wash facilities in the vicinity of any site entrances and road sweeping to maintain the road network in the immediate vicinity of the site.
- Dust suppression measures (e.g. dampening down)

Due to the presence of a locally important aquifer beneath the site, it will be necessary to employ mitigation measures at the construction site in order to prevent spillages to ground of fuels, and to prevent consequent soil or groundwater quality impacts. These measures are outlined in the Construction & Environmental Management Plan (CEMP) and are listed here as follows:

- Over Ground Oil / Diesel Storage – Only approved storage system for oil / diesel within the site will be permitted.
- The bunded area will accommodate the relevant oil / diesel storage capacity in case of accidental spillage. Any accidental spillages will be dealt with immediately on site however minor by containment /removal from site;
- All hazardous substances on-site shall be controlled within enclosed storage compounds that shall be fenced-off and locked when not in use to prevent theft and vandalism;
- Fixed plant shall be self-bunded; mobile plant must be in good working order, kept clean, fitted with drip trays where appropriate and subject to regular inspection; water runoff from designated

refuelling areas shall be channelled to an oil-water separator, or an alternative treatment system, prior to discharge; and,

- Spill kits and oil absorbent material shall be carried with mobile plant and located at vulnerable locations around the site to reduce risk of spillages entering the sub-surface or groundwater environment; booms shall be held on-site for works near drains or dewatering points.

No mitigation measures are proposed in relation to the geological environment.

Upon completion of the construction phase all temporary construction compounds are to be removed. Such areas are to be reinstated in accordance with the landscape architects plan and engineer's drawings. All construction waste and/or scrapped building materials are to be removed from site on completion of the construction phase.

Oil, fuel etc. storage areas are to be decommissioned on completion of the construction phase. Any remaining liquids are to be removed from site and disposed of at an appropriate licenced facility. All sediment control measures (e.g. sediment retention ponds) are to be decommissioned on completion of the construction phase. Such areas are to be reinstated in accordance with the landscape architects plan and engineer's drawings.

The operational phase of the development is unlikely to have any significant adverse impacts on the local geological/hydrogeological environment due to the environmental considerations incorporated into the design. These measures will seek to avoid or minimise potential effects, in the main, through the implementation of best practice construction methods and adherence to all relevant legislation.

3.4 Water

Chapter 7 the EIAR was drafted by by Laura McLoughlin, Senior Civil Engineer, B.Eng, C.Eng. and Daniel Hodnett, Graduate Civil Engineer, B.Eng. of DBFL Consulting Engineers of DBFL Consulting, Engineers and comprises of an assessment of the likely impact of the proposed development on the surrounding hydrogeological environments (including flood risk, surface water drainage, foul drainage and water supply), as well as identifying proposed mitigation measures to minimize any impacts.

The Geological Survey Ireland (GSI) Online Data Services classifies the aquifer at the subject site as *"Locally Important Aquifer – Bedrock which is Generally Moderately Productive in Local Zones".* There is also a gravel aquifer overlaying the bedrock, which is classified as "*Locally important gravel aquifer".*

GSI classifies the site's groundwater vulnerability as low across the site.

The primary hydrological feature in the vicinity of the site is the Santry River (approx. 700m south of the site). Excavations of the basement of the neighbouring development to depts of 4m encountered no ground water.

The site slopes from south-west to north-east towards Santry Avenue at a gradient of approximately 1 in 150.

A Site Specific Flood Risk Assessment of the proposed development has been carried out by DBFL Consulting Engineers and is submitted as a separate document to the EIAR, however, it confirms that it was determined that the site is within Flood Zone C as defined by the Guidelines and based on the ECFRAMS mapping. Therefore, the development of housing on the subject site is appropriate for the site's

flood zone category and a justification test as outlined in the Guidelines is not required and that it is considered that the flood risk mitigation measures once fully implemented are sufficient to provide a suitable level of protection to the proposed development and will not cause an increased risk of flooding to external properties.

3.4.1 Potential Construction and Operational Phase Impacts

Potential impacts that may arise during the construction phase are noted below:

- Surface water runoff during the construction phase may contain increased silt levels (e.g. runoff across areas stripped of hardstanding) or become polluted by construction activities.
- Discharge of rainwater pumped from excavations may also contain increased silt levels (potential impact on existing hydrology e.g. discharge to existing open drain).
- Accidental spills and leaks associated with storage of oils and fuels, leaks from construction machinery and spillage during refuelling and maintenance contaminating the surrounding surface water and hydrogeological environments.
- Concrete runoff, particularly discharge of wash water from concrete trucks (potential impact on existing hydrology e.g. infiltration to ground).
- Discharge of vehicle wheel wash water (potential impact on existing hydrology e.g. discharge to existing surface water drainage infrastructure).
- Improper discharge of foul drainage from contractor's compound (impact on existing hydrology e.g. cross-contamination of existing surface water drainage.).
- Cross contamination of potable water supply to construction compound.

Potential operational phase impacts are noted below:

- Accidental hydrocarbon leaks and subsequent discharge into piped surface water drainage network (e.g. along roads and in driveway areas).
- Increased impermeable surface area will reduce local ground water recharge and potentially increase surface water runoff (if not attenuated to greenfield runoff rate).
- Increased discharge to foul drainage network (Daily Foul Discharge Volume = approx. 955m³)
- Increased potable water consumption (Average Daily Domestic Demand = approx. 144.6m³)

Implementation of the mitigation measures described will prevent and minimize the potential impacts of this interaction.

3.4.2 Mitigation Measures

The following measures are proposed during the construction phase to mitigate against risks to the surrounding hydrological environment.

- A site-specific Construction Management Plan will be developed and implemented during the construction phase. Site inductions will include reference to the procedures and best practice as outlined in the Construction Management Plan.
- Rainwater pumped from excavations is to be directed to on-site settlement ponds.
- Surface water runoff from areas stripped of hardstanding and surface water collected in excavations will be directed to on-site settlement ponds where measures will be implemented to capture and treat sediment laden runoff prior to discharge of surface water at a controlled rate.
- Weather conditions and seasonal weather variations will also be taken account of when planning

stripping the site and excavations, with an objective of minimizing soil erosion.

- In order to mitigate against spillages contaminating the surrounding surface water and hydrogeological environments, all oils, fuels, paints and other chemicals shall be stored in a secure bunded hardstand area. Refuelling and servicing of construction machinery will take place in a designated hardstand area which is also remote from any surface water inlets (where not possible to carry out such activities off site).
- Concrete batching will take place off site and wash out of concrete trucks will take place off site (at authorized concrete batching plant in full compliance with relevant planning and environmental consents).
- Discharge from any vehicle wheel wash areas is to be directed to on-site settlement ponds.
- Any groundwater pumped from excavations is to be directed to on-site settlement ponds.
- It is proposed to implement a programme for monitoring water quality at the outfall as part of the construction of this development, in agreement with the Planning Authority.
- The construction compound will include adequate staff welfare facilities including foul drainage and potable water supply. Foul drainage discharge from the construction compound will be tankered off site to a licensed facility until a connection to the public foul drainage network has been established.
- The construction compound's potable water supply shall be protected from contamination by any construction activities or materials.

For the operational phase of the proposed development, the design of proposed site levels (roads, plaza, finished floor levels etc.) has been carried out in such a way as to replicate existing surface contours, break lines etc. as closely as reasonably practicable and avoid concentrating additional surface water flow in any particular location. However, some localised areas have been raised in order to enable gravity foul drainage and provide sufficient depth of cover. In these areas the levels have been designed to provide overland flow paths have been designed to ensure that during exceedance events, runoff is directed away from buildings to soft landscaped areas.

Following the Site Specific Flood Risk Assessment, it has been determined that the entire site / zoned developable area is located in Flood Zone C as defined by the Guidelines (i.e. proposed development is considered to have the required level of flood protection up to and including the 1% AEP flood event.)

Surface water runoff from the site will be attenuated to the greenfield runoff rate as outlined in the Greater Dublin Strategic Drainage Study (GDSDS). Surface water discharge rates will be controlled by a Hydrobrake type vortex flow control device in conjunction with attenuation storage.

The following methodologies are being implemented as part of a SuDS surface water treatment train approach:

- Permeable paving along carriageways and parking areas.
- Greenroofs, both intensive and extensive.
- Catchpit manholes.
- Installation of hydrobrake limiting surface water discharge from the site to combined greenfield runoff rates.
- Surface water discharge to pass via a Class 1 bypass fuel / oil separator (sized in accordance with permitted discharge from the site).

A contract will be entered into with a suitably qualified contractor for maintenance of the attenuation system, Hydrobrake and by-pass fuel / oil separator noted above.

No specific mitigation measures are proposed in relation to foul drainage however, all new foul drainage lines will be designed, installed and tested in accordance with Irish Water Code of Practice.

No specific mitigation measures are proposed in relation to water supply. However, all new watermain will be designed, installed and tested in accordance with the Irish Water Code of Practice.

The potential impact of climate change has been allowed for as follows;

- Pluvial flood risk - attenuation storage design allows for a 20% increase in rainfall intensities, as recommended by the GDSDS.
- Pluvial flood risk - drainage system design allows for a 20% increase in flows, as recommended by the GDSDS.

3.5 Air Quality & Climate

Chapter 8 of the EIAR was prepared by AWN Consulting Ltd. This chapter was completed by Niamh Nolan, an environmental consultant in the air quality section of AWN Consulting Ltd. She holds a BSocSci (Hons).

The assessment includes a description of the existing air quality in the vicinity of the subject site, a description and assessment of how construction activities and the operation of the development may impact existing air quality, the mitigation measures that will be implemented to control and minimise the impact that the development may have on local ambient air quality and finally to demonstrate how the development shall be constructed and operated in an environmentally sustainable manner.

3.5.1 Potential Construction and Operational Phase Impacts

In terms of "*Air Quality*", the construction phase of the development has the potential to generate short term intermittent fugitive dust emissions during ground preparation and enabling works, however, these emissions will be controlled by appropriate mitigation techniques and through the implementation of a construction phase air quality management and monitoring plan throughout the duration of the construction phase.

The operational phase of the proposed development will result in a slight impact on local air quality primarily as a result of the requirements of new buildings to be heated and with the increased traffic movements associated with the development.

Best practice mitigation measures are proposed for the construction phase of the proposed development which will focus on the pro-active control of dust and other air pollutants to minimise generation of emissions at source. The mitigation measures that will be put in place during construction of the proposed development will ensure that the impact of the development complies with all EU ambient air quality legislative limit values which are based on the protection of human health. Therefore, the impact of construction of the proposed development is likely to be negative, short-term and imperceptible with respect to human health.

In terms of "*Climate*", there is the potential for a number of greenhouse gas emissions to atmosphere during the construction of the development. Construction vehicles, generators etc., may give rise to CO_2 and N_2O emissions. The Institute of Air Quality Management document "*Guidance on the Assessment of Dust from Demolition and Construction"* (IAQM, 2014) states that site traffic and plant is unlikely to make a significant impact on climate. Therefore, the impact on climate is considered to be imperceptible, neutral and short

term.

3.5.2 Mitigation Measures

The proposed mitigation measures in relation to Air Quality are:

- Prior to demolition blocks should be soft striped inside buildings (retaining walls and windows in the rest of the building where possible, to provide a screen against dust).
- During the demolition process, water suppression should be used, preferably with a hand-held spray. Only the use of cutting, grinding or sawing equipment fitted or used in conjunction with a suitable dust suppression technique such as water sprays/local extraction should be used.
- Drop heights from conveyors, loading shovels, hoppers and other loading equipment should be minimised, if necessary fine water sprays should be employed.
- Hard surface roads will be swept to remove mud and aggregate materials from their surface while any un-surfaced roads will be restricted to essential site traffic.
- Any road that has the potential to give rise to fugitive dust will be regularly watered, as appropriate, during dry and/or windy conditions.
- Vehicles exiting the site shall make use of a wheel wash facility where appropriate, prior to entering onto public roads.
- Vehicles using site roads will have their speed restricted, and this speed restriction will be enforced rigidly. On any un-surfaced site road, this will be 20 kph, and on hard surfaced roads as site management dictates.
- Public roads and footpaths outside the site will be regularly inspected for cleanliness and cleaned as necessary. If sweeping using a road sweeper is not possible due to the nature of the surrounding area then a suitable smaller scale street cleaning vacuum will be used.
- Material handling systems and site stockpiling of materials will be designed and laid out to minimise exposure to wind. Water misting or sprays will be used as required if particularly dusty activities are necessary during dry or windy periods.
- During movement of materials both on and off-site, trucks will be stringently covered with tarpaulin at all times. Before entrance onto public roads, trucks will be adequately inspected to ensure no potential for dust emissions.
- Hoarding or screens shall be erected around works areas to reduce visual impact. This will also have an added benefit of preventing larger particles of dust from travelling off-site and impacting receptors.

At all times, these procedures will be strictly monitored and assessed. In the event of dust nuisance occurring outside the site boundary, movements of materials likely to raise dust would be curtailed and satisfactory procedures implemented to rectify the problem before the resumption of construction operations.

The proposed mitigation measures in relation to Climate are:

Construction stage traffic and embodied energy of construction materials are expected to be the dominant source of greenhouse gas emissions as a result of the construction phase of the development. Construction vehicles, generators etc., may give rise to some CO_2 and N_2O emissions. However, due to short-term nature of these works, the impact on climate will not be significant.

Nevertheless, some site-specific mitigation measures can be implemented during the construction phase of the proposed development to ensure emissions are reduced further. In particular the prevention of on-

site or delivery vehicles from leaving engines idling, even over short periods. Minimising waste of materials due to poor timing or over ordering on site will aid to minimise the embodied carbon footprint of the site.

3.6 Noise

Chapter 9 of the EIAR provides an assessment of the likely noise and vibration impacts associated with the proposed development, and has been undertaken by Donal Heavey of by AWN Consulting Ltd.

Baseline noise monitoring has been undertaken across the development site to determine the range of noise levels at varying locations across the site.

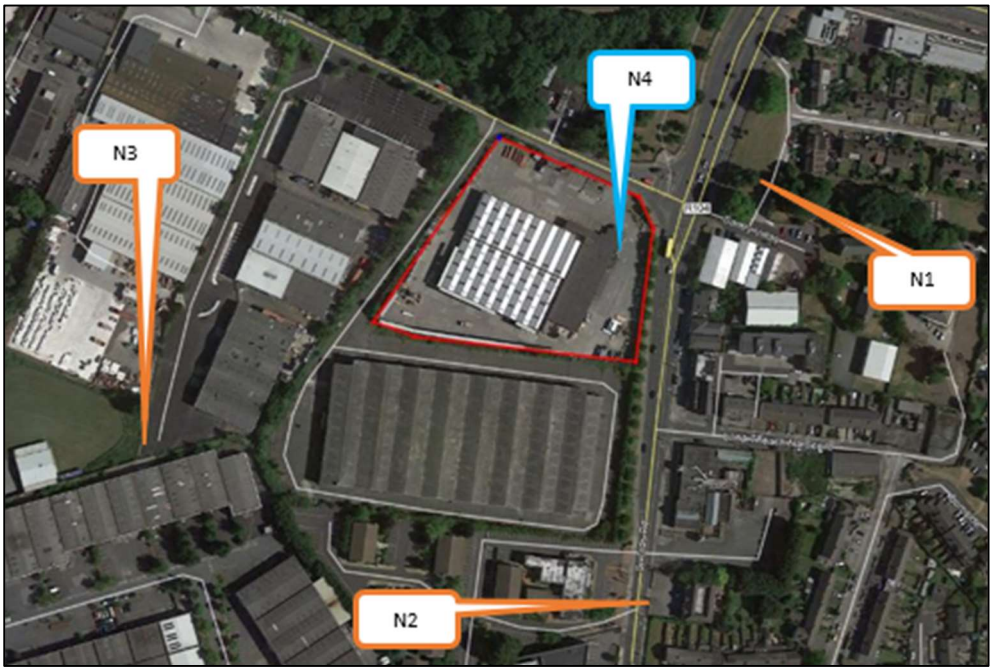

Figure 3 - Noise Survey Locations

At location 1, the primary noise sources were observed to be vehicles passing on the Swords Road, occasional local traffic within the residential estate, distant construction noise and aircraft noise. Traffic noise from junctions with Santry Avenue and the R104 also contributed to measured noise levels. Ambient noise levels were in the range of 56 to 58 dB L_{Aeq}. Background noise levels were in the range of 52 to 54 dB L_{A90}.

At location 2, the primary noise sources were observed to be traffic noise on the Swords Road, movements within the carpark of the commercial park. Construction noise from adjacent sites and passing pedestrian activity also contributed to measured levels to vary degrees. Ambient noise levels were of the order of 69 dB L_{Aeq}. The elevated max level of 95 dB was caused by a passing pedestrian talking loudly in close proximity to the microphone. Background noise levels were in the range of 59 to 60 dB L_{A90}.

At location 3, the primary noise sources were observed to be from distant vehicle movements along Santry Avenue and the Swords Road, as well as distant construction. Aircraft, birdsong and birdcall were also noted to be contributing to measured noise levels. Ambient noise levels were in the range of 51 to 57 dB L_{Aeq}. Background noise levels were in the range of 46 to 47 dB L_{A90}.

At location 4, On installation and collection at this location the primary noise sources were observed to be traffic noise on Swords Road and Santry Avenue. Activities relating to the day-to-day operation of a commercial trade business currently in operation on the site also contributed to daytime measured noise. Daytime ambient noise levels ranged from 60 to 63 dB L_{Aeq} with an average of 62 dB L_{Aeq}. Daytime background noise levels ranged from 52 to 57 dB L_{A90} with an average of 55 dB L_{A90}.

Night-time ambient noise levels ranged from 55 to 57 dB L_{Aeq} with an average of 56 dB L_{Aeq}. Night-time background noise levels ranged from 44 to 48 dB L_{A90} with an average of 45 dB L_{A90}. Night-time maximum noise levels were in the range of 75 to 90 dB L_{Aeq} with an average of 80 dB.

In addition, the L_{AFmax} values were measured over 15-minute intervals over the duration of the unattended monitoring survey. On review of the maximum noise levels the value of 74 dB L_{AFmax} is not regularly exceeded on a given night (less than 10 events).

3.6.1 Potential Construction and Operational Phase Impacts

At construction stage, the assessment finds that it is inevitable with any project of this nature that some disturbance would be caused to those living and working nearby during the works should appropriate mitigation not be employed. However, disruption due to construction is a localised phenomenon and is temporary and intermittent in nature.

During the construction phase of the proposed development, a variety of items of plant will be in use, such as excavators, dumper trucks, compressors and generators. AWN has been advised that initial site investigations indicate that it is not anticipated that piling will be required during the construction of building foundations.

Due to the nature of daytime activities undertaken on a construction site of this nature, there is potential for generation of significant levels of noise. The flow of vehicular traffic to and from a construction site is also a potential source of relatively high noise levels.

The calculations set out in Chapter 9: Noise of the EIAR Volume II assume that the equipment will operate for 66% of the 12-hour working day (i.e. 8 hours) and that a standard site hoarding, typically 2.4m height will be erected around the perimeter of the construction site for the duration of works. It is assumed that construction works will take place during normal working hours only.

During demolition and ground-breaking in the excavation phase, there is potential for vibration to propagate through the ground. Empirical data for this activity is not provided in the BS 5228- 2:2009+A1:2014 standard, however the likely levels of vibration from this activity is expected to be below the vibration threshold for building damage on experience from other sites.

It is anticipated that excavations will be made using standard excavation machinery, which typically do not generate appreciable levels of vibration close to the source. Taking this into account and considering the distance that these properties are from the works and the attenuation of vibration levels over distance, the resultant vibration levels are expected to be well below a level that would cause disturbance to building

occupants or even be perceptible.

During the operational phase, the selection of building services plant to be used will ensure that noise levels comply with the criteria described in Section 9.2.3.1 of chapter 9. It is acknowledged that the selection of the specific plant items is subject to change during the detailed design stage, and this is normal industry practice. However, noise from any new plant items will be designed and/or controlled so as not to give rise to any adverse effects at the nearest noise sensitive locations.

During the operational phase of the proposed development, there will be an increase in vehicular traffic associated with the site on some surrounding roads.

A traffic impact assessment relating to the proposed development has been prepared by DBFL Consulting Engineers, as part of this EIAR. Using this information, the related noise impacts along the relevant road links has been assessed.

It is inevitable with any project of this nature that some disturbance would be caused to those living and working nearby during the works should appropriate mitigation not be employed. However, disruption due to construction is a localised phenomenon and is temporary and intermittent in nature.

3.6.2 Mitigation Measures

Construction Phase:

The contract documents will clearly specify the construction noise criteria included in this chapter which the construction works must operate within. The Contractor undertaking the construction of the works will be obliged to take specific noise abatement measures and comply with the recommendations of BS 5228-1:2009+A1:2014 *Code of Practice for Noise and Vibration Control on Construction and Open Sites – Noise* and the *European Communities (Noise Emission by Equipment for Use Outdoors) Regulations, 2001*. These measures will ensure that: -

- No plant used on site will be permitted to cause an ongoing public nuisance due to noise.
- The best means practicable, including proper maintenance of plant, will be employed to minimise the noise produced by on site operations.
- All vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of the contract.
- Compressors will be attenuated models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers.
- Machinery that is used intermittently will be shut down or throttled back to a minimum during periods when not in use;
- Any plant, such as generators or pumps that is required to operate outside of normal permitted working hours will be surrounded by an acoustic enclosure or portable screen.

Noise control measures that will be considered include the selection of quiet plant, enclosures and screens around noise sources, limiting the hours of work and noise and vibration monitoring, where required.

Operational Phase:

During the operational phase of the development, noise mitigation measures with respect to the outward

impact of traffic from the development are not deemed necessary.

Taking into account that sensitive receivers within the development are much closer than off-site sensitive receivers, once the relevant noise criteria is achieved within the development it is expected that there will be no negative impact at sensitive receivers off site, and therefore no further mitigation required.

With regards to inward noise, as is the case in most buildings, the glazed elements and ventilation paths of the building envelope are typically the weakest element from a sound insulation perspective. In general, all wall constructions (i.e. block work or concrete and spandrel elements) offer a high degree of sound insulation, much greater than that offered by the glazing systems. Therefore, noise intrusion via the wall construction will be minimal.
It is important to note that the acoustic performance specifications detailed herein are minimum requirements which apply to the overall glazing and ventilation systems. In the context of the acoustic performance specification the *'glazing system'* is understood to include any and all of the component parts that form part of the glazing element of the façade, i.e. glass, frames, seals, openable elements etc.

The assessment has demonstrated that the recommended internal noise criteria can be achieved through consideration of the proposed façade elements at the design stage. The calculated glazing and ventilation specifications are preliminary and are intended to form the basis for noise mitigation at the detailed design stage. Consequently, these may be subject to change as the project progresses.

3.7 Material Assets: Built Services

This chapter of the EIAR was prepared by Laura McLoughlin, Senior Civil Engineer, B.Eng, C.Eng. and Daniel Hodnett, Graduate Civil Engineer, B.Eng. of DBFL Consulting Engineers and assesses and evaluates the likely impact of the proposed development on existing surface water and foul drainage, and utility services in the vicinity of the site during both the construction and operational phases, as well as identifying the nature of any impacts and provide the necessary mitigation measures arising from the proposed development. The material assets considered in this chapter include Surface Water Drainage, Foul Drainage, Water Supply, Power, Gas and Telecommunications.

3.7.1 Potential Construction and Operational Phase Impacts

Construction Phase

Power and water will be required during construction activities and servicing of the temporary site compound. The development site will be connected to the local electricity network system and mains water supply. Given the scale and transient nature of construction works, the power and water demand on the local electricity and mains water systems would not be considered significant and would not be anticipated to impact upon local power or water supply.

Telecommunications requirements during the construction phase will be provided using mobile phones / broadband. There would be no anticipated impacts to the local telecommunications system. Foul water from staff welfare facilities generated during the construction phase will be collected on site in designated waste holding containers / port-a-loo units and emptied on a regular basis by a licenced waste contractor.

The installation of the utilities for the development will be conducted in parallel with the other services. This will mainly involve excavation of trenches to lay ducting, construction/installation of access chambers and

backfilling of trenching. The trenching and backfilling works will be carried out in conjunction with the construction of the roads and footpaths throughout the scheme.

Connecting to ESB cable routes may lead to loss of connectivity to and / or interruption of the supply from the electrical grid to the surrounding areas. Any loss of supply will be managed by ESB Networks to minimise impact on neighbouring properties.

There may be a potential loss of connection to the Gas Networks Ireland infrastructure while carrying out works to provide service connections. This likely adverse impact may be characterised as a temporary, regionally short term, moderate impact.

Again, there may be potential loss of connection to the telecommunications infrastructure while carrying out works to provide service connections. This likely adverse impact may be characterised as a temporary, regionally short term, moderate impact. The site compound will require a power and telecommunications connection. This likely adverse impact will be temporary and negligible.

Operational Phase

Potential operational phase impacts on the water infrastructure are noted below:

- Accidental hydrocarbon leaks and subsequent discharge into piped surface water drainage network (e.g. along roads and in hardstanding areas);
- Increased impermeable surface area will reduce local ground water recharge and potentially increase surface water runoff (if not attenuated to greenfield runoff rate);
- Increased discharge to foul drainage network (Daily Foul Discharge Volume = approx. 955m³);
- Increased potable water consumption (Average Daily Domestic Demand = approx. 144.6m³).

Implementation of the mitigation measures described in this report will prevent and minimize the potential impacts of this interaction.

3.7.2 Mitigation Measures

Mitigation measures proposed in relation to the drainage and water infrastructure include the following:

A detailed "*Construction Management Plan"* will be developed and implemented during the construction phase. Site inductions will include reference to the procedures and best practices as outlined in the *"Construction Management Plan".*

The construction works contractor shall liaise with the relevant utility providers prior to works commencing, with on-going consultation throughout the proposed development. Where new services are required, the construction works contractor shall apply to the relevant utility provider and adhere to the requirements outlined in the connection permit / licence.

The Contractor will be obliged to put measures in place to ensure that there are no interruptions to existing services unless this has been agreed in advance with the relevant service provider.

All works in the vicinity of utilities apparatus will be carried out in ongoing consultation with the relevant utility company or local authority and will be in compliance with any requirements or guidelines they may have.

Where new services or diversions to existing services are proposed, the Contractor will apply to the relevant utility company for a connection permit, where appropriate, and will adhere to their requirements. Where possible, backup network supply to any services will be provided should the need for relocation or diversion or existing services be required. Otherwise, relocation or diversion works will be planned to incur minimal impact, with users notified in advance of any works.

Connections to the utility networks will be coordinated with the relevant utility provider and carried out by approved contractors.

For the operational stage of the proposed development:

Please refer to Chapter 7 of this EIAR "W*ater*" for mitigation measures associated with the surface water treatment. All new drainage lines (foul and surface water) will be pressure tested and will be subject to a CCTV survey to identify any possible defects prior to being made operational.

Chapter 7 includes the mitigation measures associated with the surface water system for the development.

Water conservation methods such as the use of low flush toilets and low flow taps should be incorporated into dwellings to reduce water volumes and related treatment and abstraction costs of the development.

Similarly, water conservation methods would reduce the loading on the foul sewer network. As part of the development, a number of different SuDS measures are proposed to minimise the impact on water quality and quantity of the runoff and maximise the amenity and biodiversity opportunities within the site.

The measures detailed below have been designed to take account of potential percolation but have not been incorporated into any storage calculations. This will result in additional storage being available in extreme events.

The proposed SuDS measures will include a combination of Source Control, Site Control and Regional Control measures as part of a Management Train whereby the surface water is managed locally in small sub-catchments rather than being conveyed to and managed in large systems further down the catchment. The combination of SuDS measures will maximise the potential for surface water interception, reducing the impact on the existing surface water drainage network. The proposed techniques will offer a high level of treatment processes and nutrient removal of the turnoff, particularly during the "first flush".

The proposed development is located within an area designated for the type of development proposed.

As such the services pertaining to the development are required to facilitate the proposed scheme. It is not possible to not provide the services required. Notwithstanding this, the potable water, foul and stormwater services have all been designed in accordance with the requirements of the various stake holders, notable, Irish Water for the foul and potable water utilities and Dublin City Council for the surface water services.

3.8 Material Assets: Transportation

This chapter of the EIAR has been prepared by Thomas Jennings of DBFL Consulting Engineers and assesses and evaluates the likely impact of the proposed development on the existing transportation system in the vicinity of the site, as well as identifying proposed mitigation measures to minimise any

identified impacts arising from the mixed-use development at Santry Avenue, Dublin 9

3.8.1 Existing Transport Infrastructure

The main arterial roads in vicinity of the subject site are i) R132 Swords Road immediate east of the subject providing links to Swords and Balbriggan to the north and also allows access to the M50/M1 motorway via Junction No. 2.ii) Santry Avenue immediate north of the subject site providing links to Swords Road and to Ballymun and Finglas westbound as well as M50 via Junction 4 at Ballymun. The subject site can be easily accessed by road from a number of directions including:
(i) From the North and South M1/N1 via R132;
(ii) From the east 104 Coolock Road; and
(iii) From the west M50 via R104 Santry Avenue

The proposed development will be accessed by both vehicles and pedestrians via the R104 Santry Avenue as located in the Site's north-western corner as well as Swords Road to the southeast of the site as being accommodated by the neighbouring permitted scheme proposals 2737/19.

In the immediate vicinity of the site, pedestrians benefit from the provision of good quality footways along both sides of the Swords Road carriageway, in addition to the pedestrian crossing facilities provided as part of the traffic signal controls at the R132 Swords Rd / R104 Santry Avenue Junction.

Footpaths are also provided on both sides of the Santry Avenue with signal-controlled pedestrian crossing (60m to the west of the existing Chadwicks Access) in close proximity of the subject site's exiting main entrance, in addition to the controlled pedestrian crossings provided at Swords Road/Santry Avenue Junction and immediately to the west of the main site access on Santry Avenue.

Both Swords Road and Santry Avenue are subject to 50kph with public street lighting available on both sides of the carriageways.

In terms of existing cycling facilities surrounding the site, cyclists benefit from Cycle lanes provided on both sides of R132 Swords Road corridor north of the Swords Road/ Santry Avenue signalised junction whereas no dedicated cycle facilities are currently provided towards the south of the junction along the R132 corridor. However, southbound cyclists along the R132 Swords Road corridor can benefit from the use of a bus lane though, whilst northbound cyclists along this corridor must share the road carriageway with motorised vehicular traffic.

The subject site benefits from excellent public transport accessibility with Dublin Bus and Go-Ahead bus operating several routes including 16, 33, 27b, 41, 41a, 41b and 41c along the R132 Swords Road corridor providing links to Swords northbound and Dublin City Centre and Ballinteer to the south. Also, Go-Ahead operates 17a along R104 Santry Avenue providing links to/from Blanchardstown and Kilbarrack. All of the above routes are highly accessible with the closest interchange opportunities being within approximately 5m except service 27b bus stop which is located within 500m.

The proposed development site also has connection opportunities to the Railway network, with the closest interchange (Drumcondra Train station) being located approximately 4km from the subject site. The station provides excellent linkages to major national destinations and serves routes a) Dublin Connolly-Sligo, b) Dublin-Maynooth, Longford and M3 Parkway and c) Grand Canal Dock and Dublin Heuston – Portlaoise.

3.8.2 Proposed Transport Infrastructure

The subject site lies within the "*Dublin North Central Sector*" of the Greater Dublin Area Cycle Network Plan published by NTA in December 2013. The sector *"extends between the Malahide Road to the east, the M50 motorway to the north, Finglas to the west and the North Circular Road to the South*". The proposed development will benefit from the following proposed routes in vicinity of the subject site;

- **Primary Radial Route 2A**: *"Swords via Drumcondra, Whitehall and Santry*", runs directly adjacent to the proposed development site.

- **Secondary Orbital Route NO5**: "*from Donaghmede to Ballymun on Kilbarrack Road, Tonlegee Road, Oscar Traynor Road, Coolock Lane and Santry Avenue*"; and

- **Santry River Greenway**: *"from the back of Northside Shopping Centre to Northwood at Santry via a series of public parks and open spaces*" with minor greenway links from Santry Avenue and Swords Road through Santry Demesne as located to the north of the subject site.

The proposed development site is also ideally located to benefit from the enhanced accessibility levels that will be delivered by the BusConnects proposals. The subject site will be directly serviced by the following BusConnects routes;

- **Route A2/A4:** will run adjacent to the subject site along the Swords Road and will serve the site with frequency of every 12 minutes in peak period. A2 will connect the subject site to Airport, City Centre, Ballinteer and Dundrum whereas A4 connect the site to Swords, City Centre and Nutgrove.

- **Route 82:** will run adjacent to the subject site along the Swords Road and will serve Glen Ellan Road, River Valley and City Centre with a frequency of every 15 minutes.

- **Route N8:** will run along Santry Avenue just opposite the site entrance, with a proposed frequency of 10 minutes. The route provides a connection to Spine Route E located within approximately 1.2km west of the site and the future Metrolink stop on Ballymun Road. It also connects the site to Finglas, Santry, Coolock and Donaghmede.

The MetroLink project is an urban high capacity rail service connecting Swords, Dublin Airport, City Centre and Charlemont with a journey time of approximately 20 mins (between O'Connell St and Dublin Airport) and offering a frequency of up to 30 trains per hour per direction. The closest interchanges near the subject site are Northwood and Ballymun both located within approximately 1.6km from to the entrance of the subject site.

3.8.3 Potential Construction and Operational Phase Impacts

Construction Phase

Construction traffic will only be generated on weekdays (0700-1900 subject to Planning conditions) and will consist of the following two principal categories:

- Private vehicles owned and driven by site construction staff and by full time supervisory staff.
- Excavation plant, dumper trucks and delivery vehicles involved in site development works and material delivery vehicles for the following: granular fill materials, concrete pipes, manholes,

reinforcement steel, ready-mix concrete and mortar, concrete blocks, miscellaneous building materials, etc.

On-site employees will generally arrive before 08:00, thus avoiding the morning peak hour traffic. These employees will generally depart after 16:00. It should be noted that a large proportion of construction workers are anticipated to arrive in shared transport. Considering the sensitivity of the site, opportunities for remote off-site compound parking will be explored. Deliveries will be actively controlled and subsequently arrive at a dispersed rate during the course of the working day.

The number of staff on site will vary during the construction period of each construction phase (3 No.) but is predicted to be greatest in the early period of phase 2. Based upon the experience of similar developments, a development of this type and scale would at a maximum necessitate approximately 50 staff on site at any one time, subsequently generating no more than 34 two-way vehicle trips during the peak AM and PM periods over the period of the phased construction works.

It is anticipated that the proposed development would be constructed over three phases and a combined period of approximately 24 months. Following the completion of the initial site clearance works and basement excavation, the generation of HGV movements during the build period will be evenly spread throughout the day and as such will not impact significantly during the peak traffic periods. For this scale of development, we do not expect HGV vehicle movements to exceed 4 vehicles per hour during the busiest period of construction *'build'* works.

Based on a preliminary review of the existing survey data and proposed site levels we estimate that approximately 20,000 m^3 of material will require excavation as part of the scheme proposals
It is estimated that 20,000 m^3 equates to 5 to 6 truckloads per hour depending upon vehicle characteristics. At 44 loads removed per day this equates to 52 days of earthmoving works as part of the adopted worst-case assessment to clear the entire site in one single activity.

It is predicted that the build period will occur over a longer period of time when compared to the demolition and waste material removal stage. Accordingly, the concentration of imported material activities will be spread over time. The busiest build period is predicted to be generated during the construction of the basement facility, however, the level of the HGV movements generated during this period is estimated to be less than the 5 to 6 truckloads per hour during the excavation period. Throughout the build period, it is estimated that between 3 to 4 HGV trips will be generated per hour.

An appropriate control and routing strategy for HGVs can also be implemented for the duration of site works as part of the CTMP. It is not proposed to utilise any roads with weight/height restrictions as part of the routing of HGVs during the construction phase. HGVs will be directed to use Santry Avenue (e.g. Existing Chadwicks access) when accessing/egressing the site from the wider strategic network thereby maximising the opportunity to segregate construction vehicles from other traffic.

A significant benefit of the subject development site's characteristics is that all construction traffic vehicle parking demands can be accommodated on-site thereby minimising the impact upon the operational performance and safety levels of the adjacent public road network and adjoining properties.

Considering the site's proximity to the strategic road network and following the implementation of an appropriately detailed CTMP, it is concluded that construction traffic will not give rise to any significant traffic concerns or impede the operational performance of the local road network and its surrounding junctions. At its peak, the level of construction vehicle trips generated is predicted to be less when compared to when the scheme is completed and operational.

Operational Phase

Whilst a significant proportion of person trips to/from the proposed development will be undertaken by sustainable modes of travel, the specific impact of the subject scheme will be predominantly influenced by the number of additional vehicle movements that the scheme could potentially generate.

It is assumed that Phase 1 could at the earliest be completed and occupied in late 2022 and Phase 2 & 3 then completed and occupied in 2027 as summarised below.

Period	AM Peak (08:00-09:00)			PM Peak (17:00 - 18:00)		
Vehicle Movement	Arr	Dep	Total	Arr	Dep	Total
Original Trip Rates	0.056	0.205	0.261	0.187	0.086	0.273
Adjusted Trip Rates	0.034	0.125	0.159	0.114	0.052	0.166

Table 4: Proposed Development Vehicle Trips

The TII document '*Guidelines for Traffic Impact Assessments*' states that the impact of any specific development upon the local road network is considered material when the level of traffic it generates surpasses 10% and 5% on normal and congested networks respectively. When such levels of impact are generated a more detailed assessment should be undertaken to ascertain the specific impact upon the networks operational performance. An assessment was therefore undertaken for the relevant links surrounding the site, to determine the percentage level of impact generated by the proposed development.

The impact predicted for all three junctions within all design years is considered to be insignificant and well below the 5% threshold for necessitating further more detailed analysis. However, for the purpose of robust analysis both site access junctions (predicted impact >1%) will be subject to further assessment in order to determine pre-development and post-development performance of the junctions using the modelling software Junction 9.0 PICADY respectively.

3.8.4. Mitigation Measures

Construction Phase

The Construction Management Plan will be prepared as part of the planning application with an associated Construction Traffic Management Plan (CTMP) which will incorporate a range of integrated control measures and associated management activities with the objective of minimising the construction activities associated with the development. The following initiatives will be implemented to avoid, minimise and/or mitigate against the anticipated construction period impacts:

- The works will be undertaken across three phases thereby minimising the otherwise concentration of construction activities into a single defined period.
- During the pre-construction phase, the site will be securely fenced off from adjacent properties, public footpaths and roads;
- Appropriate on-site parking and compound area will be provided to prevent overflow onto the local network;
- It is likely that some numbers of the construction team will be brought to/from the site in vans/minibuses, which will serve to reduce the trip generation potential;

- Delivery vehicles to and from the site will be spread across the course of the working day, therefore, the number of HGVs travelling during the peak hours will be relatively low;
- Truck wheel washes will be installed at construction entrances and any specific recommendations with regard to construction traffic management made by Westmeath County Council will be adhered to;
- Potential localised traffic disruptions during the construction phase will be mitigated through the implementation of industry standard traffic management measures. These traffic management measures shall be designed and implemented in accordance with the Department of Transport's Traffic Signs Manual *"Chapter 8 Temporary Traffic Measures and Signs for Roadworks*" and "*Guidance for the Control and Management of Traffic at Roads Works – 2nd Edition*" (2010); and
- Site entrance point/s from the public highway will be constructed with a bound, durable surface capable of withstanding heavy loads and with a sealed joint between the access and public highway. This durable bound surface will be constructed for a distance of 10m from the public highway.
- Material storage zone will be established in the compound area and will include material recycling areas and facilities;
- *'Way finding'* signage will be provided to route staff / deliveries into the site and to designated compound / construction areas;
- Dedicated construction haul routes will be identified and agreed with Westmeath County Council prior to commencement of activities on-site; and
- On completion of the works, all construction materials, debris, temporary hardstands etc. form the site compound will be removed off-site and the site compound area reinstated in full on completion of the works.

Operational Phase

A package of integrated mitigation measures has been identified to off-set the additional local demand that the proposed residential development at the subject site could potentially generate as a result of the forecast increase in vehicle movements by residents of the scheme. The identified measures and associated timescale for their implementation are summarised below.

- **Management** – A Mobility Management (MMP) has been compiled by DBFL with the aim of guiding the delivery and management of coordinated initiatives by the scheme promotor to be implemented upon occupation of the site. The MMP will ultimately seek to encourage sustainable travel practices for all journeys to and from the proposed development.

- **Car Parking Management Strategy** - A management regime will be implemented by the development's management company to control and actively manage the availability of on-site car parking for residents. The signing of a rental agreement for one of the proposed residential apartments will NOT include access to a designated on-site parking space. All potential residents (prior to signing rental agreement) will be notified that the proposed scheme is a '*low car allocation'* development with no access (or guarantee thereof) to either (i) the limited on-site residents car parking provision or (ii) apply to Dublin City Council for a residents parking permit (to park on-street in one of the neighbouring streets). Nevertheless, all residents of the proposed residential apartment scheme will have the opportunity to apply to the on-site management company for both a (i) residents car parking permit (updated weekly, fortnightly, monthly, quarterly or annually) and subsequently access to a dedicated (assigned) on-site basement car parking space or (ii) a visitor's car parking permit for a short period of time. A charge will be applied to obtain a permit with the objective of covering the associated management costs and discouraging long term usage of the car parking space. All surface located parking bays will also be subject to parking management

regime.

- **Infrastructure** – Infrastructure measures identified to reduce reliance of private vehicles include the provision of ample secure cycle parking on site and ensuring a design which promotes permeability for pedestrians and cyclists to, through and from the development. The level of parking provision for the development will also act as a powerful mobility management measure, ensuring against an overprovision of parking and a resultant over reliance on the private vehicle.

- **Infrastructure** – Development proposed provision of dedicated pedestrian footpaths and cycle paths throughout the development site.
- **Car Sharing –** The provision of 4 no. dedicated car share (GoCar) spaces for the use of the scheme's residents. The availability of these on-site provide a viable alternative to residents owning private vehicles whilst still having access to a car as and when required.

3.9 Material Assets: Resource and Waste Management

This chapter of the EIAR was prepared by prepared by Chonaill Bradley of AWN Consulting Ltd. The resource and waste management impacts associated with the project are considered in this Chapter. This assessment covers potential impacts from the construction phase as well as the operational phase of the development. The principle objective of sustainable resource and waste management procedures is to ensure efficient consumption of resources, to promote the minimisation of waste generation and, where this is not possible, to encourage reuse, recycling and recovery of waste to minimise the quantity of waste requiring disposal.

3.9.1 Potential Construction and Operational Phase Impacts

Construction Phase

During the construction phase, waste will be produced from surplus materials such as broken or off-cuts of timber, plasterboard, concrete, tiles, bricks, etc. Waste from packaging (cardboard, plastic, timber) and oversupply of materials may also be generated. The appointed Contractor will be required to ensure that oversupply of materials is kept to a minimum and opportunities for reuse of suitable materials is maximised.

In addition, topsoil, subsoil, clay and made ground will require excavation to facilitate site levelling, construction of foundations, along with the installation of underground services. The Project Engineers (DBFL) have estimated that c. 20,000 m^3 of material will require excavation. It is envisaged that all of this material will be removed off-site and none is expected to be kept for on-site reuse. These estimates will be refined prior to commencement of construction.

If the material that requires removal from site is deemed to be a waste, removal and reuse / recycling / recovery / disposal of the material will be carried out in accordance with the Waste Management Act 1996 (as amended), the Waste Management (Collection Permit) Regulations 2007 (as amended) and the Waste Management (Facility Permit & Registration) Regulations 2007 (as amended). The volume of waste requiring recovery / disposal will dictate whether a Certificate of Registration (COR), permit or licence is required for the receiving facility. Alternatively, the material may be classed as by-product under Article 27 classification (European Communities (Waste Directive) Regulations 2011, S.I. No. 126 of 2011). For more information in relation to the envisaged management of by-products, refer to the C&D WMP (Appendix 12.1).

In order to establish the appropriate reuse, recovery and / or disposal route for the soils and stones to be removed off-site, it will first need to be classified. Waste material will initially need to be classified as hazardous or non-hazardous in accordance with the EPA publication *Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous* (2019). Environmental soil analysis will be carried out prior to removal of the material on a number of the soil samples in accordance with the requirements for acceptance of waste at landfills (Council Decision 2003/33/EC Waste Acceptance Criteria). This legislation sets limit values on landfills for acceptance of waste material based on properties of the waste, including potential pollutant concentrations and leachability. It is anticipated that the surplus material will be suitable for acceptance at either inert or non-hazardous soil recovery facilities / landfills in Ireland or, in the unlikely event of hazardous material being encountered, be transported for treatment / recovery or exported abroad for disposal in suitable facilities.

Waste will also be generated from construction phase workers e.g. organic / food waste, dry mixed recyclables (waste paper, newspaper, plastic bottles, packaging, aluminium cans, tins and Tetra Pak cartons), mixed non-recyclables and, potentially, sewage sludge from temporary welfare facilities provided on-site during the Construction phase. Waste printer / toner cartridges, waste electrical and electronic equipment (WEEE) and waste batteries may also be generated in small volumes from site offices.

Further detail on the waste materials likely to be generated during the excavation and construction works are presented in the project-specific C&D WMP (Appendix 12.1). The C&D WMP provides an estimate of the main waste types likely to be generated during the Construction phase of the proposed development

Operational Phase

The potential impacts on the environment of improper, or a lack of, waste management during the operational phase would be a diversion from the priorities of the waste hierarchy which would lead to small volumes of waste being sent unnecessarily to landfill. In the absence of mitigation, the effect on the local and regional environment is likely to be ***Long-term, significant*** and ***negative***.

The nature of the development means the generation of waste materials during the operational phase is unavoidable. Networks of waste collection, treatment, recovery and disposal infrastructure are in place in the region to manage waste efficiently from this type of development. Waste which is not suitable for recycling is typically sent for energy recovery. There are also facilities in the region for segregation of municipal recyclables which is typically exported for conversion in recycled products (e.g. paper mills and glass recycling).

If waste material is not managed and stored correctly, it is likely to lead to litter or pollution issues at the development site and in adjacent areas. The knock-on effect of litter issues is the presence of vermin in affected areas. However, in the absence of mitigation, the effect on the local and regional environment is likely to be ***short-term, significant*** and ***negative***.

Waste contractors will be required to service the proposed development on a regular basis to remove waste. The use of non-permitted waste contractors or unauthorised facilities could give rise to inappropriate management of waste and result in negative environmental impacts or pollution. It is essential that all waste materials are dealt with in accordance with regional and national legislation, as outlined previously, and that time and resources are dedicated to ensuring efficient waste management practices. However, in the absence of mitigation, the effect on the local and regional environment is likely to be ***Long-term, significant*** and ***negative***.

3.9.2 Mitigation:

Construction Phase

As previously stated, a project specific C&D WMP has been prepared in line with the requirements of the requirements of the *Best Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects* (DoEHLG, 2006), and is included as Appendix 12.1. Adherence to the high-level strategy presented in this C&D WMP will ensure effective waste management and minimisation, reuse, recycling, recovery and disposal of waste material generated during the demolition, excavation and construction phases of the proposed development.

- Prior to commencement, the appointed Contractor(s) will be required to refine / update the C&D WMP (Appendix 12.1) in agreement with DCC or submit an addendum to the C&D WMP to DCC, detailing specific measures to minimise waste generation and resource consumption, and provide details of the proposed waste contractors and destinations of each waste stream.

- The Contractor will be required to fully implement the C&D WMP throughout the duration of the proposed construction and demolition phases.

A quantity of topsoil, sub soil, clay and made ground which will need to be excavated to facilitate the proposed development. Project Engineers have estimated that c. 20,000 m^3 of excavated material will need to be removed off-site. Correct classification and segregation of the excavated material is required to ensure that any potentially contaminated materials are identified and handled in a way that will not impact negatively on workers as well as on water and soil environments, both on and off-site.
In addition, the following mitigation measures will be implemented:

- Building materials will be chosen with an aim to '*design out waste*';
- On-site segregation of waste materials will be carried out to increase opportunities for off-site reuse, recycling and recovery. The following waste types, at a minimum, will be segregated:
- Concrete rubble (including ceramics, tiles and bricks);
- Plasterboard;
- Metals;
- Glass; and
- Timber.
- Left over materials (e.g. timber off-cuts, broken concrete blocks / bricks) and any suitable construction materials shall be re-used on-site, where possible;
- All waste materials will be stored in skips or other suitable receptacles in designated areas of the site;
- Any hazardous wastes generated (such as chemicals, solvents, glues, fuels, oils) will also be segregated and will be stored in appropriate receptacles (in suitably bunded areas, where required);
- A Waste Manager will be appointed by the main Contractor(s) to ensure effective management of waste during the demolition, excavation and construction works;
- All construction staff will be provided with training regarding the waste management procedures;
- All waste leaving site will be reused, recycled or recovered, where possible, to avoid material designated for disposal;
- All waste leaving the site will be transported by suitably permitted contractors and taken to suitably registered, permitted or licenced facilities; and
- All waste leaving the site will be recorded and copies of relevant documentation maintained.
- Nearby sites requiring clean fill material will be contacted to investigate reuse opportunities for clean and inert material, if required. If any of the material is to be reused on another site as by-product

(and not as a waste), this will be done in accordance with Article 27 of the EC (Waste Directive) Regulations (2011). EPA approval will be obtained prior to moving material as a by-product. However, it is not currently anticipated that Article 27 will be used.

These mitigation measures will ensure that the waste arising from the construction phase of the proposed development s dealt with in compliance with the provisions of the Waste Management Act 1996, as amended, associated Regulations and the Litter Pollution Act 1997, and the *EMR Waste Management Plan 2015 – 2021*. It will also ensure optimum levels of waste reduction, reuse, recycling and recovery are achieved and will promote more sustainable consumption of resources.

Operational Phase

An C & C WMP is prepared and submitted to the Planning Authority for agreement prior to commencement of development, to outline the strategy for management of waste from the operational phase of the proposed development. A strategy and the estimates of waste generation have been used to identify storage and equipment requirements for residential waste, which has been incorporated into the development design.

In addition the following mitigation measures will be implemented:

As previously stated, a project specific C&D WMP has been prepared in line with the requirements of the requirements of the *Best Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects* (DoEHLG, 2006), and is included as Appendix 12.1. Adherence to the high-level strategy presented in this C&D WMP will ensure effective waste management and minimisation, reuse, recycling, recovery and disposal of waste material generated during the demolition, excavation and construction phases of the proposed development.

- Prior to commencement, the appointed Contractor(s) will be required to refine / update the C&D WMP (Appendix 12.1) in agreement with DCC or submit an addendum to the C&D WMP to DCC, detailing specific measures to minimise waste generation and resource consumption, and provide details of the proposed waste contractors and destinations of each waste stream.

- The Contractor will be required to fully implement the C&D WMP throughout the duration of the proposed construction and demolition phases.

A quantity of topsoil, sub soil, clay and made ground which will need to be excavated to facilitate the proposed development. Project Engineers have estimated that c. 20,000 m^3 of excavated material will need to be removed off-site. Correct classification and segregation of the excavated material is required to ensure that any potentially contaminated materials are identified and handled in a way that will not impact negatively on workers as well as on water and soil environments, both on and off-site.
In addition, the following mitigation measures will be implemented:

- Building materials will be chosen with an aim to '*design out waste'*;
- On-site segregation of waste materials will be carried out to increase opportunities for off-site reuse, recycling and recovery. The following waste types, at a minimum, will be segregated:
- Concrete rubble (including ceramics, tiles and bricks);
- Plasterboard;
- Metals;
- Glass; and
- Timber.
- Left over materials (e.g. timber off-cuts, broken concrete blocks / bricks) and any suitable

construction materials shall be re-used on-site, where possible;

- All waste materials will be stored in skips or other suitable receptacles in designated areas of the site;
- Any hazardous wastes generated (such as chemicals, solvents, glues, fuels, oils) will also be segregated and will be stored in appropriate receptacles (in suitably bunded areas, where required);
- A Waste Manager will be appointed by the main Contractor(s) to ensure effective management of waste during the demolition, excavation and construction works;
- All construction staff will be provided with training regarding the waste management procedures;
- All waste leaving site will be reused, recycled or recovered, where possible, to avoid material designated for disposal;
- All waste leaving the site will be transported by suitably permitted contractors and taken to suitably registered, permitted or licenced facilities; and
- All waste leaving the site will be recorded and copies of relevant documentation maintained.
- Nearby sites requiring clean fill material will be contacted to investigate reuse opportunities for clean and inert material, if required. If any of the material is to be reused on another site as by-product (and not as a waste), this will be done in accordance with Article 27 of the EC (Waste Directive) Regulations (2011). EPA approval will be obtained prior to moving material as a by-product. However, it is not currently anticipated that Article 27 will be used.

These mitigation measures will ensure that the waste arising from the construction phase of the proposed development s dealt with in compliance with the provisions of the Waste Management Act 1996, as amended, associated Regulations and the Litter Pollution Act 1997, and the *EMR Waste Management Plan 2015 – 2021*. It will also ensure optimum levels of waste reduction, reuse, recycling and recovery are achieved and will promote more sustainable consumption of resources.

3.10 Archaeology and Cultural Heritage

Steven McGlade, BA, MIAI of Archaeology Plan Heritage Solutions undertook prepared this chapter of the EIAR which EIAR assesses the impact of the development on the Cultural Heritage of the site and its environs. The report includes a desktop assessment and a site inspection.

The desktop section of the report was compiled using: The Records of Monuments and Places; buildings of Ireland, historic maps; aerial photographs; place names and historic books and journals.

A site inspection was carried out on Tuesday the 18th March 2021. Steven McGlade of Archaeology Plan Heritage Solutions undertook this chapter and archaeological testing at the site. This was undertaken under licence to the D.C.H.G. (Licence No. 19E0069).

3.10.1 Potential Construction and Operational Phase Impacts

The proposed development will have a widespread profound permanent negative impact on any previously unidentified subsurface archaeological remains that may survive on the development site.

The western portion of the proposed development is of low archaeological potential. The eastern portion of the proposed development has a moderate archaeological potential. This is due to it fronting onto the Swords Road and proximity to the medieval boundaries and drainage channels uncovered on the opposite site of the road to the south of St Pappan's Church in 2003, along with its closer proximity to the ecclesiastic foundation itself. The location of the existing building, set back from the road frontage, increases the

likelihood that any belowground archaeological features located within this part of the site would survive. It should be noted that no archaeological remains were identified fronting onto the Swords Road in the monitoring works for the site to the south in 2019 and that the area is depicted as agricultural fields throughout the post-medieval period.

The construction phase (without appropriate ameliorative measures) will have no impact on known archaeological features and deposits within the proposed development. The construction phase, without appropriate ameliorative measures, will have a profound permanent negative impact on unknown archaeological features and deposits within the footprint of the proposed development.

As there are no known archaeological features within the proposed development, the operational phase of the residential development would have no impact on known archaeology. It is envisaged that any unknown potential archaeological features within the proposed development would not survive the construction phase, without appropriate ameliorative measures. Nevertheless, the operational phase of the residential development would have an imperceptible long-term neutral effect on any remnants of the known archaeology.

There is a possibility for an imperceptible long-term positive effect of preservation in situ for unknown archaeological features and/or deposits that potentially survive within the proposed green areas of the development.

3.10.2 Mitigation

Based on the results of the desktop assessment there is some potential for medieval agricultural features relating to St Pappan's Church to the east or to the manor of Santry, which was located to the north, however these were not identified within the site directly to the south where only 19th century agricultural features were identified.

It is therefore recommended that archaeological monitoring be carried out under licence after the demolition of the existing building during the removal of the concrete layer. Any features encountered during the monitoring programme should be tested, and if archaeological fully excavated by hand to preserve them by record.

In the unlikely event that significant archaeology is uncovered a revised mitigation plan may be necessary, which will be agreed upon in discussion with the City Archaeologist and The National Monuments Service.

Time should be allowed between the monitoring works and any construction or service laying in case archaeological features are uncovered.

A report on the results of the monitoring programme should be submitted to the City Archaeologist and the National Monuments Service following the completion of the works.

This recommendation is subject to the approval of the City Archaeologist and the National Monuments Service.

3.11 The Landscape

This Landscape and Visual Impact Assessment (hereafter LVIA), prepared by Julie Sammiller B.Sc. Land Arch and Luke Byrne B.Agr.Sc. Land Arch, MLI, of Dermot Foley Landscape Architects.

This Landscape and Visual Impact Assessment (hereafter LVIA) describes the existing receiving environment, contiguous landscape and the methodology utilised to assess the impacts. It assesses the visual extent of the proposed development and its visual effects on key views throughout the study area. It describes the landscape character of the application site and hinterland, together with the visibility of the site from significant viewpoints in the locality. The report summarises the impact of the proposed development on the visual and landscape amenity of the application site and contiguous area.

The subject site is located on the lands which previously operated as a large scale hardware and building supplies outlet (Chadwicks, formerly Heiton Buckley) in Santry, Dublin. The site is located at the south west junction of Swords Road (north-south, R132) and Santry Avenue (east-west, R104), approximately 400m due west of the Coolock/Santry junction of the M50 motorway.

Figure 4 - Satellite image of site with red line boundary showing surrounding context

The subject site is located immediately south of Santry Demesne Park, a regional park owned and managed by Fingal County Council, and separated from the site by Santry Avenue. A private lane forms the western boundary and separates the site from the IDA industrial estate to the west. A new mixed-use development is being constructed to the south. The eastern boundary is formed by a row of trees which edge the Swords Road. Commercial units line the Swords Road to the east of the site.

The site is dominated by 1 no. double-height, large scale building, punctuated with loading bays. Car parking, vehicle access zones and external storage bays occupy the space between the building and the site boundary.

A low brick wall, topped with steel railing exists on the northern, western and eastern boundary of the site, while a metal palisade fence runs along the full length of the southern boundary. A small number of shrubs planted in planters on the northern boundary and a small number of trees, planted at the north-western boundary appear to be the only vegetation within the site and constitute little value due to their size and condition.

3.11.1 Potential Construction and Operational Phase Impacts

Construction Phase

During the construction of the development, the area shall be changed from a brownfield site to a housing development. to trees adjoining the boundary of the site, is the greatest issue potentially affecting trees. The tree loss breakdown for the proposed development will be 8 no. Category U items and 1 no. Category B item (Hedge 2). For further details refer to the Arboricultural Report, see Appendix 14A.

The development shall be carried out in an organised basis, thus reducing the visual impact upon the environment; however, the impact on the initial area of construction shall be moderate to significant.

The construction works will require removal of all vegetation existing on the subject site to facilitate the works. The Arborist has noted there is potential for partial conflict for existing trees outside the site boundary where the '*Root Protection Area'* is encroached upon by works or ground amendments which cannot be preserved/protected in full. Site hoarding, construction traffic, ground disturbance and temporary structures required for construction will have a *negative, moderate and short-term impact*.

The impact on existing trees will be *negative, moderate and permanent.*

Operational Phase

There are no predicted impacts on the existing vegetation in the operational phase.

Potential Visual Impact

During the construction phase, site hoarding and temporary structures required for construction will have a negative, moderate and short-term impact on views.

The proposed development will be blocked by existing residential units on Shanliss Avenue. The impact will be imperceptible, *neutral, and permanent.*

The proposed development will be predominantly blocked by existing trees and buildings associated with the IDA estate. However, the taller element of the proposed development will be visible as it meets Santry Avenue. The development will also be partially visible above the existing fence line in the centre of the view. The character and composition of the view is altered, however, not inappropriately and is consistent with emerging trends. The impact will be *moderate, neutral and permanent.*

The proposed development will be predominantly screened by the existing trees along Santry Road and Santry Demesne boundary. However, the upper floors of the proposed development will create a visual intrusion about the existing tree line. The character and the composition of the view would be altered, however, it is consistent with other existing boundary views elsewhere in Santry Demesne. The valued features of the view would remain. The impact is considered to be *moderate, negative and long term.* The

duration is considered long term (fifteen to sixty years) as when the existing tree planting within Santry Demesne in the middleground of view matures it will provide further screening of the development.

The proposed development will be screened at the lower levels by the existing trees along Santry Road and Santry Demesne boundary. However, the upper floors of the proposed development will create a visual intrusion about the existing tree line. The character and the composition of the view would be altered, however, it is consistent with other existing boundary views elsewhere in Santry Demesne and with emerging trends. The impact is considered to be *moderate, negative and long term.* The duration is considered long term (fifteen to sixty years) as when the existing tree planting within Santry Demesne in the middleground of view matures it will provide further screening of the development.

The proposed development will be predominantly blocked by existing vegetation and stone wall associated with the boundary of Santry Demesne. There will be a slight visual intrusion through and above the tree line. The character and composition of the view would be altered, but not inappropriately and the valued features of the view would remain. The impact will be *slight, negative and permanent.*

The proposed development will be visible due to the open character of this section of the Swords Road (R104). There will be partial screening of the proposed development by existing trees associated with the south east of Santry Demesne Park and existing trees associated with the open space in front of Santry Villas. The character and the composition of the view would be altered slightly, however, it is consistent with emerging trends. The impact will be *moderate, negative and permanent.*

The proposed development will be partially blocked by the existing residential units in Santry Villas estate and existing trees associated with Oak Park Avenue. However, the upper floors of proposed development will be partially visible in the background and above the existing tree line. The character of view remains unchanged. The composition is altered slightly, but not inappropriately. The impact will be *slight, neutral and long term.* The duration is considered long term (fifteen to sixty years) as when the existing tree planting in the middleground of view matures it will provide further screening of the development.

The proposed development will be predominantly blocked by the tree line associated with M50 motorway planting. However, the upper levels of some of the blocks will be visible in the background and breaks the sky line. The impact will be *slight, neutral and long term*. The duration is considered long term (fifteen to sixty years) as when the existing tree planting in the middleground of view matures it will provide screening of the development almost in its entirety.

The proposed development will be blocked to some degree by existing warehouse buildings on Santry Villas, on the left of the view. The northern frontage of the proposed development to Santry Road will be largely visible in the view. The eastern frontage of the proposed development to Swords Road (R104) will be partially visible. The character and composition of the view is altered, but is consistent with existing and emerging trends in the area. The impact is considered *moderate, negative and permanent.*

The proposed development will be predominantly blocked by existing development in the middleground of the view and trees on Swords Road (R104). However, the upper levels of the proposed development will be visible in the long distance, where the proposed development is located at the junction of Santry Road and Swords Road. The impact will be *moderate, neutral and permanent.*

The proposed development will be blocked to some degree by existing commercial units in the Santry Hall Industrial Estate and existing trees on the access road of the industrial estate. However, the upper levels of the proposed development will be visible in the long distance, where the proposed development is located at the junction of Santry Road and Swords Road. The composition and character of the view remains

unchanged. The impact will be *slight, neutral and permanent.*

The proposed development will not be visible due to the rising topography and curvature of the Swords Road. Existing housing and vegetation associated with housing completely block the views of the development. There will be *no impact.*

The development will be mostly screened by the existing trees which form part of the southern boundary of Santry Demesne. The upper storeys of some of the blocks will be partially visible through the tree canopies. The character of the is unchanged. The composition of the view is altered slightly, however, is consistent with other boundary views from within Santry Demesne Park. The impact will be *slight, negative and long term.* The duration is considered long term (fifteen to sixty years) as when the existing tree planting in the middleground of view matures it will provide further screening of the development.

3.11.2 Mitigation

Existing Vegetation

Construction Phase

Existing vegetation on the site is limited and the value of the vegetation that does exist is minimal. The following mitigation measures are proposed:

- Protect trees to be retained, fell adjacent trees to be removed and grind out stumps in accordance with BS5837:2012;
- Implement tree protection measures for trees to be retained in accordance with BS5837:2012 before any demolition or construction works proceed;
- Where required strip and store topsoil in accordance with BS4428:1989 and BS3882:2007;
- Install proposed tree, hedge, groundcover, and lawn areas in accordance with drawing 201 *Landscape Plan* by Dermot Foley Landscape Architects.

Operational Phase

The following mitigation measures are proposed:

- Install replacement planting for any plants that fail during the 18-month maintenance and defects liability period;
- Site to be monitored regularly for signs of invasive species.

Landscape Character

Construction Phase

The following mitigation measures are proposed:

- Creation of a new character of the site by installing proposed landscape design and planting in accordance with the proposed landscape plans;
- Construct the proposed landscape design so that the site integrates into surrounding context and acts as an appropriate transition point into Santry Demesne

Operational Phase

The following mitigation measures are proposed:

- Maintain and manage all proposed vegetation to ensure the creation and definition of a new landscape character for the site and to ensure the significant increase in habitat and biodiversity associated with the proposed the and groundcover planting as shown on the landscape plans. This
- Site to be monitored regularly for signs of invasive species.

Views

Construction Phase

The following mitigation measures are proposed:

- Restrict hours of construction activity in accordance with local authority guidance
- Extend hoarding to restrict views of the site during construction
- Construct changes to topography and retaining elements in accordance with the proposed landscape plan to ensure that sight lines are retained across the site where required e.g. pedestrian route along the northern boundary.
- Plant tree species and sizes as per the proposed landscape plan in order to screen the development and create an appropriate landscape at ground level
- There are communal roof terraces included for residents which will be visible from the surrounding neighbourhood. The terraces will include tree, hedge and herbaceous planting.

Operational Phase

The following mitigation measures are proposed:

- Maintain all proposed vegetation to ensure that sight lines are retained across the site where required e.g. pedestrian route along the northern boundary;
- Maintain and manage proposed tree planting to ensure that it matures in accordance with industry best practice

4.0 Identification of Significant Impacts / Interactions

Chapter 15 of the EIAR (Volume II) provides detail on the interaction and interdependencies in the existing environment. Armstrong Fenton Associates Planning and Development Consultants, in preparing and co-ordinating this EIAR, ensured that each of the specialist consultants liaised with each other and dealt with the likely interactions between effects predicted as a result of the proposed development during the preparation of the proposals for the subject site and this ensures that mitigation measures are incorporated into the design process.

This approach is considered to meet with the requirements of Part X of the Planning and Development Act 2000, as amended, and Part 10, and schedules 5, 6 and 7 of the Planning and Development Regulations 2001-2018. The detail in relation to interactions between environmental factors is covered in each chapter of the EIAR.

All environmental factors are interlinked to a degree such that interrelationships exist on numerous levels. Interactions within the study area can be one-way interactions, two-way interactions and multiple-phase interactions which can be influenced by the proposed development. As this EIAR document has been prepared by a number of specialist consultants, an important aspect of the EIA process is to ensure that interactions between the various disciplines have been taken into consideration. This chapter of the EIAR was prepared by Bryan Meredith, BA, MRUP, MIPI, MRTPI, Planning Consultant of Armstrong Fenton Associates Planning and Development Consultants.

All of the potential significant effects of the proposed development and the measures proposed to mitigate them have been outlined in the preceding chapters of this EIAR. However, for any development with the potential for significant environmental effects, there is also the potential for interaction amongst these potential significant effects. The result of interactive effects may exacerbate the magnitude of the effects or ameliorate them, or have a neutral effect.

The purpose of this requirement of an EIAR is to draw attention to significant interaction and interrelationships in the existing environment. Armstrong Fenton Associates Planning and Development Consultants, in preparing and co-ordinating this EIAR ensured that each of the specialist consultants liaised with each other and dealt with the likely interactions between effects predicted as a result of the proposed development during the preparation of the proposals for the subject and ensuring that appropriate mitigation measures are incorporated into the design process.

Having regard to the approach taken, the aspects of the environment likely to be significantly affected by the proposed development, during both the construction and operational phases, have been considered in detail in the relevant Chapters of this EIAR document. In addition, likely interactions between one topic and another have been discussed, where relevant, by the relevant specialist consultant(s).

The primary interactions can be summarised as follows:

- Noise, air, waste, water and traffic with population and human health;
- Land and soils with traffic, water, resource management, noise, air and biodiversity;
- Water with biodiversity;
- Waste with biodiversity;
- Cultural heritage and the landscape and
- Air quality and climate and traffic.

The relevant consultants liaised with each other and the project architects, engineers and landscape architects where necessary to review the proposed scheme and incorporate suitable mitigation measures where necessary. As demonstrated throughout this EIAR, most inter-relationships are neutral in impact when the mitigation measures proposed are incorporated into the design, construction or operation of the proposed development.

4.1 Other Impacts

4.1.1 Direct and Indirect Effects Resulting from the Use of Natural Resources

Schedule 6 Item 2 (c) of the Planning and Development Regulations, 2001 - 2015 requires that an EIAR contains a description of the likely significant effects (including direct, indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative) of the proposed development on

the environment resulting from the use of natural resources. No likely significant effects (including direct, indirect, secondary, cumulative, short, medium and long term, permanent and temporary, positive and negative) of the proposed development on the environment are expected to arise from the use of natural resources.

4.1.2 Direct and Indirect Effects Resulting from Emission of Pollutants, Creation of Nuisances and Elimination of Waste

Schedule 6 Item 2 (c) of the Planning and Development Regulations, 2001 - 2015 requires that an EIAR contains a description of the likely significant effects (including direct, indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative) of the proposed development on the environment resulting from the emission of pollutants, the creation of nuisances and the elimination of waste. No likely significant effects on the environment are expected to arise from the emission of pollutants, the creation of nuisances or the elimination of waste.

4.2 Residual Impacts and Cumulative Impacts

Residual impacts can be defined as the final impacts that occur after proposed mitigation measures have taken effect. Many of the findings of the EIA have been incorporated into the design of the development and have contributed to the reduction or amelioration of potential impacts. Where residual impacts arise, they are detailed in the relevant chapters and further mitigation measures detailed where necessary.

Cumulative impacts are defined as: *"The addition of many small impacts to create one larger, more significant, impact"* (EPA 2002). Cumulatively, these impacts may be significant if they occur close together in terms of location and time. The cumulative impact of the proposed development is categorised as neutral and moderate.

As outlined in Chapter 3 this EIAR, where relevant, the EIAR also takes account of other development(s) within the area. These impacts have been addressed in the relevant chapters of the EIAR.

To determine traffic impacts in Chapter 11, the traffic generated by the proposed development is combined with the baseline traffic generated by the traffic on the road network in the area. The potential traffic impacts from other developments were also considered in the assessment (e.g. residential developments - adjacent to the site to the south and east).

Each of the relevant specialists has considered the potential for cumulative impact in preparing their assessments. While there is the potential for negative impacts to occur during the construction stage of the scheme, with the implementation of the appropriate mitigation outlined in the EIAR, the residual cumulative impact is not considered to be significant.

4.3 Environmental Commitments and Mitigation Measures

Mitigation measures to be adopted during the construction and operational phases of the proposed development are detailed within each chapter. These measures should be implemented through planning conditions imposed by the planning authority / An Bord Pleanála.

Mitigation measures will be managed by the contractor(s) as part of the Construction Management Plan and by the developer/ landowners thereafter.

4.4 Conclusion

The EIAR (Volume II) has regard to and builds on the Strategic Environmental Assessment prepared with the Dublin City Development Plan 2016-2022.

The EIAR has considered the likely, significant, adverse effects of the proposed project on the receiving environment.

Mitigation measures are included, to avoid and / or reduce impacts on the environment where considered necessary. This includes mitigation measures incorporated into the design of the proposed development.

The EIAR concludes that there are no material or significant environmental issues arising which were not anticipated by the Dublin City Development Plan 2016-2022 and considered in its Strategic Environmental Assessments.

5.0 Summary of EIA Mitigation and Monitoring Measures

Chapter 16 of the EIAR (Volume II) provides a summary of all the mitigation and monitoring measures proposed throughout the EIAR document for ease of reference for the Board and all other interested parties.