Figure 5-5: MetroLink route (indicative location of subject site)

Source: MetroLink.ie.

It is to be noted that the location of the planned Northwood MetroLink Station is c. 450m to the west of the subject site at the Northwood Avenue/R108 junction. This can be seen in **Figure 5-6** below.

MetroLink will be similar to the Luas in operation but will enjoy complete priority along its route, allowing for increased frequency of service with a tram expected every 2 minutes during peak periods. Dependent on the outcome of the planning and procurement processes, construction of MetroLink is earmarked to commence in 2025 with a view to operation in the early 2030s.

Having regard to the above, it is evident that the subject site is located within a developing mixed-use community which will benefit from excellent metro and bus public transport linkages.

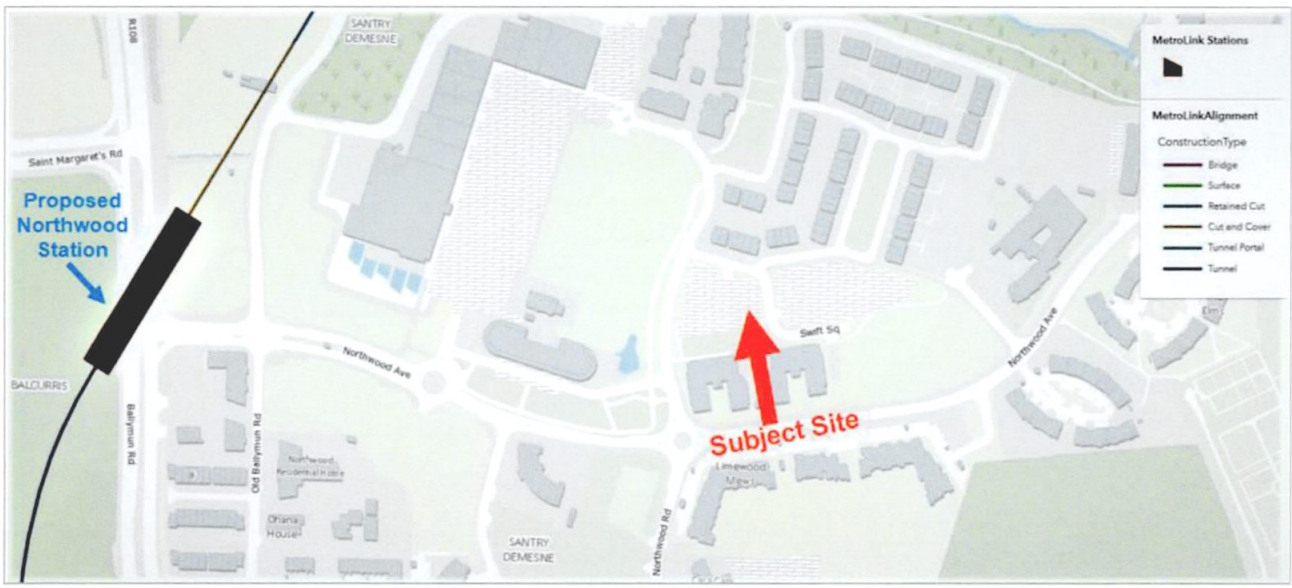

Figure 5-6: MetroLink Northwood Station (Indicative location of subject site)

Source: MetroLink.ie. Annotations by RPS

5.4.2 Landscape and Visual

The subject lands are located on the north side of Northwood Avenue and currently comprise a surface car park associated with Swift Square Office Park, and part of a temporary car park facilitating construction works at Blackwood Square development (Ref. ABP-306075-19).

The tree cover on site is young, planted as part of the Swift Square Office Park development. As a result of this, all of the trees are under 6m in height and, although healthy and sustainable, offer no screening value or visual presence in the wider landscape.

Due to the nature of the main site and its surrounding development, the site is generally flat. The site falls by approximately 0.5m from northwest to southeast over approximately 179m.

The site is primarily visible from the local access road running along the west of the site; however, existing trees and ornamental planting provide prominent screening. Part of the subject site is also visible from Cedarview to the north and Santry Sports Surgery to the east. Views of the land from the south along Northwood Avenue are mostly screened by built development and trees in the local landscape. The site is not visible from locations in the wider landscape due to the flat nature of the topography, the scale of the local built development, and the significant number of trees in the area.

A Landscape and Visual Assessment has been undertaken, and details are included in **Chapter 14** (Landscape and Visual) of Volume 2 of this EIAR.

5.4.3 Cultural Heritage

There are no previously identified individual sites of archaeological interest located within the site of the proposed development.

There are no structures listed in the Record of Protected Structures (RPS) of the Fingal Development Plan as being located within the subject site.

5.4.4 Ecological

There are no European sites within or adjacent to the proposed development site.

The subject lands within the site are characterised as the following habitats in accordance with Fossitt (2000):

- Buildings and artificial surfaces (BL3);
- Amenity grassland (improved) (GA2);

- Ornamental / non-native shrub (WS3); and
- Ornamental / non-native shrub (WS3) / Hedgerows (WL1) mosaic.

Surveys confirmed that there are no Annex I habitats within or adjacent to the proposed development site. The surrounding lands are largely residential and commercial in nature.

Further detail on designated sites, habitats, flora, and fauna are provided in **Chapter 6** (Biodiversity) of Volume 2 of this EIAR.

5.4.5 Trees and Hedgerow

The proposed development will result in the loss of all existing trees and associated vegetation.

The tree population associated with the main site is predominantly young, with a clear majority being less than 20 years old, with planting periods ranging from circa 2008 for the largest specimens through to circa 2019 for the smallest. None of the trees exceeds 6.00m in height, and a majority being in the order of 4.50 to 5.00m. The species encountered include Oak, Horse Chestnut, Lime, Beech, Himalayan Birch, together with significant plantings of Hornbeam.

While many of the trees associated with the site are of broadly good condition, some are not. This is particularly the case regarding the remnant of an earlier planting associated with the proposed temporary parking area to the northwest of the main site. Here, many trees are damaged, and all have been extensively disturbed by prior attenuation works. The trees associated with this area offer little sustainability.

To the east of the subject site, four trees have been previously nominated for removal under a separate planning application for Whitehaven development (Ref. ABP-313317-22), which has been recently permitted.

An *Arboricultural Report* and associated drawings prepared by Tree File Ltd are submitted with the application documentation.

5.4.6 Services and Utilities

5.4.6.1 Potable Water Supply

The existing 200mm watermain is located on the access road to the west of the proposed development. This 200mm watermain is supplied from the existing 600mm North Fringe Watermain located along Northwood Avenue. The existing 600mm North Fringe Watermain is located along Northwood Avenue. The North Fringe Watermain is a key trunk watermain laid along the North Fringe from Cappagh Cross to Baldoyle. It is supplied from the Leixlip Water Treatment Plant via the Ballycoolin Reservoir and the High-Level Water Tower at Sillogue. The Ringsend Plant is currently being upgraded from a Population Equivalent (PE) of 1.6 Million to 2.4 million PE. A Confirmation of Feasibility (reference CDS22005482) was received on 9th August 2022 that water wastewater infrastructure could cater for the proposed development. Also, a Design Acceptance (reference CDS22005482) was received on 4th April 2023.

5.4.6.2 Wastewater Services

The existing 225mm foul sewer runs along the access road to the west of the proposed development. This sewer is connected to the North Fringe Sewer at the junction of the access road east of the site with Northwood Avenue.

The North Fringe Sewer is a Major trunk sewer that runs east from Ballymun/Santry to Balboyle. At Baldoyle the sewer is laid in a south-easterly direction to Sutton Pumping Station. The Sutton Pumping Station is connected via submarine pipeline to the Wastewater Treatment Plant at Ringsend.

5.4.6.3 Electricity & Gas

Currently on the subject site there is not a live electrical or gas supply. There are high and low pressure gas mains adjoining the development and a single supply may be taken off these to support a centralised heating solution. There have been a number of developments adjacent to the subject site that have result in a robust ESB network in place. There are ESB sub stations at the Sports Clinic, the Swift Square Office Park blocks and the Bridgefield, and Blackwood apartment schemes, to the west, have dedicated sub stations. From previous work undertaken in the area ESB Networks have been advised on the future potential development in the locality.

5.4.6.4 Telecommunications

Both Virgin and Eir have robust fibre networks in the area and adjacent to the site. There is also to potential to use the Siro service, which is a joint utility provided by the ESB and Vodafone as a broadband offering. Regardless of the final services availed of on site we will be delivering a fibre into the home solution which will maximise the conductivity of the units.

5.5 Proposed Development

5.5.1 Vision

The vision for the development of the subject lands is to provide a high-quality residential development that promotes sustainability, a connected and legible movement network, as well as high-quality and usable public spaces that fully accord with the policies and objectives of the Fingal Development Plan. To achieve this vision, a set of guiding development principles have been set for the lands, which include:

- Optimise the location of the site by providing a well-connected, permeable built environment that establishes a clear urban structure linking the development with surrounding uses;
- Provide well landscaped public realm that integrates existing vegetation where possible and promotes opportunities for active and passive recreation while ensuring that the majority of residential units have a relationship with open space areas and the public realm;
- Provide unit sizes that enable further housing choices for future residents of Northwood while supporting a sustainable and diverse community; and
- Integrate sustainable development principles into the design and management of the development.

5.5.2 Proposed Site Layout

A site layout has been prepared by McCrossan O'Rourke Manning (MCORM) Architects for the subject site within the context of this part of Northwood. The site layout is illustrated in **Figure 5-7** and **Figure 5-8.**

Figure 5-7: Site Plan - General

Source: McCrossan O'Rourke Manning Architects (scaled version included with the application package)

Figure 5-8: Site Plan – Main Site

Source: McCrossan O'Rourke Manning Architects (scaled version included with the application package)

The subject site is an underutilised urban site, strategically located within the M50, easily accessed via the Ballymun Road (R108), Santry Avenue (R104), Swords Road (R132), and the M50 on land zoned to accommodate residential uses close to a good range of supporting services within Santry and Ballymun including schools, community facilities, local services, and retail uses.

The subject site is located within the wider area of Northwood adjacent to several existing employment areas, including Swift Square Office Park, Northwood Business Campus, and Sports Surgery Clinic. The site is also well located with Dublin Airport, and General Employment (GE) zoned lands just north of the M50 and well-linked to Dublin's city centre.

Integral to the design is the creation of a sense of place and distinct character, which is achieved through the integration of existing remnant trees into the overall site layout while also providing permeability, connectivity, and legibility with adjoining uses. This portion of the overall lands developed by the applicant will connect into the existing and permitted hierarchy of pathways, public realm, residential zones, employment zones and recreational open spaces.

5.5.3 Proposed Development

The prospective LRD applicant is seeking planning permission to broaden the use mix of the site to include residential uses. The proposed development will consist of site clearance and removal of all existing structures on site ancillary to the existing surface car parking and the construction of a residential development comprising 3 no. apartment blocks comprising 192 no. apartment units to include 4 no. 1-bedroom units and 188 no. 2-bedroom units, shared residential services (concierge, multifunction unit and gymnasium), and open amenity spaces over a basement.

The apartment blocks are to be constructed above a basement level and a partially shared podium structure (undercroft at ground-level), comprising:

- **Block 1**, ranging in height from 4-9 storeys, will contain **64** no. apartment units consisting of **1** no. 1-bedroom unit, **63** no. 2-bedroom units with a concierge space (c. 158.2 sq.m) at ground-floor level with associated communal open spaces at podium level;
- **Block 2**, ranging in height from 4-9 storeys, will contain **62** no. apartment units consisting of **2** no. 1-bedroom unit, **60** no. 2-bedroom units with a multifunction area (c. 167.8 sq.m) at ground-floor level with associated communal open spaces at podium level; and,
- **Block 3**, ranging in height from 4-9 storeys, will contain **66** no. apartment units consisting of **1** no. 1-bedroom unit, **65** no. 2-bedroom with associated communal open spaces at podium level.
- The proposed development will also provide the following:
  - 180 no. car parking spaces for residents, consisting of 146 no. spaces at the new basement level (incl. 1 no. disabled space) and 34 no. spaces at ground-floor level (undercroft) (incl. 1 no. disabled space);
  - 12 no. car parking spaces for visitors (incl. 1 no. disabled space and 2 no. car-sharing parking spaces at surface level);
  - Relocation of permitted 254 no. car parking spaces catering for Swift Square Office Park personnel, consisting of 214 no. spaces at the new basement level (incl. 1 disabled space) and 40 no. spaces at ground-floor level (undercroft);
  - 33 no. motorcycle parking spaces, including 28 no. spaces at the basement level and 5 no. spaces at ground-floor level (undercroft);
  - 392 no. bicycle parking spaces for residents distributed across 4 no. secure cycle store areas at ground-level (undercroft), and 100 no. bicycle parking spaces for visitors at surface level;
  - 30 no. sheltered bicycle parking spaces at street level for Swift Square Office Park personnel;
  - a new vehicular access ramp to the new basement level;
  - communal and public open spaces, including play areas;
  - private open space to apartments in the form of terraces and balconies;
  - an ancillary residential gymnasium space (c. 89.7 sq.m) at ground-floor level (undercroft) between Block 1 and Block 2;
  - site clearance and removal of all existing structures on site ancillary to the existing surface car parking;
  - provision of a temporary car parking area and, a construction access from Northwood Avenue to be removed on completion of the proposed works; and,
  - all associated plant, drainage arrangements, works to facilitate utility connections, boundary treatment, landscaping, public lighting, refuse storage, vehicle, pedestrian and bicycle access, construction compounds and site development works.

The principal development statistics of the proposal are shown in **Table 5.1**.

Table 5.1: Key Site Statistics

Description	Detail
General	
Site Area (Red Line Boundary)[6]	1.919 ha
Net Site Area	1.135 ha

[6] The total subject site (gross) consists of 1.919 ha incl. temporary car parking area and construction access to be removed on completion of the proposed works. The net site area is c 1.135 ha.

Description	Detail
Overall GFA	19,959.70 sq.m.
Dual Aspect Units	70.83% (136 units)
Plot Ratio (Gross & Net)	1.04 (gross) and 1.76 (net)
Net Site Coverage	44.37% (including undercroft parking area)
Density (Gross & Net)	100 units per hectare (gross) and 169 units per hectare (net)
Apartments (Combined)	
1-bedroom unit	4 no.
2-bedroom unit	188 no.
Total	***192 no. apartment units***
Block 1	
1-bedroom unit	1 no.
2-bedroom unit	63 no.
Total	***64 no. apartments in Block 1***
Block 2	
1-bedroom unit	2 no.
2-bedroom unit	60 no.
Total	***62 no. apartments in Block 2***
Block 3	
1-bedroom unit	1 no.
2-bedroom unit	65 no.
Total	***66 no. apartments in Block 3***
Car Parking	
Basement Level	146 no. for residents 214 no. for office users ***Subtotal: 360 no. car parking spaces at Basement Level***
Ground-level undercroft	34 no. for residents 40 no. for office users ***Subtotal: 74 no. car parking spaces at Undercroft (Ground-level)***
Surface Level	12 no. car parking spaces
Total	***446 no. car parking spaces***
Motorcycle Parking Spaces	
Basement Level	28 no.
Ground-level undercroft	5 no.
Surface Level	0 no.

Description	Detail
Total	***33 no. motorcycle parking spaces***
Bicycle Parking	
Basement Level	0 no.
Ground-level undercroft	392 no. bicycle parking spaces for residents
Surface Level	100 no. bicycle parking spaces for residents and visitors
Office users	30 no. bicycle parking spaces for Swift Square Office Park personnel
Total	***522 no. bicycle parking spaces***
Other Facilities	
Concierge	158.2 sq.m.
Multi-functional Area	167.8 sq.m
Gym	89.7 sq.m.
Public Open Space	3,369 sq.m
Communal Open Space	1,600 sq.m.
Car club / share spaces	2 no. spaces

Source: Architectural Design Statement and Housing Quality Assessment (application documentation)

5.5.4 Proposed Residential Use

The development will include the construction of 3 no. apartment blocks with a combined total of 192 no. apartment units. All proposed apartments are provided with private balcony / terrace. A summary of unit sizes within each block is provided in **Table 5.2.**

Table 5.2: Schedule of Areas

Schedule of Apartment Units and Areas		
Block 1	**No. of Units**	**Area**
1 Bed	1	61.8 sq.m
2 Bed	63	80.9 – 99.7 sq.m
Block 2	**No. of Units**	**Area**
1 Bed	2	64.3 – 65.1 sq.m
2 Bed	60	80.9 – 99.7 sq.m
Block 3	**No. of Units**	**Area**
1 Bed	1	64.3 sq.m
2 Bed	65	80.9 – 99.7 sq.m

Source: Architectural Design Statement and Housing Quality Assessment (application documentation)

5.5.5 Ancillary Facilities

The proposed development also comprises the provision of ancillary residential facilities, including a concierge space (158.2 sq.m) on the ground-floor of Block 1, a multifunction area (167.8 sq.m) on the ground-floor of Block 2 and a gym (89.7 sq.m) at ground-floor level (undercroft) between Block 1 and 2.

The proposed ancillary residential facilities will face the proposed public open spaces along the southern part of the application site.

5.5.6 Cycle Parking

The proposed development will provide 392 no. bicycle parking spaces for residents in 4 no. bicycle store areas at ground-level undercroft. These bicycle store areas will provide for the secure storage of bicycles with access restricted to residents only.

A further 100 no. bicycle spaces are provided at the surface level for visitors. These bicycle parking spaces will be suitably overlooked for passive surveillance.

The proposed development also provides for the relocation of 30 no. existing bicycle parking spaces from the basement to the public area between the Swift Square Office Park buildings for the use of office workers at Swift Square Office Park buildings.

5.5.7 Motorbike Parking

The proposed development will include a total of 33 no. secure motorbike parking spaces, including 28 no. at basement level and 5 no. at ground-level undercroft.

5.5.8 Car Parking

The proposed development will include a total of 180 no. car parking spaces for residents, 12 no. car parking for visitors, and for the relocation of 254 no. existing car parking spaces ancillary to Swift Square Office Park buildings to the south of the subject site. Overall, the proposed development will provide for 446 no. car parking spaces.

The proposed car parking spaces will be distributed on a new basement level (360 no. spaces, including 2 no. disable) and new ground-floor undercroft level (74 no. spaces, including 1 no. disable) below the apartment blocks, and on-street surface level (12 no. spaces).

The proposed 12 no. visitor car parking spaces at street level will include 1 no. disabled car parking and 2 no. car-sharing spaces to further support sustainable transport patterns and be ducted for EV.

The proposed development includes implementing dedicated EV charging points in all proposed car spaces. 40 no. residential parking spaces (22%) will have EV charging points from the completion of the proposed development, with all ducting and services provided as part of the proposed development to facilitate non-disruptive retrofitting of EV charging points for all of the remaining residential parking spaces.

The car parking area at basement level will be accessible via a new access ramp located along the west of the site, connecting to the access road. A vehicular entrance to the parking area at the ground-floor undercroft is located to the north of the site

A *Traffic & Transport Assessment* and *Residential Travel Plan* prepared by J.B. Barry & Partners Ltd. and a *Multiple Occupancy Building Car Charging Strategy* prepared by McE Engineers are enclosed with the application documentation.

5.5.9 Nature of Materials and Building Elevational Treatments

A palette of durable and high-quality materials is proposed. This palette seeks to integrate with the materials used in the other residential developments by the applicant in Northwood (i.e., Cedarview, Blackwood Square and Whitehaven) adjoining the subject site. These materials will consist predominantly of selected brick in 3 colours, as follows:

- The tallest element is predominately clad in buff-coloured brick, with the lowest element in red brick to the north, similar to the character of Cedarview.

- A blue-grey brick is used to clad and emphasise intermediate elements and setbacks.
- A red-brick is used for the lower elements along the northern elevations.
- Corner spandrel panel features are introduced to the taller and lower gables to reduce any perceived bulk in massing.

The elevation drawings prepared by McCrossan O'Rourke Manning Architects included as part of the application documentation provide details of these materials and where they are located.

5.5.10 Access and Connectivity

The proposed development will be supported by an established pedestrian and cycling infrastructure network linking into Northwood Avenue and in and around the adjacent residential, retail and office developments, as detailed in **Figure 5-3** included in **Section 5.4.1** of this EIAR Chapter.

The proposed development includes upgrades to the existing cycle/pedestrian path running along the northern boundary. The proposed upgrades will allow for its extension and connection to existing developments further north (i.e., Cedarview), east, (i.e., Blackwood Square SHD and Gillivers Retail Park) and east (i.e., permitted Whitehaven SHD).

The proposed development also provides for cycle/walking connections along the east, west and south boundaries, connecting and creating direct routes from the proposed development and open spaces amenities to the existing network, Northwood Avenue and the future MetroLink Northwood Station.

The proposed development also includes an internal pedestrian circulation network connecting the proposed public open spaces east and south of the application site to existing and planned amenity spaces further east and south.

Vehicular access to the proposed basement car parking area will be via the existing local access road that runs along the west boundary. Vehicular access to the proposed undercroft parking area will be via the existing local access road to the north of the proposed development.

5.5.11 Proposed Open Spaces and Public Realm

The proposed development includes a hierarchy of open spaces comprising public open spaces, communal amenity space, and the public realm. Some of these spaces link in with adjoining sites.

The layout of these spaces is intended to enhance the urban design context of the neighbourhood and encourage a sense of community by providing a variety of outdoor uses to cater for all age groups and abilities. All of the various landscape spaces and typologies in this development have been designed to consider local biodiversity and ecology.

Proposals are illustrated on the landscape drawings prepared by Kevin Fitzpatrick Landscape Architecture within the application package. The character areas of open space are shown in **Figure 5-9** below.

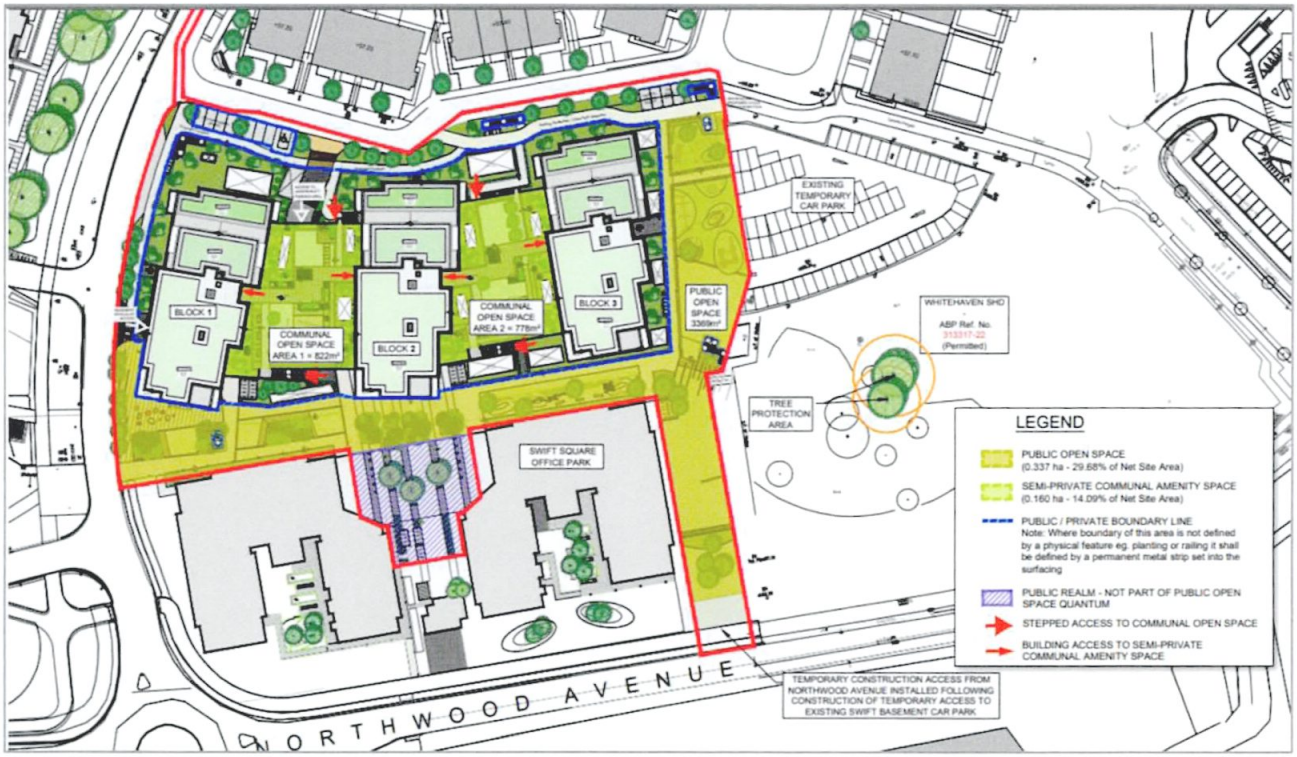

Figure 5-9: Proposed Open Space Areas (indicative subject site outline in red)

Source: McCrossan O'Rourke Manning Architects (scaled version included with the application package)

5.5.11.1 Public Open Space

Public open space (combined c. 3,369 sq.m; 29.67% of the gross site) is located along the south and west boundaries and includes various types of planting throughout the proposed development at street level.

The proposed public open spaces along the southern boundary consist of civic space (public plaza), a linear micro woodland and a pocket park. These spaces will provide a strong cycle connection and integrate with the public open spaces proposed along the east of the subject site. Please see **Figure 5-10** below.

Figure 5-10: Proposed Public and Communal Open Space

Source: Kevin Fitzpatrick Landscape Architects (scaled version included with the application)

The proposed public plaza is located at the southwestern corner of the subject site. This open space will create a new usable civic space which will allow for a range of uses. This will include sculptural / pebble seating and space for public installation. A micro woodland will run from east to west will create a green spine that will interconnect proposed open spaces along the south boundary and allow for the creation of an ecological corridor in combination with existing and permitted open spaces further west (Blackwood Square) and east (Whitehaven SHD). A pocket park is proposed adjoining the micro woodland and will function as both an informal play and seating area

Public open spaces along the eastern boundary include large lawns and play areas, which will allow for active and passive recreation.

There are a large number of new trees proposed, and the species are chosen for their appropriateness to the scale of the scheme and are varieties that will complement the tree planting in the local area. Planting will be predominantly native species to replace those being removed. The planting palette is chosen to provide seasonal interest all year round whilst contributing to the local biodiversity, with herbaceous planting interspersed throughout and evergreen planting and hedges as a backdrop. The herbaceous planting is intended to support the aims of FCC 's *All Ireland Pollinator Plan 2015-2020*.

Public open spaces are shown in the supporting landscape drawings prepared by Kevin Fitzpatrick Landscape Architects, enclosed with the application package.

5.5.11.2 Semi-private Communal Space

The proposed communal open spaces comprise c. 1,600 sq.m. Please see **Figure 5-11** below.

The proposed communal open spaces consist of two separate landscaped courtyards situated between Block 1 and Block 2, and between Block 2 and Block 3, on a podium at the first-floor level. These spaces have been designed as semi-private open spaces for residents' use and are defined by the apartment blocks, which create a sense of enclosure and provide passive surveillance over the landscaped areas. These semi-private open spaces will be high-quality useable spaces which will be a positive addition to the residential amenity for the future residents of the proposed development.

Figure 5-11: Proposed Communal Open Spaces

Source: Kevin Fitzpatrick Landscape Architects (scaled version included with the application)

Communal open spaces are shown in the supporting landscape drawings prepared by Kevin Fitzpatrick Landscape Architects, enclosed with the application package.

5.5.11.3 Public Realm

An enhanced public realm is created across the scheme, particularly at the north and west of the subject site. This includes the upgrade of the existing cycle/pedestrian path along the northeastern boundary of the site, the provision of a pedestrian route towards the southwest corner of the site, where a public plaza is proposed, and the provision of landscaped buffer strips with ornamental shrub and tree planting which will add visual interest to the public realm and provide for a natural and high aesthetic transition from an apartment scheme form to a more low-to-medium housing type of housing development (i.e., Cedarview).

The public realm will be further enhanced by a series of stone-paved paths to the various entrances to the block and will integrate with the existing civic space at Swift Square Office Park before transitioning into a linear park and linking in with the proposed public open spaces along the south and east of the proposed blocks.

5.5.11.4 Play Areas

The proposed development will provide play areas for children of all ages within the scheme within the public and communal open spaces.

The play areas within the communal courtyards (each measuring 70 sq.m) include both formal and informal play equipment intended for use by younger children aged 2-6. There will be planted buffers for the outdoor terraces, the facades and windows of all apartment blocks fronting to the communal courtyards, ensuring

that resident's privacy and views are blocked from the play areas located in the courtyards into the private spaces.

Play equipment for older children is provided within a larger play area at the northeast corner of the site within the public open spaces located along the east of the subject site. These informal and formal play areas measure c. 780 sq.m for mixed ages.

The location of the play areas at the northeast corner of the site will allow for the integration with future play areas as part of the permitted residential scheme to the east of the application (Whitehaven SHD). This location will allow children access to a wider range of play areas and create a friendly and safe environment to meet other children and interact. The space is defined by fencing and hedging to provide separation from the pedestrian and cycle route while remaining visually connected.

Furthermore, large lawn areas are located to the centre and south of this linear space that will function as a passive recreation space or an active kickabout space. One of the lawns is located adjacent to the play area with a seating area designed to provide inward and outward-orientated seating options and provide users with a clear view over the kickabout space and play area.

Formal clipped hedges are used to provide structure to the play spaces while also creating a buffer and a secure area for children to play and preventing the activities from spilling out towards the apartments.

The play areas will be overlooked by the apartments in Block 3, ensuring passive surveillance of these spaces. Residents accessing Block 3, which main entrance fronts the play area, and residents and visitors walking north/south along the proposed pedestrian route adjoining the play areas will also provide passive surveillance over the play areas.

5.5.11.5 Private Amenity Spaces

All apartments are provided with private amenity spaces in the form of private balconies at the upper levels and terraces at ground and undercroft level (when fronting onto the communal open spaces).

5.5.11.6 Management and Taking in Charge

No areas are proposed to be taken in charge and will be managed by a management company. Those areas that are open to the public, including public open spaces, roadways and footpaths, are of a standard that they can be taken in charge. Those areas that could be taken in charge by agreement at some point in the future are identified on *Drawing. No. PL104 Public Area* (MCORM Architects) submitted as part of the application.

5.5.12 Services and Utilities

5.5.12.1 Water Supply and Wastewater Disposal

The water needs of the development will be provided by mains water via the existing 200mm watermain in the local road from Northwood Avenue. This existing water main is supplied from the existing 600mm North Fringe Watermain in Northwood Avenue.

UÉ (formerly Irish Water) has confirmed that water supply to the proposed development is feasible without upgrades. A copy of the Confirmation of Feasibility Statement is contained in Appendix 1 of the *Water Service Report* prepared by J.B. Barry & Partners Ltd. enclosed with the application package.

The water supply and wastewater disposal proposed networks are shown in the supporting drawings prepared by J.B. Barry & Partners Ltd, enclosed with the application package.

5.5.12.2 Wastewater disposal

The wastewater generated by the proposed development will be collected and piped to a public sewer via the existing 225mm diameter foul located in the access road. This sewer is connected to the North Fringe Sewer at the roundabout on Northwood Avenue.

The foul and storm sewer networks will be on separate systems. No foul effluent will discharge to the storm water system.

UÉ (formerly Irish Water), in their Confirmation of Feasibility Statement (reference CDS22005482), has confirmed that there is capacity in their wastewater infrastructure to cater for this development without upgrades. A copy of the Confirmation of Feasibility Statement is included in Appendix 1 of the *Water Service Report* prepared by J.B. Barry & Partners Ltd. and submitted as part of the application package.

The proposed wastewater disposal network is shown in the supporting drawings prepared by J.B. Barry & Partners Ltd, enclosed with the application package.

5.5.12.3 Drainage

The proposed development will incorporate the construction of roofs and podium, paved areas, internal roads and carparks, the runoff from which will be collected in a purpose-designed drainage system.

The proposed surface water drainage will be designed to incorporate Sustainable Urban Drainage Systems (SuDS) devices, in the form of permeable paving and a Green Roof system over 60% of the apartment roof and central courtyard areas to limit any potential pollutants in runoff prior to discharge to the Santry River. The SuDS strategy for the development provides a comprehensive approach to the management of surface water on the site, including water quality and water quantity.

The surface water runoff from all hardstanding areas, including the roof, podium, private roads, hardstanding's and associated footpaths, has the potential of passing through a minimum of two SuDS measures.

All surface water discharge from the proposed site will pass through suitably sized hydrocarbon interceptors.

The proposed drainage network is shown in the supporting drawings prepared by J.B. Barry & Partners Ltd, enclosed with the application package.

5.5.12.4 Lighting

The proposed lighting plan has been designed in accordance with the Fingal Development Plan 2023-2029 providing a level of brightness that will minimise incidences of light spillage or pollution on the neighbouring residential developments and biodiversity in the surrounding area.

Lighting proposals are illustrated on the drawings prepared by McElligott Engineers, which form part of the application documentation.

5.5.13 Energy

The construction phase of the proposed development will require a peak load of 300kVA. The majority of this supply will be for the cranes during construction.

The proposed development will require the construction of a potential double substation on site. The load associated with the planned scheme will require a full new electrical infrastructure on site, and while the apartments will be highly energy efficient in terms of internal power demand, lighting and general services there will be a specific capacity provision for electric cars.

An *Energy Statement* has been prepared by McElligott Engineers to identify the energy strategy for the proposed development and confirmation of the proposed method of compliance with Part L 2011 of the Building Regulations. This is included in the application documentation. The *Energy Statement* confirms that the approved construction details will achieve a minimal thermal bridging factor of 0.08. The net impact of these combined criteria is that the heat losses associated with the apartments will be below 25% of the total thermal demand.

5.5.14 Emissions and Waste

The wastewater generated by the proposed development will be collected and piped to a public sewer. The proposed development will incorporate the construction of roofs and podiums, paved areas, internal roads and carparks, the runoff from which will be collected in a purpose-designed drainage system.

Details of the proposed surface water network and the proposed SuDS measures for this development are shown in Drawing. Nos. 21204-JBB-00-XX-DR-C-01403 Rev P1 and 21204-JBB-00- XX-DR-C-01404 Rev P1.

The greatest potential impact on air quality during the construction phase of the proposed development is from construction dust emissions and the potential for nuisance dust and PM10/PM2.5 emissions. Principal air emissions from the proposed development when operational will relate to discharges from motor vehicles traffic travelling to and from the development and parking within the site and services operating the building. A full assessment of the air emissions element of the proposed development is set out in **Chapter 9** (Air Quality) of Volume 2 of this EIAR.

The proposed development will increase the noise level on the site and at nearby premises. A full assessment of the noise emissions is set out in **Chapter 12** (Noise and Vibration) of Volume 2 of this EIAR.

5.5.14.1 Municipal Waste/Waste Management

The principal objective of sustainable resource and waste management is to use material resources more efficiently, to reuse, recycle and recover material and reduce the amount of waste requiring final disposal.

Municipal waste means household waste as well as commercial and other waste that, because of its nature or composition, is similar to household waste. It excludes municipal sludge and effluents. An *Operational Waste Management Plan* provides for:

- Refuse storage in 2 no. storerooms at ground floor level accessed from within the undercroft. This will enable easier access as well as management of bins on collection days without having to use a ramp. These bin stores are distributed evenly around the basement area, proximate to the lift cores serving the floors above. The filled bins will be taken via the undercroft entrance to the layby located at the north of the proposed buildings for collection on designated days and will be returned by an onsite by caretaker or the appointed waste management company.
- There will be minimal usage from the 3 ancillary units (gymnasium, concierge and multifunction spaces) and the waste generated will be brought to one of the bin storerooms.
- All waste will be collected in accordance with the relevant by-laws.
- General Waste - General waste will be taken twice weekly and sent to the newly opened 'Waste to Energy Plant' in Poolbeg Dublin 4, where it will be transferred into energy.
- Recycling/Cardboard – Recycling and cardboard will be taken twice weekly and processed, and transferred to mills and recycling plants.
- Mixed Glass– Mixed glass will be taken every two weeks and brought to a world-class facility in Kildare.
- Compost/Food waste– Food waste will be taken once weekly and be transported to World Class Facility, which was awarded 'Best Large AD Plant' at the 'World Biogas Summit Awards in 2020
- WEEE and 'non domestic' waste tends to be removed on request. To make it sustainable and cost-effective, this is taken when it reaches a certain amount and can be stored in a separate room or put to one side till then.

Additional collections can be provided for each service if required.

5.6 Construction Management Strategy

5.6.1 Phasing / Stages of Construction

The expected construction will be delivered in a single phase over c. 24 months. However, it is feasible that market conditions would require alterations to any programme which is specified at this time, and it is likely that it will be reviewed during construction.

An *Outline Construction Environmental Management Plan* (Outline CEMP*)* and *Draft Construction Management Plan* (CMP) prepared by J.B. Barry & Partners Ltd. is enclosed with the application package. A final CEMP will be completed prior to the commencement of development.

The main stages of construction will proceed in a general sequence as follows:

- Enabling Works, including set-up of site construction facilities
- Service diversion works;
- Construction of new temporary access to existing Swift Office basement car park

- Site clearance will include cut and fill of existing ground profiles and formation of basement excavation;
- Construction of drainage, water supply and utility service distribution network within the site;
- Construction of basement car park and podium/transfer slab at ground level
- Construction of multi-storey apartment blocks
- Roads, landscaping, and paving
- Building fit-out and commissioning.

Geotechnical investigation undertaken throughout the area has established a consistent stiff layer of black boulder clay at approximately 2.0-2.5m below ground level throughout, and the water table was not encountered in any trial pits or boreholes at a depth of 7.5m

The construction of the basement will involve excavations to an approximate depth of 4.0m below the existing ground level and the removal of approximately 29,000m3 of excavated material from site.

All foundations will be founded on the stiff layer of black boulder clay and will consist of reinforced concrete pad footings to columns and strip footings to all retaining core and stairwell walls.

All apartment blocks will be constructed on reinforced concrete transfer slabs at the ground floor level to transfer all upper-level loadings into basement columns. Upper floors will consist of precast floor structures supported on load-bearing blockwork. Blockwork strengths will vary throughout each floor level. The precast floors will consist of hollow core units with a reinforced structural screed. Balconies will be fabricated in precast concrete supported on external steel columns and fixed back to the main concrete structure with steel stub brackets.

5.6.2 Site Management

All construction activities will be governed by a Construction Traffic Management Plan (CTMP) the details of which will be agreed with FCC's Roads Department prior to the commencement of the Construction Phase.

5.6.2.1 Construction Hours

The permitted site operation hours are expected to be 07:00-19:00 on weekdays and 09:00-13:00 on Saturdays, with no works on Sundays or bank/public holidays in accordance with the Environmental Noise Regulations 2006 and subject to final agreement with FCC.

In exceptional instances, should work be required outside of these hours, a bespoke agreement will be sought from FCC prior to any work taking place. The appointed contractor will be required to prepare and adhere to a Site Environmental Policy Plan, and any employed subcontractors will be required to buy into this document. Unscheduled deliveries will not be allowed access.

5.6.2.2 Construction Site Access and Staff Parking

Pedestrian access will be strictly controlled. Only Safepass accredited personnel will be permitted on site, and daily in-out attendance records will be maintained. Safe pedestrian access points will be provided based on the stage of work and layout of the construction site.

Construction traffic will access the site from the existing access road to the west of the site between the development site and the adjacent Blackwood Square development and also via a proposed temporary site access off Northwood Avenue, as indicated in **Figure 5.12** below. The routing will be strictly managed and controlled, and details will be incorporated into the traffic management plan to be drafted in full consultation with Fingal County Council, An Garda Siochana, the Fire Service and the Ambulance service.

The primary site compound will be located within the site boundaries along the southern boundary between the two existing Swift Office blocks.

A construction staff car park will be provided close to the site, in a designated area northeast of the adjacent Gulliver's Retail Park, as indicated in **Figure 5.12** below. This car park will also provide temporary parking for the existing Swift Office surface car parking, which needs to be relocated to facilitate construction works.

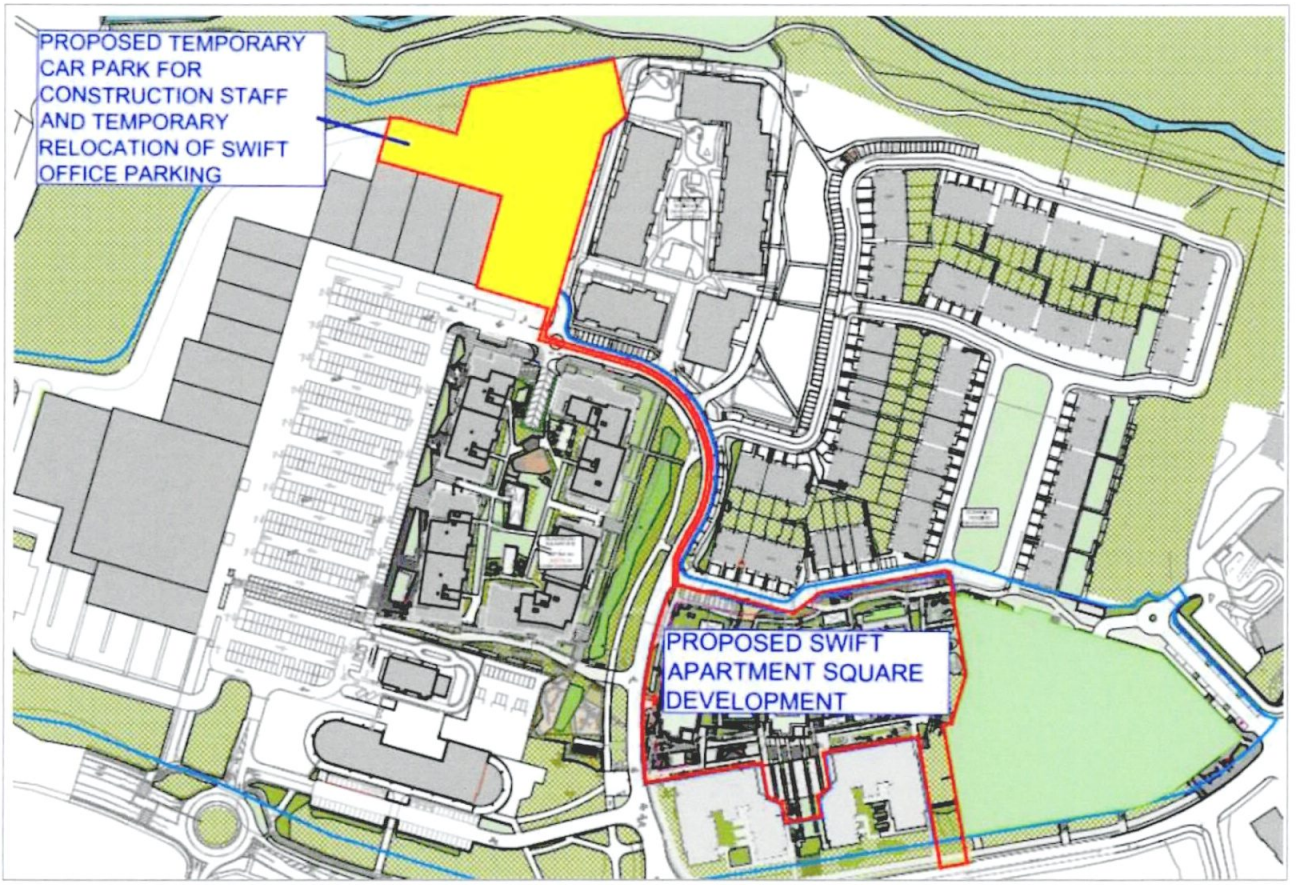

Figure 5-12: Temporary construction staff and Swift Square Office personnel car parking

Source: J.B. Barry Partners Ltd. 'Draft Construction Management Plan'.

5.6.2.2.1 Temporary Access to Existing Swift Basement Car Park

When the existing Swift Office basement car parking spaces have been transferred to its new temporary location (**Figure 5-12**) the existing vehicular ramp access to basement car park will then be removed. A new temporary ramp will be constructed to facilitate temporary access to the basement car park from Northwood Avenue, as indicated in **Figure 5-13** below.

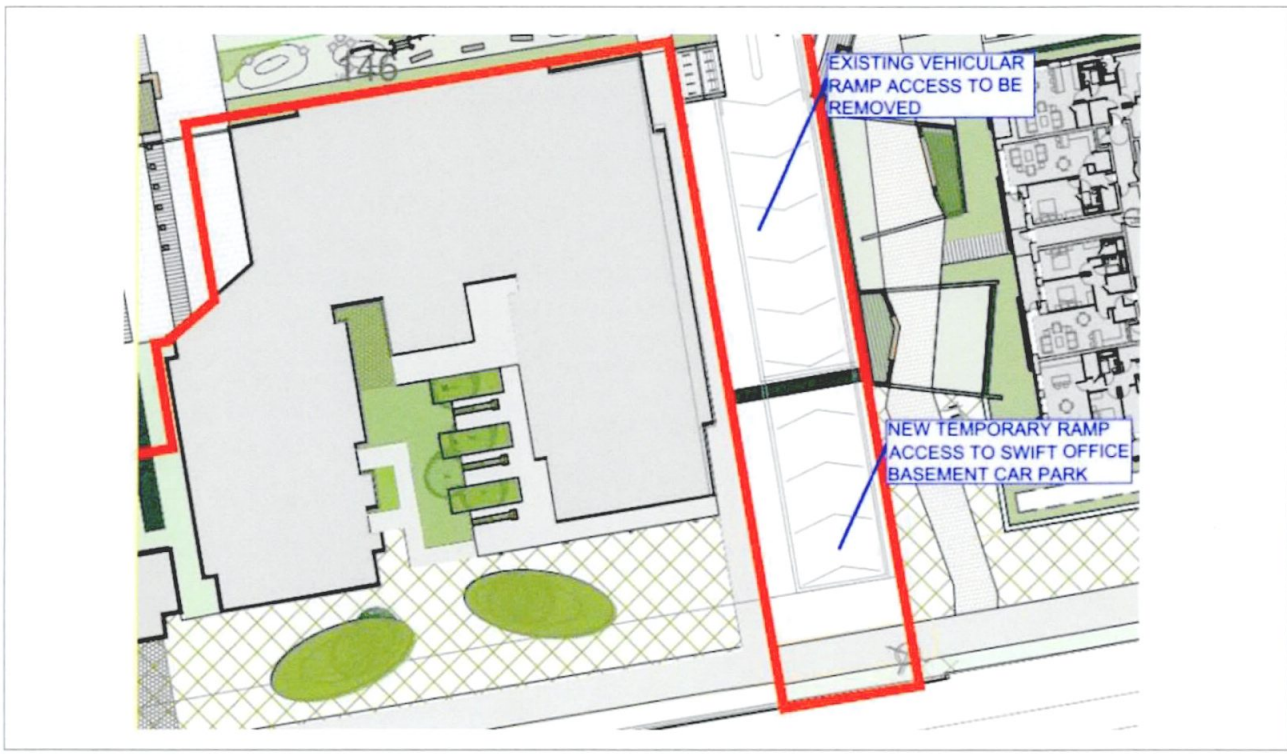

Figure 5-13: Temporary Access to Existing Swift Basement Car Park

Source: J.B. Barry Partners Ltd. 'Draft Construction Management Plan'.

5.6.2.3 Construction Personnel

Based on a 24-month construction period and on industry-standard figures, it is likely that an average of c. 60 construction personnel will be on site daily. However, it is likely that this figure may be higher during periods of peak activity.

5.6.2.4 Traffic Management

All construction activities will be governed by a construction traffic management plan, the details of which will be agreed upon with FCC's Roads Department prior to the commencement of the Construction Phase. The principal objective of the CTMP is to ensure that the impacts of all building activities generated during the Construction Phase upon both the public (off-site) and internal (on site) workers environments, are fully considered and proactively managed / programmed respecting key stakeholders' requirements.

During the construction works, there will be additional HGV movements to/from the site. Traffic will be generated by the disposal of surplus subsoil from the site, deliveries of construction materials and equipment and, of course, private vehicles owned and driven by construction workers and staff.

It should be noted that construction traffic generated during the Construction Phase tends to be outside of peak hours (staff and deliveries generally arrive before 07:00 and depart after 19:00). The traffic generated by the construction phase will not be higher than the peak hour predicted volumes for the Operational Phase. Any specific recommendations/requirements regarding construction traffic management made by FCC will be adhered to during this phase.

5.6.2.5 Waste Management

A *Construction Waste Management Plan* (CWMP) has been prepared by J.B. Barry & Partners Ltd. and enclosed with the application package.

Management of all waste throughout the project lifecycle will be in accordance with EU, National and Regional waste management policy, and the principles of the Waste Hierarchy i.e., prevention, minimisation, reuse, recovery, and recycling. In order to prevent and minimise the generation of wastes, the contractor is

required to ensure that raw materials are ordered in a timely manner so that the quantity delivered and the storage does not lead to the creation of unnecessary waste.

Wastes generated will be identified and segregated according to their category as described by the European Waste Catalogue (EWC).

In the unlikely event that hazardous waste is encountered, appropriate storage, transportation and disposal of waste must be adhered to. A suitable qualified person will classify the material in accordance with EWC and the Hazardous List. If non-hazardous waste becomes contaminated with hazardous waste, the entire load will be considered hazardous.

Other wastes requiring specialised management will be stored separately or in a designated covered container for removal to a licensed facility for disposal.

5.7 Cumulative Effects

The cumulative impacts of the proposed development with other projects are considered in specialist chapters. Among the projects considered in these chapters are proximate developments which have been granted planning permission, including:

- **Ref. SHD/015/19 (Blackwood Square SHD)**

In March 2020, ABP granted permission for an SHD known as Blackwood Square comprising of 4 no. 8-storey apartment blocks consisting of 329 apartment units; a multi-functional area; a gym; childcare facility, 5 no. mixed-use units; 338 no. car parking; 760 no. cycle parking spaces; and associated site works.

In April 2021 the terms of conditions attached were altered under case Ref. ABP-309416-21, resulting in the number of apartments increasing to 330 no. units and a childcare facility to accommodate a minimum of 62 childcare places.

The development is now completed.

- **Ref. SHD/008/21 (Whitehaven SHD)**

In March 2023, ABP granted permission for a SHD known as Whitehaven adjoining the subject site to the east. The proposed development will consist of the construction of a residential development comprising of 5 no. apartment blocks of 5-9 storeys containing 255 no. apartment units with a childcare facility, shared residential services in a single storey between Blocks 2 and 3, and open spaces over a shared basement. The permitted development also includes for the provision of a childcare facility capable of accommodating c. 70-75 no. children.

- **Ref. F18A/0421 (Northwood 1 – Phase 1) & F18A/0438 (Northwood 1 – Phase 2)**

In March 2019, planning permission was granted under Ref. F18A/0421 (phase 1) for a mixed-use residential scheme comprising 99 no. apartments, concierge, creche, residents lounge and meeting rooms on lands approximately 180m to the southwest of the subject site, south of Northwood Avenue.

In April 2019, planning permission was granted under Ref. F18A/0438 (phase 2) for a mixed-use development comprising 2 no. 6-storey blocks containing 99 no. apartments in total, four storey office building (c. 2,536 sq.m) and other associated development. The application forms phase 2 of the development permitted under Ref. F18A/0421 and is located approximately 180m to the southwest of the subject site, south of Northwood Avenue.

- **Ref. SHD/011/21 and ABP 313179 (Northwood SHD)**

In March 2023, ABP granted permission for a development known as Northwood SHD. The proposed SHD consists of 2 no. apartment blocks with 268 no. build-to-rent apartments units and an office block, has been recently permitted by ABP (Ref. ABP-313179-22). The permitted development also includes for the provision of a childcare facility capable of accommodating c. 38 no. children.

- **Ref. F18A/0675, F21A/0175 and F22A/0591 (Sports Surgery Clinic)**

In July 2019, FCC issued a split decision for development at the Sports Surgery Clinic, Northwood Avenue, Santry, Dublin 9. The permitted retention permission element of the application included 3 no. storage sheds and modifications to the surface car park layout permitted under Ref. F15A/0482. The refused permission element of the development sought the extension of the car park to provide an additional 72 no. spaces, new access to car park, new lighting, landscaping, and all associated site works.

In June 2021, FCC granted permission for a single-storey extension to the existing Sports Surgery Clinic under planning application with Ref. F21A/0175. The proposal consisted of the relocation of 4 no. existing surface car parking spaces, the provision of 3 no. additional car parking spaces and external plant within an enclosed yard area (20 sq.m). The single storey extension (3.9 m in height) will include an MRI room, an equipment room, changing rooms, a control room, and a toilet (total GFA 94 sq.m) and all associated site works.

In April 2023, FCC granted permission for an extension to the existing Sports Surgery Clinic under Ref. F22A/0591. The proposal comprises an extension of c. 6,365 sq.m accommodate in 4 storeys plus plant room with an overall height of 1.92m over a c. 4,696 sq.m.

6 BIODIVERSITY

6.1 Introduction

Chapter 6 (Biodiversity) of this EIAR presents the output of the biodiversity assessment and contains information regarding, *inter alia*, the biodiversity baseline scenario, the potential impacts on biodiversity, the mitigation measures and the predicted residual effects of the proposed Swift Square Apartments Development (hereafter referred to as the proposed development, see **Figure 6-1** below).

The likely significant effects of the proposed development on biodiversity include impacts on water quality, on habitats, and on flora and fauna, during the construction and operation of the proposed development. The assessment undertaken for the proposed development identified numerous key ecological receptors (KERs) within the study area that could potentially be impacted by the proposed development. These KERs are examined in detail in this chapter.

The methodologies used to collate information on the baseline biodiversity environment and assess the likely significant impacts of the proposed development are detailed in the following sections.

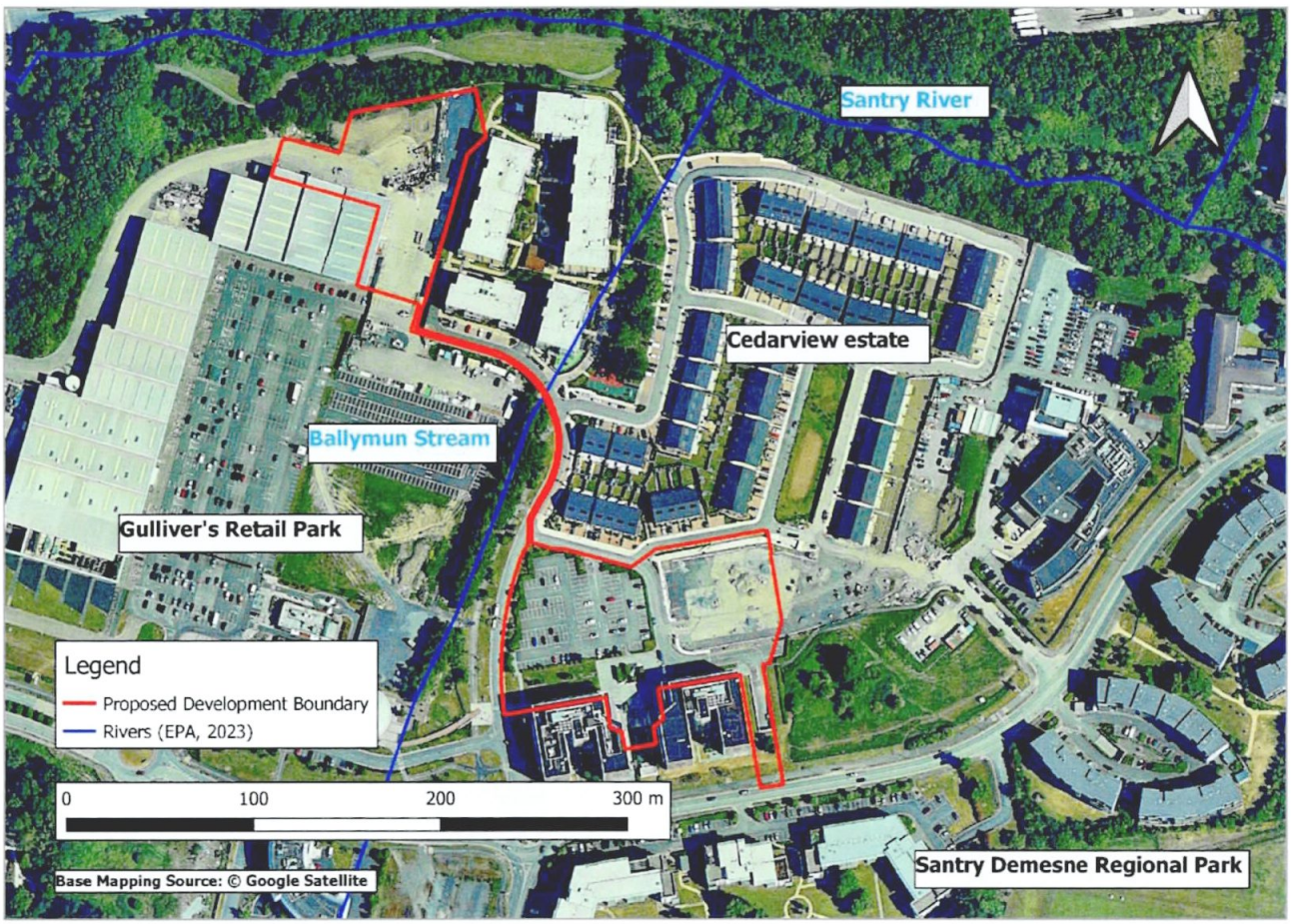

Figure 6-1: Location of the proposed development in the context of the immediate surrounding environment (indicative subject site outline in red)

Source: Google Satellite (2023)

6.1.1 Purpose

The purpose of this chapter is to:

- Establish and evaluate the baseline ecological environment as relevant to the proposed development;
- Identify, describe, and assess all potentially significant ecological effects associated with the proposed development;

- Set out the mitigation measures required to address any potentially significant ecological effects and ensure compliance with relevant nature conservation legislation;
- Provide an assessment of the significance of any residual ecological effects; and
- Identify any appropriate compensation, enhancement, or post-construction monitoring requirements.

6.2 Assessment Methodology

In accordance with the requirements of Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014, amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment (referred to as "the EIA Directive"), this chapter documents the methodologies used to collate information on the baseline biodiversity environment and assess the likely direct and indirect significant impacts of the proposed development on biodiversity, with particular attention to species and habitats protected under both EU and Irish law.

This Chapter also makes reference to an *Appropriate Assessment Screening Report* (hereafter referred to as the AA Screening Report), which has also been prepared on behalf of the client and submitted with the application for approval, so as to enable FCC, the competent authority, to carry out the assessments required pursuant to Article 6(3) of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (hereafter referred to as the "Habitats Directive") and Directive 2009/147/EC on the conservation of wild birds (hereafter referred to as the "Birds Directive").

Chapter 5 (Project Description) of Volume 2 of this EIAR, provides a detailed project description of the proposed development, and the biodiversity chapter should be read in conjunction with it. A review of the proposed development was undertaken, which identified numerous Key Ecological Receptors (KERs) within the study area that could potentially be impacted by the proposed development. These KERs are examined in detail in this Chapter.

The methodologies used to collate information on the baseline biodiversity environment and assess the likely significant effects of the proposed development are detailed in the following sections.

6.2.1 Author's Information

This chapter was written by Nicholas Fettes BSc MSc, and has been reviewed by Emmi Virkki BSc (Hons) MSc MCIEEM, and Caroline Kelly BSc MSc of Scott Cawley Ltd.

Nicholas Fettes is a Consultant Ecologist at Scott Cawley Ltd. He holds an honours degree in Zoology and a master's degree in Environmental Policy, both acquired at University College Dublin. He has obtained experience working in a diverse set of environmental roles in the public, private, and charity/NGO sectors, including as a Biodiversity Conservation Officer with the IUCN where he worked on the European Red List for Bryophytes and other EU-funded projects on protected areas and invasive alien species, as an Environmental Intern with An Taisce, and as a Biodiversity Assistant to FCC's Biodiversity Officer. Nicholas has over two years' professional ecological consultancy experience, carrying out habitat and protected species surveys, including bat, otter, badger and breeding and wintering birds. Since joining Scott Cawley Ltd., he has prepared several Appropriate Assessment (AA) Screening Reports and Ecological Impact Assessments (EcIA) for a range of different development projects across the country. Nicholas has been involved in the preparation of Nature Impact Reports (NIR) for a number of local authority development plans and has also gained experience in biodiversity action plan development.

Emmi Virkki is a Senior Ecologist with Scott Cawley Ltd. with over six years of experience. She obtained an honours degree in Environmental Biology, from University College Dublin and a Masters degree in Environmental Science from the same institution. Emmi is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM). Her professional experience comprises of work with clients at both government and private levels. Emmi's specialism is ornithology, but she is also skilled in an extensive range of surveys, including terrestrial surveys for flora, fauna and non-native invasive species in all key Irish habitats. Her experience also comprises of work on monitoring projects for national surveys of Annex I habitats in sand dune and saltmarsh habitats. She has considerable experience in designing, undertaking and managing a wide range of ecological surveys, assessing impacts and designing mitigation measures and biodiversity enhancements. Emmi's experience includes a significant number of small to large scale projects where she was actively involved in to inform impact assessment for planning purposes. She has authored and assisted in the preparation of numerous Ecological Impact Assessment (EcIA), Preliminary Ecological Appraisal (PEA) and Appropriate Assessment (AA) reports, as well as Biodiversity Chapter of

Environmental Impact Assessment (EIA) reports, for linear infrastructure, residential, commercial, educational and industrial projects.

Caroline Kelly is a Principal Ecologist with Scott Cawley. She holds an honours degree in Environmental Biology, from University College Dublin (UCD) and a Masters in Applied Ecological Assessment from University College Cork (UCC). Caroline has experience in habitat survey and assessment in a range of terrestrial, freshwater and coastal environments (including protected sites), surveys for protected species (bats, badger, otter), bird surveys (both over-wintering and breeding birds) and surveys for invasive species. Caroline has conducted ecological baseline surveys on road and linear infrastructure projects of strategic importance at the national level. Caroline has a keen interest in environmental legislation and creating awareness about the relevant implications of such legislation for development. She has extensive experience in the preparation of Ecological Impact Assessment (EcIA), Appropriate Assessment (AA) Screening and Natura Impact Statements (NIS) reports across a range of projects, including tourism, industrial, transport, residential and renewable energy developments and also acts as internal reviewer (as part of Scott Cawley's quality assurance process) for such reports also.

6.2.2 Guidance, Policy and Legislation

The collation of ecological baseline data and the preparation of this assessment has had regard to the following legislation and policy documents. This is not an exhaustive list but the most relevant legislative and policy basis for the purposes of preparing this EIA.

The following international legislation is relevant to the proposed development:

- Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora; hereafter, referred to as the 'Habitats Directive'. The Habitats Directive is the legislation under which the Natura 2000 network[7] was established and Special Areas of Conservation (SACs) are designated for the protection of natural habitat types listed in Annex I, and habitats of the species listed in Annex II, of that directive.
- Directive 2009/147/EEC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds; hereafter, referred to as the 'Birds Directive'. The Birds Directive is the legislation under which Special Protection Areas (SPAs) are designated for the protection of endangered species of wild birds listed in Annex I of that directive.
- Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy hereafter, referred to as the 'Water Framework Directive' (WFD). The Water Framework Directive is the legislation requiring the protection and improvement of water quality in all waters (rivers, lakes, groundwater, and transitional coastal waters) with the aim of achieving good ecological status by 2015 or, at the latest, by 2027.

The following national legislation is relevant to the proposed development:

- *Wildlife Acts 1976 to 2021*; hereafter collectively referred to as the 'Wildlife Acts'. The Wildlife Acts are the principal pieces of legislation at national level for the protection of wildlife and for the control of activities that may harm wildlife. All bird species, 22 other animal species or groups of species, and 86 species of flora are protected under this legislation.
- *Planning and Development Acts 2000 to 2021*; hereafter collectively referred to as the 'Planning and Development Acts'. This piece of legislation is the basis for Irish planning. Under the legislation, development plans (usually implemented at local authority level) must include mandatory objectives for the conservation of natural heritage and for the conservation of European Sites. It also sets out the

[7] The Natura 2000 network is a European network of important ecological sites, as defined under Article 3 of the Habitats Directive 92/43/EEC, which comprises both special areas of conservation and special protection areas. Special conservation areas are sites hosting the natural habitat types listed in Annex I, and habitats of the species listed in Annex II, of the Habitats Directive, and are established under the Habitats Directive itself. Special protection areas are established under Article 4 of the Birds Directive 2009/147/EC for the protection of endangered species of wild birds. The aim of the network is to aid the long-term survival of Europe's most valuable and threatened species and habitats. In Ireland these sites are designed as European sites - defined under the Planning Act and/or the Birds and Habitats Regulations as (a) a candidate site of Community importance, (b) a site of Community importance, (c) a candidate special area of conservation, (d) a special area of conservation, (e) a candidate special protection area, or (f) a special protection area. They are commonly referred to in Ireland as Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

requirements in relation to environmental assessment with respect to planning matters, including the transposition of the Habitats and Birds Directive into Irish law.

- *European Communities (EC) (Birds and Natural Habitats) Regulations 2011 to 2015*; hereafter the 'Birds and Habitats Regulations'. This legislation transposes the Habitats and Birds Directives into Irish law. It also contains regulations (49 and 50) that deal with non-native invasive species (those included within the Third Schedule of the regulations).
- *European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003)*. This legislation transposes the Water Framework Directive into Irish Law.
- *Flora (Protection) Order, 2022*. This lists species of plant protected under Section 21 of the Wildlife Acts.

The following plans are relevant to the proposed development:

- National Biodiversity Action Plan 2017-2021 (Department of Culture Heritage and the Gaeltacht, 2017)
- All-Ireland Pollinator Plan 2021-2025 (National Biodiversity Data Centre, 2021)
- Fingal Development Plan 2023-2029 (FCC, 2023)
- Fingal Biodiversity Action Plan 2022-2030 (FCC, 2022)

Guidance documents for which this chapter has been cognisant, include:

- Environmental Impact Assessment of Projects - Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017);
- Environmental Protection Agency (EPA) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (hereafter referred to as the EPA Guidelines) (EPA, 2022);
- Draft Advice Notes for Preparing Environmental Impact Statements (hereafter referred to as the EPA Advice Notes) (EPA, 2015);
- Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment (European Commission, 2013);
- Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine (hereafter referred to as the CIEEM Guidelines) (CIEEM, 2018);
- National Roads Authority (NRA) Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes (NRA, 2005);
- Guidelines for the Treatment of Badgers during the Construction of National Road Schemes. National Roads Authority (NRA, 2006a);
- Best Practice Guidelines for the Conservation of Bats in the Planning of National Road Schemes. National Roads Authority (NRA, 2006b);
- Guidelines for the Treatment of Otters prior to the Construction of National Road Schemes (NRA, 2008c);
- The Management of Invasive Alien Plant Species on National Roads - Technical Guidance (TII, 2020a);
- The Management of Invasive Alien Plant Species on National Roads – Standard (TII, 2020b)
- Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009);
- Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes (NRA, 2008a);
- Environmental Impact Assessment of National Road Schemes – A Practical Guide (NRA 2008b);
- Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd edition (Collins, J (ed.), 2016);
- The Bat Workers' Manual (Mitchell-Jones and McLeish, 1999);
- Bat Mitigation Guidelines for Ireland. Irish Wildlife Manuals No. 25 (Kelleher and Marnell, 2006);
- The Irish Bat Monitoring Programme 2015 - 2017. Irish Wildlife Manuals 103. (Aughney *et al.*, 2018);

- National Parks and Wildlife Service (NPWS) Circular NPW 1/10 & PSSP 2/10 Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities (NPWS, 2010);
- Circular Letter NPWS 2/07 Guidance on compliance with Regulation 23 of the Habitats Regulations 1997 – strict protection of certain species/applications for derogation licences (NPWS, 2007a); and
- Circular Letter PD 2/07 and NPWS 1/07 Compliance Conditions in respect of Developments requiring (1) Environmental Impact Assessment (EIA); or (2) having potential impacts on Natura 2000 sites (NPWS, 2007b).

6.2.3 Desk Study

A desk study was initially undertaken on the 11th October 2021, and updated on the 10th February 2022 and on the 16th January 2023 to collate available information on the local ecological environment. The following resources were used to inform the assessment presented in this report:

- Data on European sites, Natural Heritage Areas (NHAs) or proposed Natural Heritage Areas (pNHAs) as held by the NPWS from https://www.npws.ie/protected-sites and https://www.npws.ie/maps-and-data – refer to **Appendix 6.1** and **6.2** and **Figure 6-2** and **Figure 6-3** for descriptions and locations of protected sites in the vicinity of the proposed development
- Records of rare and protected species for the 10km grid square(s), as held by the National Biodiversity Data Centre (NBDC) www.biodiversityireland.ie or the NPWS – refer to Appendix B for all desk study flora and fauna records
- Ordnance Survey Ireland mapping and aerial photography from http://map.geohive.ie/
- Data on waterbodies, available for download from the EPA web map service. Available from https://gis.epa.ie/EPAMaps/
- Information on soils, geology and hydrogeology in the area available from the Geological Survey Ireland (GSI) online Spatial Resources service. Available from https://www.gsi.ie/en-ie/data-and-maps/Pages/Groundwater.aspx
- Information on the conservation status of birds in Ireland from Birds of Conservation Concern in Ireland (Gilbert *et al.*, 2021,)
- Publicly available information on inland feeding sites for light-bellied Brent geese in the Dublin area contained within Benson (2009), Scott Cawley Ltd., (2017) and Enviroguide (2019)
- Information on the location, nature and design of the proposed development supplied by the applicant's design team.

6.2.4 Consultation

A consultation letter was previously prepared and sent to NPWS on the 30th March 2021. No response to this original request was received. On the 27th January 2023, an updated consultation letter requesting comments and feedback on the proposed residential development was issued via email to the NPWS. At time of writing, no response to this request has been received.

Recommendations from Inland Fisheries Ireland (IFI) previously circulated by RPS Ltd. on the 11th November 2021 included the consideration of protected aquatic species as well as the restoration program of the Santry River that is currently being undertaken by Dublin City Council.

6.2.5 Assessment Approach

The criteria used to assess the ecological value (**Appendix 6.3**) and significance of the site for habitats and species follows NRA Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009) and is consistent with CIEEM guidelines outlined in Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine (CIEEM, 2018).

6.2.6 Assessment Criteria

In accordance with NRA (2009) guidelines, impact assessment is only undertaken of KERs. KERs are within the Zone of Influence (ZoI) of the development and are *'both of sufficient value to be material in decision*

making and likely to be affected significantly'. To qualify as KERs, features must be of local importance (higher value) or higher as per the criteria in **Appendix 6.3**. Features of lower ecological value are not assessed. The highest levels of impact significance for each key ecological receptor 'value' rating are shown in **Table 6.1**.

Table 6.1 Key Ecological Receptor Assessment Criteria

Key Ecological Receptor 'value' rating	Highest possible significance level
International importance	Significant Positive/ Negative impact at International level
National importance	Significant Positive/ Negative impact at National level
County importance	Significant Positive/ Negative impact at County level
Local importance (higher value)	Significant Positive/ Negative impact at Local level

Impacts are described as being either significant or not significant. Broadly, significant effects encompass impacts on the structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species (including extent, abundance and distribution). In this instance, effects are qualified with reference to a geographic scale, as outlined in **Appendix 6.3** of Volume 3 of this EIAR.

6.2.7 Study Area

6.2.7.1 Definition of Study Area

The study area is defined by the ZoI of the proposed development with respect to the ecological receptors that could potentially be affected.

The CIEEM Guidelines for Ecological Impact Assessment in the UK and Ireland (hereafter referred to as the CIEEM Guidelines) (CIEEM, 2018) define the ZoI for a development as the area over which ecological features may be subject to significant impacts as a result of the proposed development and associated activities.

The ZoI, or distance over which potentially significant effects may occur, will differ across the KERs, depending on the potential impact pathway(s). The results of both the desk-top study and the suite of ecological field surveys undertaken have established the habitats and species present within, and in the vicinity of, the proposed development site.

The ZoI and study area was then informed and defined by the sensitivities of each of the KERs present, in conjunction with the nature and potential impacts associated with the Proposed development.

The ZoI of habitat loss impacts will be confined to within the proposed development boundary.

The ZoI of potential impacts on surface water quality in the receiving freshwater environment could extend downstream as far as the estuary.

The ZoI of general construction activities (i.e. risk of spreading/introducing non-native invasive species, dust deposition and disturbance due to increased noise, vibration, human presence and lighting) is not likely to extend more than several hundred metres from the proposed development.

6.2.7.2 Ecological Survey Area

The ecological surveys were designed based upon the characteristics of the proposed development and its likely significant impacts on the baseline environment during construction and/or operation (**Table 6.2**).

Table 6.2: Ecological Survey Study Areas for Each Ecological Receptor

Ecological Receptor	Study Area Description
Habitats	The area within or immediately adjacent to the proposed development footprint where habitats could be directly or indirectly affected during construction/operation. The extent of the study area for habitats is illustrated in **Figure 6-5** of this EIAR.

Ecological Receptor	Study Area Description
Rare and/or Protected Flora	The area within or immediately adjacent to the proposed development footprint where rare and/or protected flora could be directly or indirectly affected during construction/operation. The extent of the study area for rare and/or protected flora is illustrated in **Figure 6-5** of this EIAR.
Fauna species other than those listed below (includes badger, otter, other protected mammal species, amphibians, and reptiles)	The area within or immediately adjacent to the proposed development footprint where fauna species could be directly or indirectly affected during construction/operation. The extent of the study area for fauna species (other than bats and breeding birds) is illustrated in **Figure 6-5** of this EIAR.
Bats	The area suitable for roosting, foraging and/or commuting bats (e.g. bridges, hedgerows, treelines, woodland and watercourses) within or immediately adjacent to the proposed development footprint where bats could be directly or indirectly affected during construction/operation. The extent of the study area for bat activity is illustrated in **Figure 6-6** of this EIAR.
Birds	The area suitable for birds within or immediately adjacent to the proposed development footprint where birds could be directly affected during construction/operation. The extent of the study area for birds is illustrated in **Figure 6-7** of this EIAR.

6.2.8 Ecological Evaluation and Impact Assessment

6.2.8.1 Ecological Evaluation

The study area is defined by the ZoI of the proposed development with respect to the ecological receptors that could potentially be affected.

Ecological receptors (including identified sites of ecological importance) are valued with regard to the ecological valuation examples set out in *Guidelines for Assessment of Ecological Impacts of National Roads Schemes: Revision 2* (NRA, 2009) and the guidance provided in *Guidelines for Ecological Impact Assessment in the UK and Ireland* (CIEEM, 2018) – refer to **Appendix 6.3** (Volume 3 of this EIAR)for examples of how ecological importance is assigned. In accordance with these guidelines, important ecological features within what is referred to as the ZoI of the proposed development which are "both of sufficient value to be material in decision making and likely to be affected significantly" are deemed to be KERs. These are the ecological receptors which may be subject to significant effects from the proposed development, either directly or indirectly. KERs are those biodiversity receptors with an ecological value of local importance (higher value) or greater.

6.2.8.2 Impact Assessment

Ecological impact assessment is conducted following a standard source-pathway-receptor model, where, in order for an impact to be established all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism is sufficient to conclude that a potentially significant effect would not occur.

- Source(s) – e.g., pollutant run-off from proposed works;
- Pathway(s) – e.g., groundwater connecting to nearby qualifying wetland habitats; and
- Receptor(s) – e.g., wetland habitats and the fauna and flora species they support.

6.2.8.2.1 Characterising and Describing the Impacts

The parameters considered in characterising and describing the potential impacts of the proposed development are per the EPA's *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports* (EPA, 2017) and CIEEM's *Guidelines for Ecological Impact Assessment in the UK and Ireland* (CIEEM, 2018): whether the effect is positive, neutral or negative; the significance of the effects; the extent and context of the effect; the probability, duration and frequency of effects; and, cumulative effects.

Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location. The following development types are included in considering cumulative effects:

- Existing projects (under construction or operational);
- Projects which have been granted consent but not yet started;
- Projects for which consent has been applied for which are awaiting a decision, including those under appeal; and
- Projects proposed at a plan level, if relevant (e.g. future strategic infrastructure such as roads or greenways).

The likelihood of an impact occurring, and the predicted effects, can also be an important consideration in characterising impacts. In some cases, it may not be possible to definitively conclude that an impact will not occur. In these cases, the evaluation of significant effects is based on the best available scientific evidence but where reasonable doubt still remains then the precautionary principle is applied, and it may need to be assumed that significant effects may occur. Professional judgement is used in considering the contribution of all relevant criteria in determining the overall magnitude of an impact.

6.2.8.2.2 Significant Effects

In determining whether potential impacts will result in significant effects, the CIEEM (2018) guidelines were followed. The approach considers that significant effects will occur when there are impacts on either:

- the structure and function (or integrity) of defined sites, habitats, or ecosystems; or
- the conservation status of habitats and species (including extent, abundance and distribution).

6.2.8.2.2.1 Integrity

The term "integrity" may be regarded as the coherence of ecological structure and function, across the entirety of a site that enables it to sustain all of the biodiversity or ecological resources for which it has been valued (NRA, 2009).

The term 'integrity' is most often used when determining impact significance in relation to designated areas for nature conservation (e.g. SACs, SPAs or pNHA/NHAs) but can also be the most appropriate method to use for non-designated areas of biodiversity value where the component habitats and/or species exist with a defined ecosystem at a given geographic scale.

An impact on the integrity of an ecological site or ecosystem is considered to be significant if it moves the condition of the ecosystem away from a favourable condition: removing or changing the processes that support the sites' habitats and/or species; affect the nature, extent, structure and functioning of component habitats; and/or, affect the population size and viability of component species.

6.2.8.2.2.2 Conservation Status

Similar definitions for conservation status given in the EU Habitats Directive 92/43/EEC, in relation to habitats and species, are also used in the CIEEM (2018) and NRA (2009) guidance which are summarised as follows:

- For natural habitats, conservation status means the sum of the influences acting on the natural habitat and its typical species, that may affect its extent, structure and functions as well as its distribution, or the long-term survival of its typical species, at the appropriate geographical scale
- For species, conservation status means the sum of influences acting on the species concerned that may affect the abundance of its populations, as well as its distribution, at the appropriate geographical scale

An impact on the conservation status of a habitat or species is considered to be significant if it will result in a change in conservation status, having regard to the definitions of favourable conservation status provided in the EU Habitats Directive 92/43/EEC – i.e. into the future, the range, area and quality of habitats are likely to be maintained/increased and species populations are likely to be maintained/increased.

According to the CIEEM methodology (2018), if it is determined that the integrity and/or conservation status of an ecological receptor will be impacted on, then the level of significance of that impact is related to the geographical scale at which the impact will occur (i.e. local, county, national, international). In some cases, an impact may not be significant at the geographic scale at which the ecological feature has been valued but may be significant at a lower geographical level. For example, a particular impact may not be considered likely to have a negative effect on the overall conservation status of a species which is considered to be internationally important. However, an impact may occur at a local level on this internationally important species. In this case, the impact on an internationally important species is considered to be significant at only a local, rather than an international level.

6.2.9 Field Surveys

A summary of surveys undertaken within the proposed development site are presented in **Table 6.3**.

Table 6.3 Breakdown of Ecological Surveys and Survey dates

Survey Type	Survey Date(s)	Surveyor(s)
Multidisciplinary survey (incl. habitats, protected flora, invasive alien plant species, mammals and preliminary ground level roost assessment of trees for bats)	18th January 2023 14th April 2023	Scott Cawley Ltd.
Habitat surveys	26th August 2021	Scott Cawley Ltd.
Mammal activity survey (excluding bats)	26th August 2021	Scott Cawley Ltd.
Bird surveys	26th August 2021	Scott Cawley Ltd.
Bat surveys: Walked transect surveys	26th August 2021 (dusk)	Scott Cawley Ltd.

6.2.9.1 Habitats and Flora Survey

A habitat survey was previously undertaken of the proposed development site on the 8th of April 2021 by Criostoir MacCuirc BA, previously of Scott Cawley Ltd., and updated during a multidisciplinary survey carried out on 18th January 2023 and 14th April 2023 by Nicholas Fettes BSc MSc of Scott Cawley Ltd., following the methodology described in *Best Practice Guidance for Habitat Survey and Mapping* (Smith *et al.*, 2011). All habitat types were classified using the *Guide to Habitats in Ireland* (Fossitt, 2000), recording the indicator species and abundance using the DAFOR scale[8] and recording any species of conservation interest. Vascular and bryophyte plant nomenclature generally follow that of *The National Vegetation Database* (Weekes and FitzPatrick 2010) having regard to more recent taxonomic changes to species names after the New Flora of the British Isles (Stace 2019), and the *British Bryological Society's Mosses and Liverworts of Britain and Ireland: A Field Guide* (Atherton *et al.*, 2010).

6.2.9.2 Fauna Surveys

6.2.9.2.1 Terrestrial Mammals (excluding bats)

A terrestrial fauna survey (excluding bats) was undertaken on the 26th August 2021 by Criostoir MacCuirc BA, previously of Scott Cawley Ltd., and updated during a multidisciplinary survey carried out on 18th January 2023 and 14th April 2023 by Nicholas Fettes BSc MSc of Scott Cawley Ltd. The presence/absence of terrestrial fauna species were surveyed through the detection of field signs such as tracks, markings, feeding signs, and droppings, as well as by direct observation. The habitats on site were assessed for signs of usage by protected/red-listed fauna species, and their potential to support these species.

No species-specific surveys were considered necessary for protected mammals and or other fauna groupings due to the urban nature of the site, surrounding environs and lack of suitable habitat.

[8] The DAFOR scale is an ordinal or semi-quantitative scale for recording the relative abundance of plant species. The name DAFOR is an acronym for the abundance levels recorded: Dominant, Abundant, Frequent, Occasional and Rare.

Nevertheless, during all surveys, attention was paid to activity signs such as searching soft muds for tracks, and to look for droppings. Potential presence of these species in suitable habitat was determined based on the habitat preferences described in *Exploring Irish Mammals* (Hayden and Harrington, 2000).

6.2.9.2.2 Bats

Trees on the proposed development site were inspected externally for potential roost features (PRFs) on the 26th August 2021 by Criostoir MacCuirc BA, previously of Scott Cawley Ltd., and updated during a multidisciplinary survey carried out on 18th January 2023 and 14th April 2023 by Nicholas Fettes BSc MSc of Scott Cawley Ltd (See **Table 6.3** for details of the bat surveys carried out). The identification of PRFs involved a search for evidence of bats such as:

- Dead specimens;
- Bat droppings;
- Urine splashes;
- Fur-oil staining;
- Squeaking noises;
- Feeding remains (moth wings);
- Bat-fly (Nycteribiid) pupal cases; and/or
- Odour.

The assessment criteria outlined in **Table 6.4** below are derived from Collins (2016) and are used for the assessment of the site in terms of its suitability for commuting and foraging bats, and where relevant, the suitability of roosting habitats for bats.

A dedicated bat activity survey was undertaken on the 26th August 2021. This survey was undertaken at dusk and began at sunset and ended approximately two hours after sunset. Echolocation recordings were later analysed using BatExplorer software. The activity surveys covered the survey areas with a focus on hedgerows and treelines, carried out by a single surveyor. Low winds, mild temperatures (18°C) and dry conditions were experienced during the bat survey.

Table 6.4 Assessment criteria for potential suitability of the proposed development site for bats

Suitability	Description of Roosting Habitat	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats	Negligible habitat features on site likely to be used by commuting or foraging bats
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un vegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions, and surrounding habitat unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats