THORNTON O'CONNOR
TOWN PLANNING

Volume I – NTS

Volume I

EIAR Non-Technical Summary

In respect of a Residential Development at

Milltown Park, Sandford Road, Dublin 6

Submitted on Behalf of
Sandford Living Limited

September 2021

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1.0 INTRODUCTION

1.1 Preamble

This Non-Techncial Summary (NTS) of the subject Environmental Impact Assessment Report (EIAR) is prepared in relation to the subject Strategic Housing Development planning application at Milltown Park, Sandford Road, Dublin 6, D06 V9K7. This application principally relates to the demolition of c. 4,883.9 sq m of existing structures on site, the refurbishment and reuse of Tabor House (1,575 sq m) and the Chapel (768 sq m) and the provision of a residential scheme comprising 671 No. residential units with residential support facilities and amenities, in addition to a creche.

The proposed development is described as follows as per the Statutory Notices:

> *'Sandford Living Limited intend to apply to An Bord Pleanála for permission for a strategic housing development at this c. 4.26 hectare site at Milltown Park, Sandford Road, Dublin 6, D06 V9K7. Works are also proposed on Milltown Road and Sandford Road to facilitate access to the development including improvements to pedestrian facilities on an area of c. 0.16 hectares. The development's surface water drainage network shall discharge from the site via a proposed 300mm diameter pipe along Milltown Road through the junction of Milltown Road / Sandford Road prior to outfalling to the existing drainage network on Eglinton Road (approximately 200 metres from the Sandford Road / Eglinton Road junction), with these works incorporating an area of c. 0.32 hectares. The development site area, road works and drainage works areas will provide a total application site area of c. 4.74 hectares.*
>
> *The development will principally consist of: the demolition of c. 4,883.9 sq m of existing structures on site including Milltown Park House (880 sq m); Milltown Park House Rear Extension (2,031 sq m); the Finlay Wing (622 sq m); the Archive (1,240 sq m); the link building between Tabor House and Milltown Park House rear extension to the front of the Chapel (74.5 sq m); and 36.4 sq m of the 'red brick link building' (single storey over basement) towards the south-western boundary; the refurbishment and reuse of Tabor House (1,575 sq m) and the Chapel (768 sq m), and the provision of a single storey glass entrance lobby to the front and side of the Chapel; and the provision of a 671 No. unit residential development comprising 604 No. Build-to-Rent apartment and duplex units (88 No. studios, 262 No. one bed units, 242 No. two bed units and 12 No. three bed units) and 67 No. Build-to Sell apartment and duplex units (11 No. studios, 9 No. one bed units, 32 No. two bed units and 15 No. three bed units).*
>
> *Block A1 will range in height from part 5 No. storeys to part 10 No. storeys and will comprise 94 No. Build-to-Rent apartments; Block A2 will range in height from part 6 No. storeys to part 8 No. storeys (including part double height at ground floor level) and will comprise 140 No. Build to-Rent apartments and duplex units; Block B will range in height from part 3 No. to part 7 No. storeys and will comprise 91 No. Build-to-Rent apartments; Block C will range in height from part 2 No. storeys to part 8 No. storeys (including part double height at ground floor level) and will comprise 163 No. Build-to-Rent apartments; Block D will range in height from 3 No. storeys to 5 No. storeys and will comprise 39 No. Build-to-Sell apartments; Block E will be 3 No. storeys in height and will comprise 28 No. Build-to-Sell duplex units and apartments; Block F will range in height from 5 No. storeys to part 7 No. storeys and will comprise 92 No. Build-to-Rent apartments; and the*

refurbished Tabor House (4 No. storeys including lower ground floor level) will comprise 24 No. Build-to-Rent apartments.

The development also includes a creche within Block F (400 sq m) with outdoor play area; and the provision of communal internal amenities (c. 1,248.8 sq m) and facilities (c. 158.3 sq m) throughout the residential blocks, Tabor House and the converted Chapel building including co-working space, gym, lounges, reading rooms, games room, multi-purpose space, concierge, mail rooms and staff facilities.

The proposed works also include a new 2.4 metre high boundary wall across the site from east to west (towards the southern boundary) requiring the demolition of a portion of the red brick link building that lies within the subject site towards the south-western boundary (36.4 sq m) and the making good of the façade at the boundary. The existing Link Building is the subject of a separate application for permission (DCC Reg. Ref. No. 3866/20) that includes a request for permission to demolish that Link Building, including the part of the building on the lands the subject of this application for SHD permission. If that application is granted and first implemented, no demolition works to the Link Building will be required under this application for SHD permission. If that application is refused permission or not first implemented, permission is here sought to demolish only that part of the Link Building now existing on the lands the subject of this application for permission and to make good the balance at the red line with a blank wall.

The development also provides a new access from Milltown Road (which will be the principal vehicular entrance to the site) in addition to utilising and upgrading the existing access from Sandford Road as a secondary access principally for deliveries, emergencies and taxis; new pedestrian access points; pedestrian/bicycle connections through the site; 344 No. car parking spaces (295 No. at basement level and 49 No. at surface level) which includes 18 No. mobility impaired spaces, 10 No. car share spaces, 4 No. collection/drop-off spaces and 2 No. taxi spaces; bicycle parking; 14 No. motorcycle spaces; bin storage; boundary treatments; private balconies and terraces facing all directions; external gantry access in sections of Blocks A1, A2 and C; hard and soft landscaping including public open space and communal open space (including upper level communal terraces in Block A1, Block B and Block C which will face all directions); sedum roofs; PV panels; substations; lighting; plant; lift cores; and all other associated site works above and below ground. The proposed development has a gross floor space of c. 54,871 sq m above ground level over a partial basement (under part of Block A1 and under Blocks A2, B and C) measuring c. 10,607 sq m, which includes parking spaces, bin storage, bike storage and plant'.

1.2 Requirement for this Environmental Impact Assessment Report

The Environmental Impact Assessment (EIA) requirements for certain developments derive from EU Directives. Directive 2011/92/EU as amended by Directive 2014/52/EU amended (the "EIA Directive") imposes requirements to assess the effects of certain projects on the environment. To assist with such assessments, the EIA Directive requires that an Environmental Impact Assessment Report ("EIAR") is prepared for certain projects. The EIAR was introduced by Directive 2014/52/EU and replaces the Environmental Impact Statement ("EIS") required under Directive 2011/92/EU.

The European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 have now transposed the 2014 Directive into Irish law.

The preparation of an EIAR is required for the subject proposed development as the scheme falls within the remit of those listed in Schedule 5 (Part 2) of the *Planning and Development Regulations, 2001* (as amended), which sets out the relevant thresholds which require the carrying out of an EIAR. The subject development falls within the threshold of Category 10 (b)(i) as it comprises the '*construction of more than 500 dwelling units'*.

The EIAR has also been prepared having due regard to the Environmental Protection Agency's *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, Draft August 2017* which sets out that:

> '*A systematic approach, standard descriptive methods and the use of replicable assessment techniques and standardised impact descriptions must be adopted to ensure that all likely significant effects are adequately considered and clearly communicated.'*

This EIAR has been prepared on behalf of the Applicant, Sandford Living Limited, in relation to the subject development of 671 No. units, a creche and ancillary residential support facilities and amenities. As noted above, the proposed development falls within the remit of Category 10(b)(i) Schedule 5 (Part 2) of the *Planning and Development Regulations, 2001 (as amended*), which states that the carrying out of an EIAR is required when development comprises the '*construction of more than 500 dwelling units*'.

1.3 The Applicant

We confirm that our Client, Sandford Living Limited own the majority of the site (c. 4.26 Ha).

In addition, we note that a letter of consent has been received from Dublin City Council to carry out works on Milltown Road, Sandford Road and Eglinton Road (c. 0.48 Ha).

The total site area within the red line boundary will be c. 4.74 Ha.

1.4 The EIAR Team

This Environmental Impact Assessment Report was prepared by a team of experts as outlined below and was collated by Thornton O'Connor Town Planning. Each consultant is appropriately qualified and experienced in their respective fields in accordance with Directive 2014/52/EU as outlined in each individual chapter.

2.0 SITE LOCATION AND CONTEXT

2.1 Existing Site Details

2.1.1 Location and Description of the Subject Lands

The total red line application site boundary is c. 4.74 Ha (c. 47,335 sq m) and is broken down as follows:

1. The developable site of c. 4.26 Ha (c. 42,547 sq m) at Milltown Park, Sandford Road);
2. Road works to Milltown Road and Sandford Road adjacent to the 2 No. entrances to the site (1 No. existing and 1 No. newly proposed): c. 0.16 Ha (c. 1,597 sq m); and
3. Drainage works from Milltown Road to Eglinton Road: c. 0.32 Ha (c. 3,191 sq m).

The developable lands are located at the corner of Sandford Road and Milltown Road, Dublin 6. The subject site is bounded to the north by Norwood Park and Sandford Road, to the east by the Milltown Road, to the south by a carpark associated with the Milltown Park Institutional and Community premises (buildings retained by the Jesuits after the disposal of the 'developable lands') and to the west by 2 No. storey existing residential dwellings located on Cherryfield Avenue Upper and Lower.

Figure 2.1: Aerial View of Subject Site, Indicative Application Site Boundary in Red

(Source: Google Maps, annotated by Thornton O'Connor Town Planning, 2021)

2.1.2 Site Context

The subject site is located at the junction of the Milltown Road and Sandford Road. This junction also immediately connects to Eglington Road (R824) and St James Terrace /

Clonskeagh Road (R825). This places the subject site at the interface between the urban villages of Ranelagh, Milltown, Donnybrook and Clonskeagh.

The immediate area beyond the site is predominantly residential and institutional in nature. The residential units include 2 No. storey houses located adjacent to the western site boundary along Cherryfield Avenue Lower and Cherryfield Avenue Upper and in Norwood Park located adjacent to the northern boundary and a 6 No. storey apartment development known as Cedar Hall and a 3 No. storey apartment complex known as Mount Sandford, both of which are located to the east of the subject site across Milltown Road. The institutional uses are located adjacent to the south-west of the subject site and comprise Gonzaga College and the Cherryfield Lodge Nursing Home. Muckross Park College is located to the north-west of the subject lands and a Circle K Petrol Station is located to the north of the subject lands along Sandford Road.

There are a number of neighbourhood centres near to the subject site with some forming strong urban villages. The following neighbourhood centres are within walking/cycling distance of the subject site:

- **Milltown-c.450 metres/c.6 minutes walking distance/c.1 minute cycling distance;**
- **Donnybrook-c.500 metres-c.900 metres/c.6-10 minutes walking distance/c.2-3 minutes cycling distance;**
- **Clonskeagh – c.350 metres – 1.3 km /c.6-16 minutes walking distance/c.1-6 minutes cycling distance;**
- **Ranelagh-c.500 m-1.4 km/c.6-18 minutes walking distance/c.1-5 minutes cycling distance;**
- **Beechwood-c.1 Kilometre/c. 13 minutes walking distance/c.4 minutes cycling distance; and**
- **Rathmines-c.1.8-2.2 km/c.22-c.28 minutes walking distance/c.6-c.8 minutes cycling distance:**

We note that there is a significant quantum of services, facilities and amenities located in these areas which are all in close proximity to the subject lands. This includes medical centres, dentists, pharmacies, shops, cafes, restaurants, bars, gyms, sports clubs, hair salons and banks for example.

2.2 Accessibility of the Subject Site

2.2.1 LUAS Green Line and Bus Services

The subject site is located in close proximity to the following Green Line Luas stops:

- Beechwood: c. 720 metres as the crow flies (1 Km/ c. 13 minute walk)
- Ranelagh: c. 1.27 Km (1.1 Km walk/14 minute walk)
- Cowper: c. 740 Metres (1.3 Km walk/17 minute walk)

- Milltown: c. 918 Metres (1.3 Km walk/17 minute walk)

There are also numerous bus routes serving the subject site such as the No. 11, 39a, 44, 46a, 61, 145, 155 and 700 (Aircoach service). The proximity of the site to high frequency public transport provides opportunities for residents of the scheme to travel to significant employment locations and business districts such as the Canal, the Docklands, Harcourt Street, Ballsbridge, Sandyford Business District, Belfield Office Park and neighbourhood centres such as Ranelagh, Donnybrook and Rathmines. The majority of these areas are also located within cycling and walking distance of the site. Furthermore, University College Dublin and 4 No. hospitals are located within walking and cycling distance of the site (Clonskeagh Hospital, The Royal Hospital Donnybrook, Saint Vincent's Hospital and Saint Luke's Hospital).

Therefore, it is clear that there are significant employment opportunities easily accessible from the subject site.

2.3 Zoning of the Subject Lands

The subject site is zoned Z15 '*Institutional and Community*' in the *Dublin City Council Development Plan 2016-2022* where the stated aim is *'to protect and provide for institutional and community uses'.*

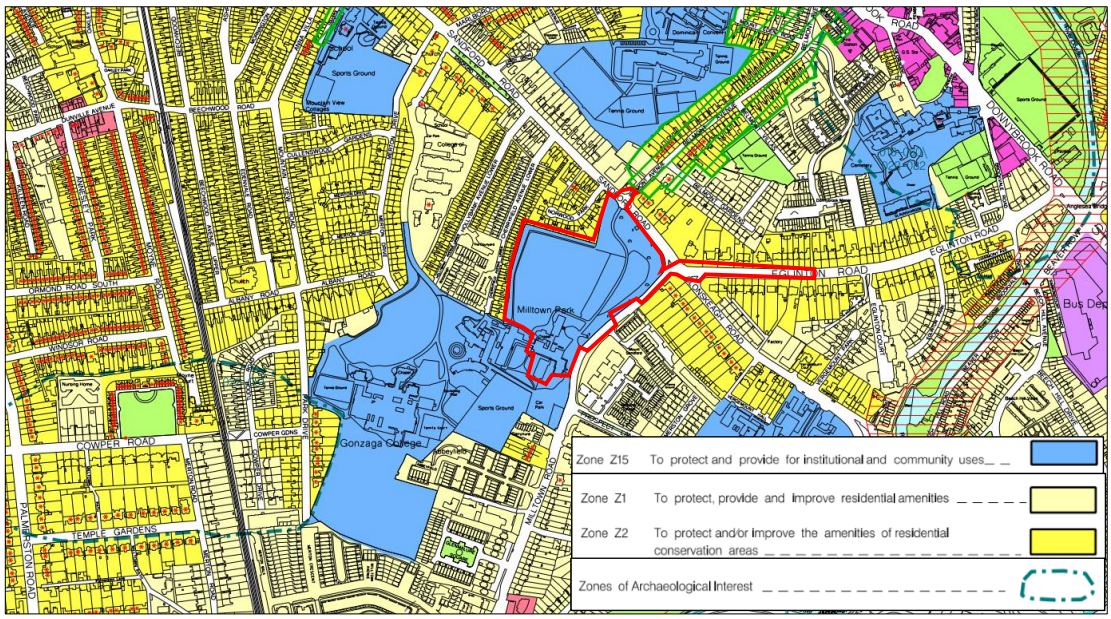

Figure 2.2: Extract from Map H Demonstrating the Z15 Zoning of the Subject Site (Indicatively Outlined in Red)

(Source: *Dublin City Council Development Plan 2016-2022*, annotated by Thornton O'Connor Town Planning, 2021)

Please see the image below in Figure 2.3 prepared from O' Mahony Pike Architects, which highlights the land uses across the entirety of the Z15 lands.

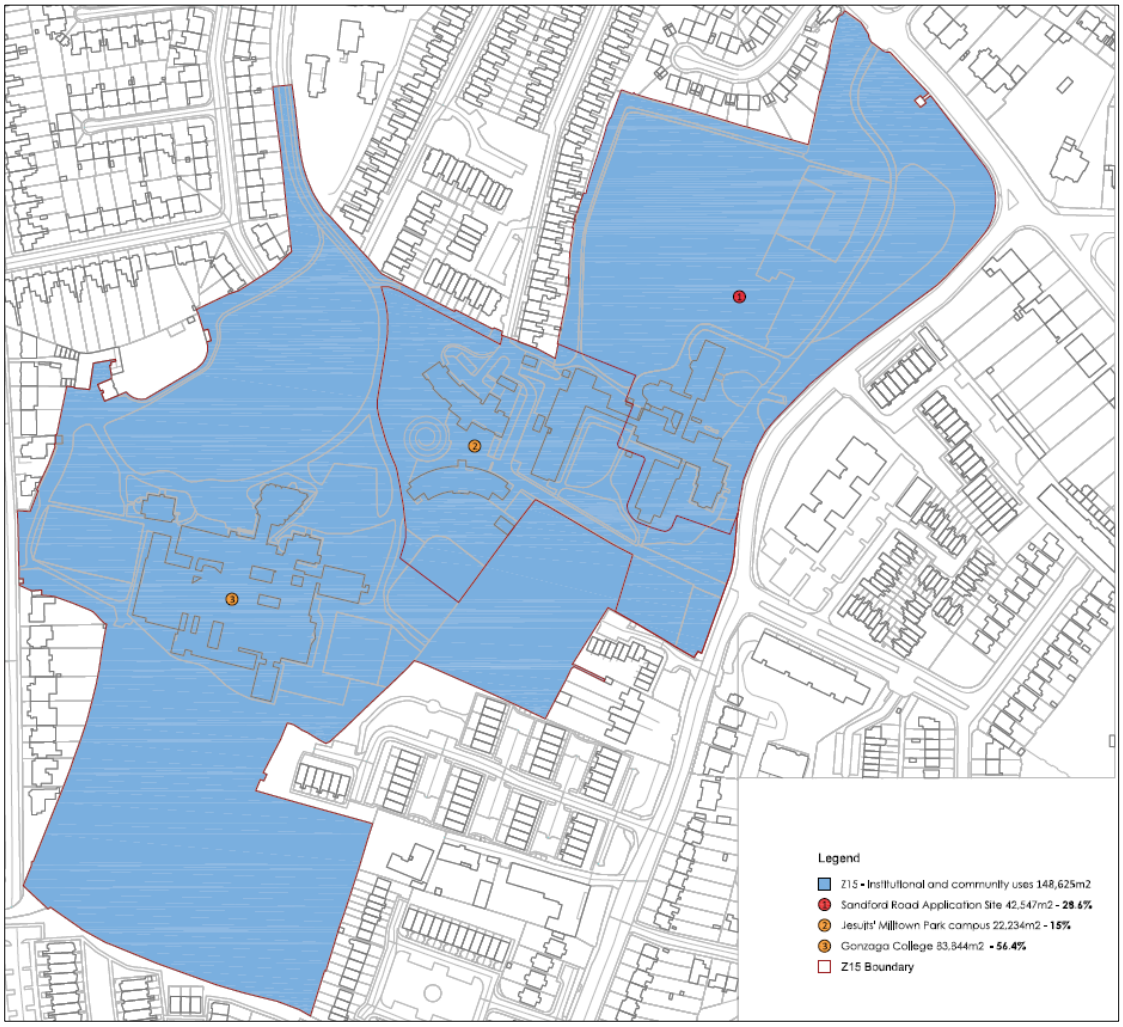

Figure 2.3: Image Demonstrating the Land Uses of the Entire Z15 Land Zoning at the Subject Location

(Source: O' Mahony Pike Architects, Dwg No. 19031-OMP-ZZ-ZZ-DR-A-1010, 2021)

In summary the Z15 lands can be broken down as follows:

1. Application Site

Building range within the subject red line boundary which were formally utilised by the Jesuit Community at Milltown Park for institutional purposes from the 1850s. It has been confirmed by the Jesuit Community that the lands are surplus to their requirements due to a decline in vocations and are no longer required for the purposes of its function and mission. As a result, the buildings are currently vacant and have become impossible to maintain. It is noted that these lands were always in private use and the buildings and the lands subject to development were never publicly accessible lands.

2. Milltown Park Campus (Retained Jesuit Lands)

The Jesuits will retain these institutional lands to the south/south-west of the proposed development, which addresses their future operational needs due to this decline in vocations, and they will also retain the separate access already established from Milltown

Road. The Jesuits have invested substantially in these lands in recent years to cater for their future operational needs in terms of residential accommodation and training. These lands currently comprise the Cherryfield Lodge Nursing Home and Milltown Park Community House. We note that a 2.4 metre high boundary wall is proposed to separate the proposed development from the retained Jesuit lands. The proposed development can facilitate future potential links to the remaining institutional lands through the wall should this be required in the future, if the retained Jesuit lands become further surplus to requirements and are redeveloped.

3. Gonzaga College

The third parcel of land within the Z15 landholding is occupied by the Gonzaga College Secondary School. Gonzaga School has always been a separate use and the lands were purchased at a later date to the main Jesuit campus in the 1950s. The subject development building range and lands and the school are separated functionally and physically from the other. The tenuous relationship between the subject group and the school in particular will therefore be unaffected by the severance of links between the two.

In relation to the land-use zoning objective for lands zoned Z15, the Development Plan states:

> *'These lands play an important role in the achievement of a more compact city in that they contribute to the creation of vibrant neighbourhoods and a sustainable well-connected city through the provision of such infrastructure as schools, hospitals and open space. The city also includes nationally important institutions, such as hospitals and educational facilities, which as stated in Section 14.1 – Zoning principles, is Council policy to cooperate with, in order to promote the strategic long-term needs of the city and the country.'*

The subject lands have not been in institutional use since 2015 when the institutional operations on the site ceased permanently, and the property was vacated by the Jesuits in 2019. A letter has been received from the Jesuit Community which confirms that '*the former Jesuit Community property…is no longer required by the Society for the purposes of its functions and mission'*. The Jesuit Community has 'experienced a dramatic decline and falling vocations leading the Society to close these facilities and seek other options for training of priests'. This letter also confirms that the application lands have become surplus to their requirements and are impossible to maintain. The Jesuit Community is retaining the residential and administration accommodation to the south of the application lands with separate access already established from Milltown Road. Unlike some of the other Z15 sites, the application site has always been in private use and is not open or accessible to the public and has never provided any community facilities on site. The public have never enjoyed any right of access to these privately owned lands.

The Development Plan notes that where there is an existing institutional and/or community use, any proposed development for *'Open for Consideration'* uses (which include residential) on part of the landholding, is required to demonstrate to the Planning Authority:

1. How the proposal is in accordance with and assists in securing the aims of the zoning objective;

2. How it secures the retention of the main institutional and community uses on the lands, including space for any necessary expansion of such uses;

3. How it secures the retention of existing functional open space; and

4. The manner in which the nature and scale of the proposal integrates with surrounding lands.

Since 2019, the subject lands are no longer in active use by the Jesuit order. However, in light of the continuing zoning objective and need for development on the lands to comply with the requirements in relation to Z15 zoning, notwithstanding the lands are no longer in active use, we have provided a response to each Z15 zoning criterion below:

1. **How the proposal is in accordance with and assists in securing the aims of the zoning objective**

The site is zoned Z15 *'Institutional and Community'* which aims *'to protect and provide for institutional and community uses'.*

We note that the entire Z15 land holding can be broken down as follows:

1. The Application Site (lands and buildings formally used by the Jesuit Community for Institutional purposes which have been sold to the Applicant);

2. The 'Retained Jesuit Community Lands' (The Lands that have been retained by the Jesuit Community which have been confirmed as adequate for their future operational needs); and

3. The Gonzaga College Secondary School.

The area of the entire Z15 land holding including the 3 No. different parcels of land highlighted above in Figure 2.3 is c. 148,625 sq m/ c. 14.86 Ha. With the proposed development in place at the application site (Parcel No. 1), 71.4% of the Institutional uses will still remain on the entire Z15 lands.

We reiterate that the former institutional lands and buildings at the application site (Land Parcel No. 1) are vacant and are no longer required by the Jesuit Community, with the Jesuit's retaining the lands they require within Parcel No. 2 for the current and future needs. Available land has been held by the Institutional landholders that may be developed in future if required (i.e. open spaces retained by the Jesuits and Gonzaga).

The Gonzaga site which is in separate ownership is a large site with plenty of room to expand if required as evidenced on Figure 2.3. It is noted that the existing Gonzaga College is not located on part of the historical Milltown Park site. Rather, Gonzaga is located on the former Bewley estate and was purchased by Gonzaga for the school in 1950. Thus, historically, the Z15 lands comprised two distinct use and owners, Gonzaga lands and the Jesuit's lands.

Figure 2.4 below demonstrates that when the application site is developed, the entirety of the Z15 will still provide significantly more than 25% open space across the entirety of the Z15 lands, with 58.7% open space provided across the entire extent of the Z15 lands. It is important to note that the public have never enjoyed any right of access to these privately owned lands.

The subject application serves to open up the lands within the Applicant's control for the first time, providing 34.9% of their site as open space that will be available to the community[1] (details on extent and layout of public open space provided in this section below).

Figure 2.4: OS Map Demonstrating in Excess of 25% Open Space (58.7%) Will Still be Provided Across the Wider Z15 Lands with the Development in Place

(Source: O' Mahony Pike Architects, Dwg No. 19037-OMP-ZZ-ZZ-DR-A-1013, 2021)

The *Development Plan* notes the following in relation to Z15 lands:

> *'They often provide ancillary and incidental activities for the local community such as use of part of the site for recreational purposes or the use of rooms for local meetings. These lands play an important role in the achievement of a more compact city in that they contribute to the creation of vibrant neighbourhoods and a sustainable well connected city through the provision of such infrastructure as schools, hospitals and open space'.*

The opening up of the site to the public will provide significant additional open space for the surrounding local community to utilise for recreational purposes, which will provide a vibrant

[1] Please note that any reference to open space in this section excludes the provision of communal open space on the application lands.

neighbourhood, will enhance legibility in the area and will provide large areas of open space for the public and residents to enjoy and thus contributing towards providing a sustainable well connected city. Some elements of the public open space that will be created as part of the development includes publicly accessible walkways, grassland, benches, a jogging route, fitness areas and play-on-the-way for example.

2. **How it secures the retention of the main institutional and community uses on the lands, including space for any necessary expansion of such uses**

As noted previously, a letter has been received from the Jesuit Community which confirms that the lands sold to the Applicant are no longer required by the Community due to a decline in vocations. The Jesuit Community have retained the institutional lands/buildings on land parcel No. 2 which address their future operational needs and have invested in these retained lands which shows their commitment to this location. Therefore, it is clear that much of the Z15 lands will remain in institutional use and as there is no longer an active institutional use at the development site, there will be no net loss of institutional uses.

It has been confirmed by the Jesuit Community that the application lands are surplus to their requirements due to a decline in vocations and are no longer required for the purposes of its function and mission and are vacant and have become impossible to maintain. Therefore, the Jesuit Community do not require the lands for their current needs or for any expansion which ultimately led to the sale of the application lands to the Applicant. Available land has been held by the Institutional landholders that may be developed in future if required (i.e. open spaces retained by the Jesuits and Gonzaga).

The Community have also confirmed that the application lands and the 'retained lands' have never been in public use nor publicly accessible. The Masterplan facilitates a future link from the application site to the remaining Institutional Jesuit lands should this link be required at a future date.

We note that 39.5% of open space will be provided on the application lands and the 'retained Jesuit lands' (i.e. lands under the control of the Jesuit's and lands under the control of the Applicant) after the proposed scheme has been implemented. See Map below prepared by OMP Architects: (and full description of development outlined in Chapter 3 of this EIAR):

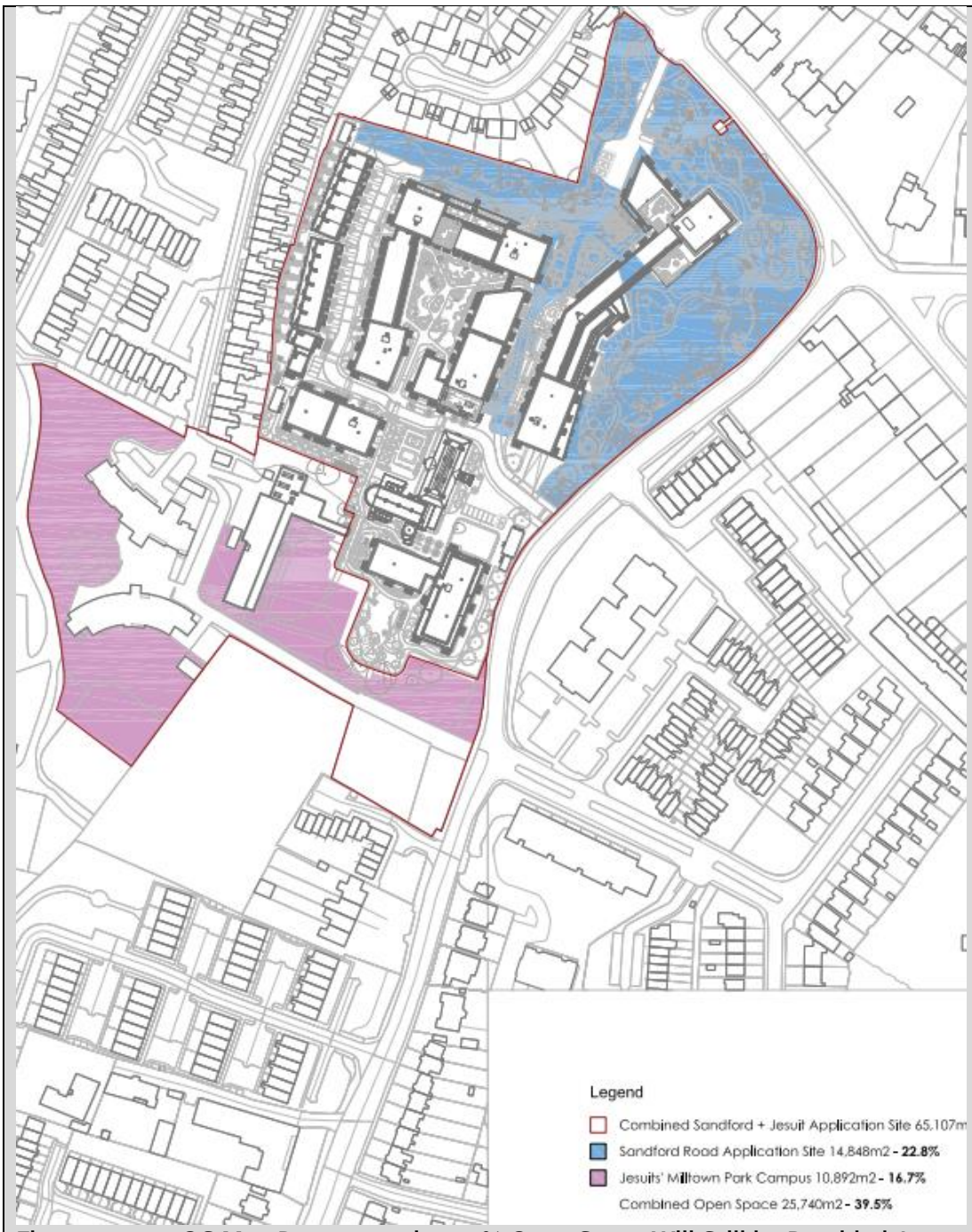

Figure 2.5: OS Map Demonstrating 25% Open Space Will Still be Provided Across the Application Lands and the remaining Jesuit Community lands

(Source: OMP Architects, Dwg No. 19037-OMP-ZZ-ZZ-DR-A-1017, 2021)

3. **How it secures the retention of existing functional open space**

The current site contains c. 22,249 sq m open space of limited amenity or recreational value, which is not accessible to the public (not including the overgrown and inaccessible areas along the north/eastern boundary). The space along the north/eastern boundaries is currently overgrown and the remaining space is of very limited amenity or recreational value. The public have never enjoyed any right of access to these privately owned lands. In the event that

permission is granted, access will be opened up to the public to the 14,848 sq m of public open space to be provided as part of the development. The proposed development would involve construction of buildings, with much of the parkland and wooded area benefiting from landscaping works, to open it up and make it useable for the public and residents. The proposed development would result in 14,848 sq m of highly accessible landscaped parkland and open space.

It is noted that the proposed development will not 'remove' existing functional open space from Z15 Institutional lands as none of the lands within the Z15 zoning have ever been publicly accessible as they have all been privately owned heretofore. On the contrary, the development will provide significant new public open space at the application lands for the first time, which can be utilised and enjoyed by the wider community.

The proposed development will transform the large overgrown and dark parkland along the eastern boundary of the site into a high-quality and usable public park for residents and the wider public to utilise, which is linked through the triple height undercroft of Block A1 to a plaza area where vehicular access is not allowed. The scheme also provides additional public open space along the northern boundary and through the boulevard area between Blocks A and B, which facilitates pedestrian and cycle access through the site from Milltown Road to Sandford Road.

The opening up of the site to the public will provide significant additional open space for the surrounding neighbourhood to utilise, which is a significant planning gain given that the lands have been historically closed up (and are currently closed up) from the public. This will improve the public open space provision at the subject Z15 lands rather than simply securing the retention of existing functional open space (which is currently only available for private use). In addition, we note that there are multiple pedestrian points provided to access the public open space from outside the site. The public open space incorporated into the scheme will provide a wide variety of activities such as publicly accessible walkways, grassland, benches, jogging route, fitness areas and play-on-the-way for example, which may be enjoyed by residents and wider members of the public.

4. **The manner in which the nature and scale of the proposal integrates with surrounding lands**

The scheme layout will improve legibility in the area and the proposed development will integrate into the surrounding context having regard to the large open spaces, the permeable links, the height transitions, the setbacks provided from boundaries and the breakdown in massing proposed. The scheme is in accordance with Section 14.7 of the *Development Plan*, which notes that abrupt transitions in scale and use should be avoided in areas proximate to other zoning objectives. The development has set back much of the development from the surrounding areas having regard to public open space and roads and in addition, the western boundary is made up of modest 3 No. storey buildings for example, which highlights that the proposed development has appropriately considered the transition between the development and surrounding spaces. Section 16.10 of the *Development Plan* has also been duly considered during the preparation of this planning application to ensure the proposal will integrate with surrounding lands i.e. such as in relation to aspect, natural lighting, sunlight, layout and private open space.

The rejuvenation and integration of The Chapel and Tabor House within the development will also contribute towards the assimilation of the scheme into the surrounding environment and the improved character of these structures will benefit from enhanced views via the newly proposed entrance from Milltown Road. A significant effort has been made by the Design Team to provide well considered and interesting building forms which enhances legibility, wayfinding and connectivity within the site for future residents and the existing wider area and thus will appropriately integrate with the surrounding area.

We note that the *Dublin City Development Plan 2016 - 2022* sets out the following requirements in relation to the extent and layout of public open space on Z15 zoned lands:

> *'A masterplan may assist in demonstrating how the requirements of this paragraph may be satisfied. The masterplan, which may necessitate a variation, shall set out a clear vision for the lands zoned Z15, to provide for the identification of 25% of the lands for open space and/or community facilities.*
>
> *The Masterplan must incorporate landscape features which retain the essential open character of the lands zoned Z15, setting out a clear vision for the lands which includes the provision of 25% of the lands for open space and/or community facilities. It must also ensure that the space will be provided in a manner designed to facilitate potential for future public use and protect existing sporting and recreational facilities which are available predominantly for community use. The 25% public open space shall not be split up, unless site characteristics dictate otherwise, and shall comprise mainly of soft landscaping suitable for recreational and amenity purposes and should contribute to, and create linkages with, the strategic green network.'*

A Masterplan has been prepared for the site and has incorporated all the requirements of the Z15 zoning objective including public open space and potential future connections to adjacent wider lands.

At the outset, residential use is open for consideration at the subject lands and a crèche is permitted in principle. As demonstrated in Section 4.4 (Planning History) of the Planning Report prepared by Thornton O'Connor Town Planning, there are many examples of lands zoned Z15 which have been utilised for residential development which include a large quantum of public open space.

Section 14.8.14 of the *Development Plan* notes the following in relation to 'Open for Consideration' uses:

> *'An **open for consideration use** is one which may be permitted where the planning authority is satisfied that the proposed development would be compatible with the overall policies and objectives for the zone, would not have undesirable effects on the permitted uses, and would otherwise be consistent with the proper planning and sustainable development of the area.'*

The proposed development will not have undesirable effects on the permitted uses or on the surrounding area, rather it will have a significant positive impact due to the sustainable utilisation of these lands that are currently completely closed off from the public, which proximate to public transport, employment locations, services and facilities. The site has always been in private use, and this will be replaced by a high-quality, aesthetically pleasing

development providing 671 No. residential units, a large quantum of public open space and many permeable links through the site, which will be a significant planning gain for the area, and thus will be consistent with the proper planning and sustainable development of the area. This section demonstrates that the proposal is fully in accordance with the policies and objectives of the Z15 zoning pertaining to the site.

The Jesuit Community have confirmed that the development lands which have been sold to the Applicant (which have always been in their private ownership and use), are surplus to their requirements due to a decline in vocations and are no longer required by the Jesuits for the purposes of its function and missions, and the lands and buildings have thus become impossible to maintain for the Jesuits. We reiterate that the Jesuits have retained the institutional lands to the south/south-west of the proposed development which addresses their future operational needs. A 2.4 metre high boundary wall is proposed to separate the proposed development from the remaining Jesuit lands. The proposed development can facilitate future potential connections to the remaining institutional lands through the wall should this be required.

The proposed 2.4 metre high boundary wall will be provided across the site from east to west between the lands that are being retained by the Jesuit Community (area to the south of the proposed wall), and the surplus lands that have been sold to the Applicant. As described in the Statutory Notices, a portion of the red brick link building will be demolished within the Applicant's lands, and once this portion of the 'link' building has been demolished and 'made good' and the new boundary wall is provided, this will facilitate a new permanent site boundary line which will delineate between the remaining Jesuit Community lands and the proposed new residential development on lands.

The proposed development requires 25% of the site area to be designated as public open space in accordance with the Z15 zoning objective. The developable site area is 42,547 sq m which therefore requires the provision of 10,637 sq m public open space.

The public open space is provided as follows:

- **Public Park and Plaza Area Connected Through the Triple Height Undercroft of Block A1:**
  c. 10,970 sq m (c. 25.8% of the c. 42,547 sq m developable site area)

- **Northern Woodland Glade:**
  c. 3,328 sq m (c. 7.8% of the c. 42,547 sq m developable site area)

- **Boulevard between Blocks A and B providing a pedestrian and cycle connection between Milltown Road and Sandford Road:**
  c. 550 sq m (c. 1.2% of the c. 42,547 sq m developable site area)

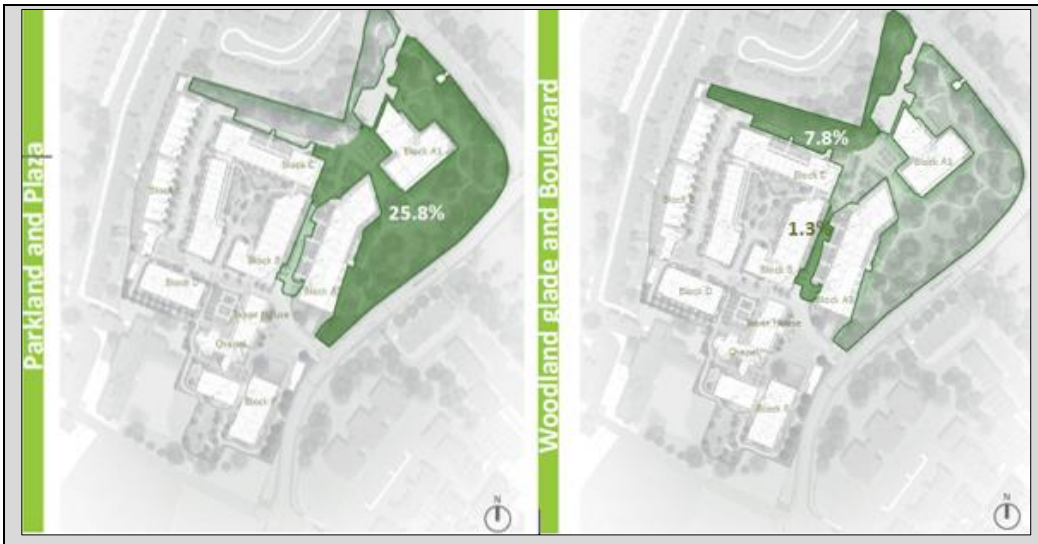

Figure 2.6: Public Open Space Provision at the Application Site

(Source: Cameo and Partners Design Studio, 2021)

Figure 2.7: Public Open Space Provision at the Subject Lands

(Source: Cameo and Partners Design Studio, 2021)

Therefore, a total of 14,848 sq m (c. 34.9% of the developable site area) has been designated as public open space which significantly exceeds the requirement to provide 25% public open space.

The majority of this space (25.8%) will be provided in the public park and the plaza area which are linked through the triple height undercroft of Block A1. This triple height linked archway through Block A1 will create a strong connection between the public park and the public plaza and thus it is clear that the required 25% public open space has not been split up as demonstrated in Figure 2.6/2.7. The plaza area will not allow vehicular access to ensure a safe and attractive space is provided for pedestrians.

We note that the large parkland along the eastern boundary of the site is currently significantly overgrown and inaccessible and this space will be transformed by the subject development and will become a significant public amenity for the area. The eastern boundary will now comprise a new public park which will open up the lands to the community for the first time as the lands have always been in private use. Natural play facilities for the scheme have been provided at various locations throughout the public open space, specifically aimed at children to reconnect with nature and there will also be opportunity for adult engagement through natural gym equipment. There will also be seating provided throughout the site.

The proposed development will remove all Category U[2] trees for ecological purposes. To improve the quality and usability of the open space areas to the north and east of the site, the poor-quality Category C[3] trees (91 No.) are recommended for removal and thus the proposed development will seek to open up this park for residents and visitors to enjoy. The transformation of this space into a public park will ensure that this large existing landscape feature has been retained in the masterplan which as discussed above, will be significantly improved and made usable.

We consider that the provision of a high-quality useable public park at the site with a connection to the public plaza area will be a significant planning gain for the area, allowing access to previously inaccessible private lands. The plaza area will provide a meeting point for the public to sit and talk.

The open space provided in the site will be high-quality and functional and will provide a wide variety of activities for the residents and public to utilise. High-quality and functional public open space will be provided, which includes publicly accessible walkways, grassland, benches, jogging route, fitness areas and play-on-the-way for example.

In addition to public park and plaza area connected through the triple height undercroft of Block A1, public open space will also be provided to the north of Block C (known as the Woodland Glade) which is positioned adjacent to the plaza. This Woodland Glade represents c. 7.8% of the site area (or c. 3,328 sq m) and will provide further amenity on site in excess of the 25% requirement. The Woodland Glade will include pathway, play spaces for children such as stepping stones and logs, outdoor fitness equipment and seating such as picnic table, which

[2] Trees in such condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management. Trees that are dead, dying or showing immediate and irreversible decline. (CMK, 2021)
[3] Trees of low quality and value (a minimum of 10 years). (CMK, 2021)

will contribute towards providing a high-quality environment for the public and future residents.

In addition to utilising the eastern public park/plaza/woodland glade, the public can also utilise the pedestrian connection from Milltown Road and Sandford Road through the pedestrian boulevard between Blocks A and B.

The entrance from Sandford Road will be a secondary vehicular entrance, principally for taxis, set down and deliveries with a small element of mobility impaired parking and there will be no vehicular access allowed to this plaza area which will ensure this area is a high-quality public space.

In the interests of robustness, as noted earlier in this section, we reiterate that when the application site is developed, the entirety of the Z15 lands will still provide more than 25% open space, with 58.7% open space provided across the entire extent of the Z15 lands. In addition, we reiterate that 39.5% of open space will be provided on the application site and the retained Jesuit Community lands (i.e. lands under the control of the Jesuit's who sold the site and the Applicant) after the proposed scheme has been implemented. We also reiterate that it is important to note that none of the Z15 lands were ever publicly available and were always in private ownership. The subject application serves to open up the lands within the Applicant's control for the first time as the public have never enjoyed any right of access to these privately owned lands, providing 34.9% of their site as open space that will be available to the community.

Furthermore, the *Development Plan* states:

> *'It must also ensure that the space will be provided in a manner designed to* ***facilitate potential for future public use and protect existing sporting and recreational facilities which are available predominantly for community use'****.* [Our Emphasis]

As noted above, the subject application lands at Milltown Park have always been in private use and have never been accessible to the public. Therefore, the provision of 14,848 sq m of public open space at the site will significantly increase the provision of public recreational facilities in the area, and thus rather than "retaining" sporting and recreational facilities at the subject site for public use (as there currently is none), the development will provide a large amenity for the public which has never been available at Milltown Park.

The public open space will be provided within soft and hard landscaping and will include play areas and outdoor gyms in addition to pathways for pedestrians and cyclists to utilise for example. The scheme layout will improve legibility in the area and the proposed development will integrate into the surrounding context having regard to the open spaces in addition to the permeable links, the height transitions, the setbacks provided from boundaries and the breakdown in massing provided. The rejuvenation of The Chapel and Tabor House within the development will also contribute towards the assimilation of the scheme into the surrounding environment and the improved character of these structures will benefit from enhanced views via the newly proposed entrance from Milltown Road.

Therefore, it is clear that the proposed development incorporating a detailed landscaping strategy has been *'designed to facilitate potential for future public use'* particularly having

regard to the attractive and high-quality public open space provided, where public access has never been previously available.

The *Development Plan* states:

> *'In considering whether there is no longer a need for the existing institutional use and a material contravention or variation to the development plan is proposed, the planning authority shall consult with the owner/ operator of the existing institutional and community uses and the relevant statutory provider (e.g. the Department of Education and Skills in the case of schools, and the Department of Health and the HSE in the case of hospitals). A masterplan is required in these circumstances.'*

As noted previously, the existing Institutional users, the Jesuit Community, no longer require the subject lands and have sold them to the Applicant. We reiterate that available land has been held by the Institutional landholders that may be developed in future if required (i.e. open spaces retained by the Jesuits and Gonzaga). Therefore, it is clear that the existing institutional use is being protected and provided for into the future by excluding a significant number of institutional buildings from the application site which meets the requirement of the Jesuit community. We would like to re-emphasise that the subject development provides significant quantum of public open space (c. 14,848 sq m) for the public to utilise, which represents a significant planning gain for the area as this space is currently non-existent for the public at this location at present.

The *Development Plan* also notes the following:

> *'With any development proposal on these lands, consideration should be given to their potential to contribute to the development of a strategic green network and to the delivery of housing in the city'.*

The *Development Plan* notes the following objectives:

- *'Balancing the need of the city to consolidate with the need to protect and enhance vulnerable natural areas;*
- *Addressing deficits of publicly available green space;*
- *Protecting the existing green infrastructure network from fragmentation and creating sustainable connectivity between green areas; and*
- *Providing for the recreational and amenity needs of the population.'*

The proposed development complies with these objectives of the *Development Plan* as the development balances the need to densify this sustainable urban site in order to consolidate the city while also appropriate setting back the development from surrounding areas having regard to public open space and roads and in addition, the western boundary is made up of modest 3 No. storey buildings for example, which highlights that the proposed development has appropriately considered the transition between the development and surrounding spaces. The development will enhance the local area by providing permeable links and a large quantum of high-quality public open space for the locality, which provides for the recreational and amenity needs of the population.

The proposed development will significantly contribute to housing supply by converting previously inaccessible, private lands to publicly available housing units with large open spaces, which is consistent with the Z15 zoning objective and will also contribute to the city's strategic green infrastructure networks by providing public routes through the site within the landscaping layout. The development will thus facilitate connections for the public through the site towards the Dodder Greenway route and other green infrastructure areas, which will positively contribute to, and create linkages with, the surrounding strategic green network. It is clear that the proposed development will significantly contribute to the green infrastructure of Dublin City.

To conclude this section, the proposed development which comprises 671 No. residential units with ancillary resident amenities and facilities in addition to a creche is consistent with the zoning objective pertaining to the lands.

3.0 DESCRIPTION OF DEVELOPMENT

3.1 Summary of the Proposed Development:

The proposed development will principally include the following:

- 607 No. Build-to-Rent units in Blocks A1, A2, B, C, D, F and Tabor House (88 No. studios, 262 No. 1 bed units, 242 No. 2 bed units and 12 No. 3 bed units) and 67 No. Build-to-Sell units in Blocks D and E (11 No. studios, 9 No. 1 bed units, 32 No. 2 bed units and 15 No. 3 bed units);
- The blocks will range in height from 2 to 10 No. storeys with a partial basement provided under part of Block A1 and under Blocks A2, B and C)
- Communal residential amenities (c. 1,248.8 sq m) and facilities (c. 158.3 sq m) throughout the residential blocks, Tabor House and the converted Chapel;
- Creche within Block F (400 sq m);
- A 2.4 metre high boundary wall across the site from east to west (towards the southern boundary) in order to 'separate' the Applicant's lands from the remaining Jesuit lands;
- Public Open Space (14,848 sq m), Communal Open Space (5,444 sq m) and Upper Floor Communal Terraces (431 sq m); and
- Road works on Sandford Road and Milltown Road and Drainage Works on Eglinton Road.

Key Site/Development Statistics	
Site Area:	Total Red Line Application Boundary: **c. 4.74 Ha (c. 47,335 sq m) broken down as follows:** • 'Developable' Site Area: **c. 4.26 Ha (c. 42,547 sq m):** • Road works to Milltown Road and Sandford Road adjacent to the 2 No. proposed entrances: **c. 0.16 Ha (c. 1,597 sq m)** • Drainage works to Eglinton Road: **c. 0.32 Ha (c. 3,191 sq m)**
Existing Gross Floor Area	c. 7,226.9 sq m
Extent of Reuse and Refurbishment	c. 2,343 sq m (Tabor House - 1,575 sq m and The Chapel – 768 sq m)

Demolition Area	c. 4,883.9 sq m including: • Milltown Park House (880 sq m); • Milltown Park House Rear Extension (2,031 sq m); • the Finlay Wing (622 sq m); • the Archive (1,240 sq m); • the link building between Tabor House and Milltown Park House rear extension to the front of the chapel (74.5 sq m); and • 36.4 sq m of the 'red brick link building' (single storey over basement) towards the south-western boundary.
Gross Floor Space (Above Ground)	54,871 sq m (including 400 sq m creche)
Basement Gross Floor Area	10,607 sq m
Site Coverage:	23.4%
Plot Ratio:	1.29
No. of Units Proposed	671 No. units (604 No. Build-to-Rent units and 67 No. Build-to-Sell units)
No. of Units per ha.	157.5 No.
Max. parapet height:	31.575 No. metres plus lift overruns
Car Parking Spaces:	295 No. at basement and 49 No. at surface level provided as follows: **Surface** • 35 No. resident spaces including 4 No. mobility impaired spaces; • 4 No. set-down/collection spaces; • 5 No. GoCar; • 2 No. taxi; and • 3 No. creche parking spaces. **Basement** • 295 No. resident parking spaces (including 14 No. mobility impaired spaces, 35 No. Electric Vehicle spaces, 5 No. Development Car Share Spaces)
Bicycle Parking Spaces	1,361 No.
Motorcycle Spaces	14 No.

Public Open Space	34.9% (14,848 sq m) of developable site area (42,547 sq m): • Public Park & Plaza connected through the undercroft of Block A1 (10,970 sq m – 25.8% of the c. 42,547 sq m developable site area) • Northern Woodland Glade (c. 3,328 sq m (c. 7.8% of the c. 42,547 sq m developable site area) • Boulevard between Blocks A and B • c. 550 sq m (c. 1.2% of the c. 42,547 sq m developable site area)
Communal Open Space	12.8% (5,444 sq m) of developable site area (42,547 sq m) as follows: • Belvedere Garden (North of Block C): 120 sq m • Tabor House and Formal Food Garden: 3,704 sq m • Courtyard between Block B and C: 1,510 sq m; and • Front of communal internal spaces in Block B and C: 110 sq m
Communal Amenity Terraces	Upper Level Terraces are provided in Blocks A1, B and C (431 sq m)
Internal Communal Amenity Space	The total communal internal amenity space provided is c. 1,248.8 sq m) throughout the residential blocks, Tabor House and the converted Chapel building including: • lounges; • co-working space; • gymnasium; • reading rooms; • games room; and • multi-purpose space.

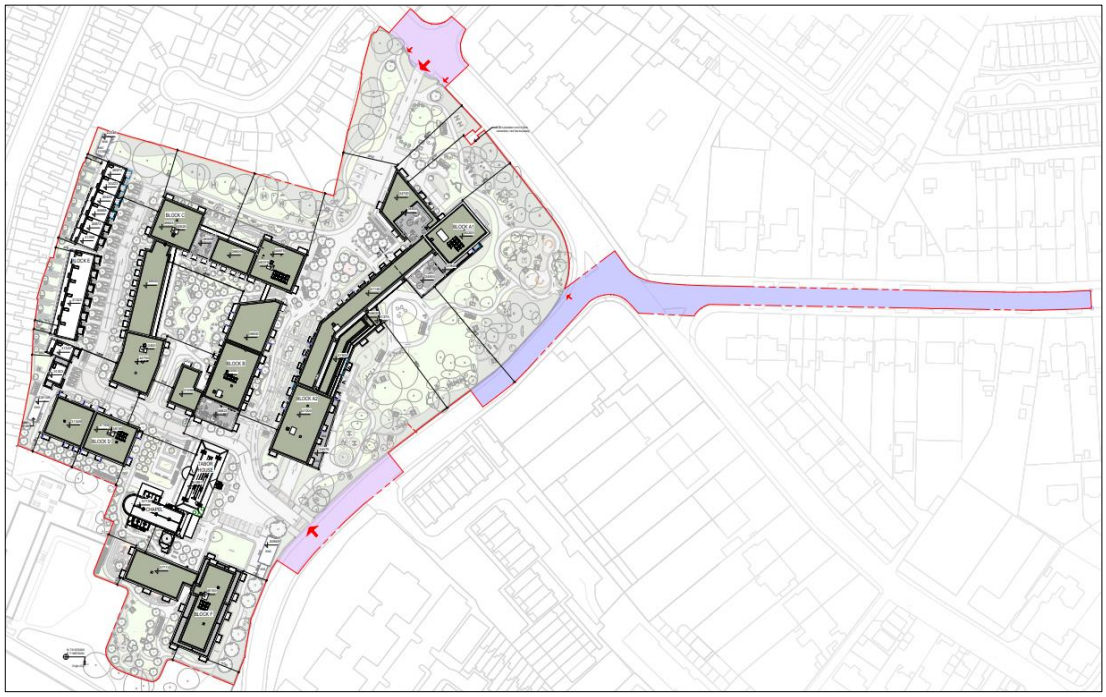

Figure 3.1: Layout of the Proposed Scheme

(Source: O'Mahony Pike Architects, 2021)

3.2 Residential Unit Types

The proposed development principally comprises the provision of 671 No. residential units (604 No. Build-to-Rent units and 67 No. Build-to-Sell units), ancillary residential support facilities and amenities and a creche.

The unit mix provided for the proposed 550 No. Build-to-Rent units is as follows:

- → 88 No. studios
- → 262 No. 1 beds
- → 242 No. 2 beds
- → 12 No. 3 beds

The unit mix provided for the proposed 67 No. Build-to-Sell units is as follows:

- → 11 No. studios
- → 9 No. 1 beds
- → 32 No. 2 beds
- → 15 No. 3 beds

The scheme provides 67 No. Part V units (39 No. in Block D and 28 No. in Block F) which will cater for persons in need of a dwelling as per the social housing list (23 No. studios, 13 No. one beds, 30 No. two beds and 1 No. three bed).

The proposed dwelling mix and types will provide an enhanced choice in tenure in the area, affording greater flexibility to those who may be seeking to rent an apartment in the area or looking to purchase a dwelling.

3.3 Creche

The proposed development will provide a creche (400 sq m) within the ground floor of Block F and will cater for c. 80 No. children. This crèche will contain 5 No. classrooms and includes a dedicated open space area (280 sq m) for staff and children to utilise.

Although the Childcare Demand Assessment prepared by KPMG Future Analytics enclosed separately concludes that there is sufficient capacity in the area to cater for the proposed development, the Applicant has decided to incorporate a crèche into the scheme which will benefit the future residents of the development but will also cater for the immediate existing residents of the area, and thus will greatly enhance the amenity of the area.

3.4 Residential Support Amenities and Facilities

The development will provide high-quality internal communal amenity space and facilities throughout the residential blocks, Tabor House and the converted Chapel.

The development will consist of the provision of communal internal amenities as follows:

	Amenities	Sq m
Block A1 - GF	Lounge, Reading room	198.8
Block A1 - 04	Residents club	111.4
Block B - GF	Lounge, Reading room	52.1
Block B - 05	Residents Lounge	117.4
Block C - GF	Co- working space	115.1
Block TH - GF	Lounge	15.2
Block TH - 01	-	-
The Chapel GF (Residents Hub)	Gym, Games rooms, Kitchen, Garden room	288.9
The Chapel 01 (Residents Hub)	Lounge, co working, Meeting room, Multipurpose space	349.9
TOTAL		**1248.8**

The development will consist of the provision of communal facilities to serve the residents:

	Facilities	Sq m
Block A1 - GF	Concierge, Mail, WC	70.7
Block A1 - 04	-	-
Block B - GF	Concierge & Mail	45.6
Block B - 05	-	-
Block C - GF	-	-
Block TH - GF	-	-
Block TH - 01	Lobby & Mail	18.8

The Chapel GF (Residents Hub)	Staff facilities	23.2
The Chapel 01 (Residents Hub)	-	**-**
Total		**158.3**

The development also includes upper level communal terraces in Blocks A1, B and C which will face all directions (431 sq m).

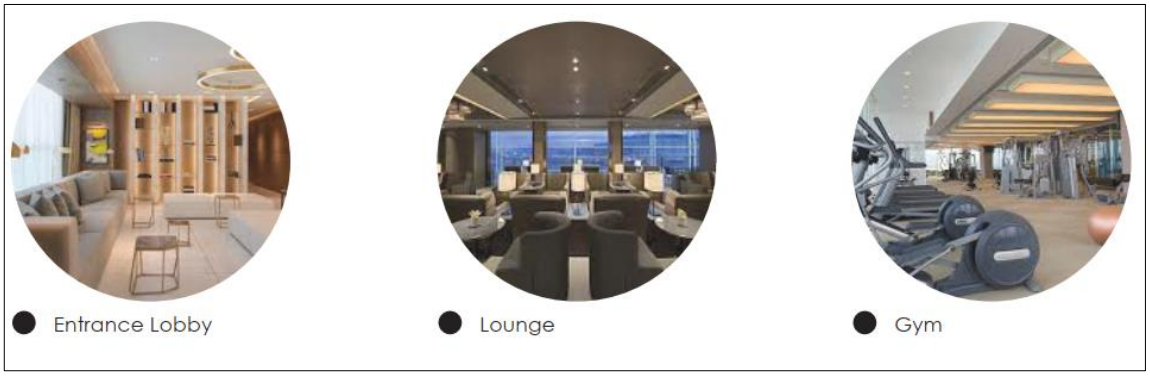

Figure 3.2: Images Demonstrating an Example of the Internal Amenity Spaces to be Provided

(Source: OMP Masterplan & Architectural Design Statement, 2021)

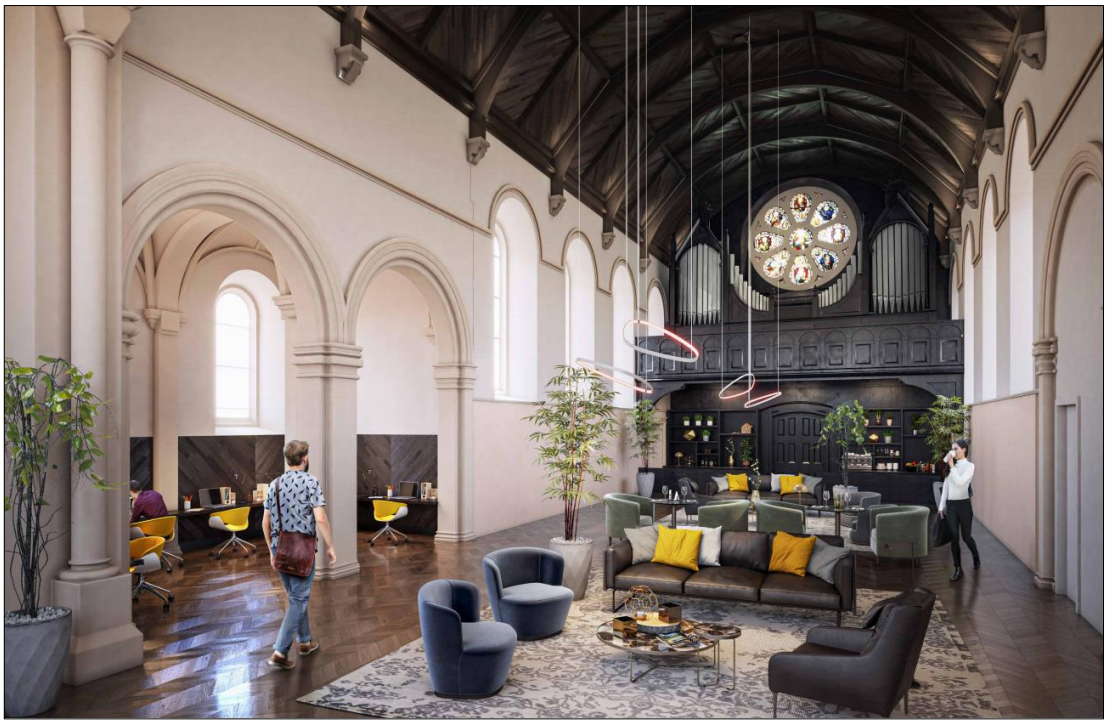

Figure 3.3: Internal CGI of the Proposed Refurbished Chapel

(Source: 3D Design Bureau, 2021)

It is clear that a wide range of high-quality amenities and facilities are proposed of the subject scheme. We have been advised that the Applicant are operating developers whose intention is to hold the assets long term and as such have designed them to international operating standards. The Applicant has travelled extensively looking at projects in other countries. A key element of successful Build-to-Rent offerings in particular is to provide useable and well managed tenant amenities that ultimately contribute to providing high-quality residential accommodation and a successful and integrated community setting.

3.5 Roadworks

The proposed development includes road works on Sandford Road and Milltown Road adjacent to the existing access off Sandford Road and the newly proposed access of Milltown Road.

Milltown Road

The new Milltown Road access will be the principal vehicular access for the proposed development facilitating access to the basement car park, the forecourt adjacent to Tabor House and the duplex units and apartments along the western boundary (Block E). This new access will also facilitate pedestrians and cyclists. As detailed in Chapter 10 and Chapter 15 prepared by DBFL Consulting Engineers and enclosed separately, the following principal works are proposed:

- Provision of a new vehicle access off Milltown Road (primary vehicle access to the proposed development facilitating access to the basement carpark as well as serving pedestrians and cyclists). This new site access shall be a priority junction. A Toucan Crossing is also proposed in the vicinity of the Milltown Road access to improve facilities for vulnerable road users.

Sandford Road

The existing access from Sandford Road will be utilised as the secondary vehicular access to the site, principally for deliveries, emergencies and taxis with a small element of mobility impaired parking for example and thus will have very minimal traffic movements. Fire tender access will also be provided from this entrance and pedestrian and cyclist access will also be facilitated.

As detailed in Chapter 10 and Chapter 15 prepared by DBFL Consulting Engineers and enclosed separately, the following principal works are proposed:

- Retain existing entrance on Sandford Road (facilitates pedestrian and cycle access as well as limited vehicle access to the northern end of the site). Improvements to existing pedestrian crossing point in the vicinity of the Sandford Road entrance is also proposed. There is no vehicular access from Sandford Road to the basement carpark, the forecourt area adjacent to Tabor House and the duplex units along the western boundary (which are all served exclusively from Milltown Road).

3.6 Drainage Works

The following works are detailed by DBFL Consulting Engineers in Chapter 11 (Water-Hydrology):

> *'Provision of on-site surface water drainage infrastructure which will discharge from the site along its south-eastern boundary via Milltown Road and the junction of Milltown Road / Sandford Road prior to discharging to the existing public surface water drainage network in Eglinton Road (proposed 300mm diameter pipe extending approximately 300m from the proposed development site boundary to the outfall location which includes replacement of approx. 160m of the existing 225mm diameter drainage network along Eglinton Road).*
>
> *…The public surface water network on Eglinton Road is expected to provide a suitable surface water discharge point for the proposed development. However, in order to achieve the required drainage invert levels on site, approximately 160m of the existing 255m diameter drainage network along Eglinton Road will need to be replaced with a 300mm pipe running at a flatter gradient. The proposed surface water drainage network will collect surface water runoff from the site via a piped network.'*

Please refer to Chapter 11 of this EIAR prepared by DBFL Consulting Engineers.

3.7 Height and Layout

The proposed layout of the scheme has been subject to numerous design iterations and therefore we consider that the scheme as proposed is the optimal solution for the lands (further details in Chapter 4 – Examination of Alternatives).

The proposed layout has positioned the highest forms at the least sensitive locations throughout the site (fronting Milltown Road and Sandford Road, fronting the large public open space area to the east of the site, and towards the centre and southern portions of the subject lands), at a distance from sensitive residential receptors.

Proposed Heights

The proposed heights are as follows:

- Block A1 will range in height from part 5 No. storeys to part 10 No. storeys and will comprise 94 No. Build-to-Rent units;
- Block A2 will range in height from part 6 No. storeys to part 8 No. storeys (including part double height at ground floor level) and will comprise 140 No Build to-Rent units;
- Block B will range in height from part 3 No. to part 7 No. storeys and will comprise 91 No. Build-to-Rent units;
- Block C will range in height from part 2 No. storeys to part 8 No. storeys (including part double height at ground floor level) and will comprise 163 No. Build-to-Rent units;

- Block D will range in height from 3 No. storeys to 5 No. storeys and will comprise 39 No. Build-to-Sell units;
- Block E will be 3 No. storeys in height and will comprise 28 No. Build-to-Sell units;
- Block F will range in height from 5 No. storeys to part 7 No. storeys and will comprise 92 No. Build-to-Rent units; and
- The refurbished Tabor House (4 No. storeys including lower ground floor level) will comprise 24 No. Build-to-Rent units.

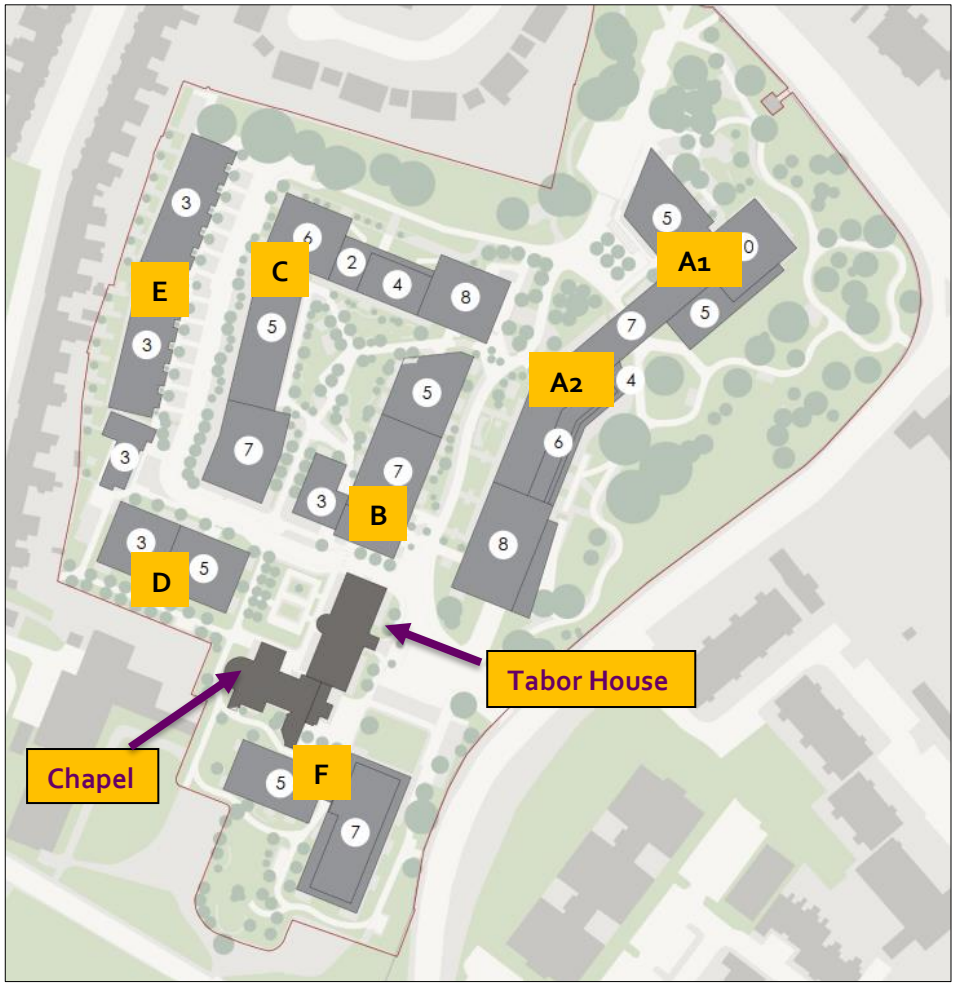

Figure 3.4: Proposed Layout of the Subject Development with the Heights Annotated

(Source: OMP Architects, 2021)

It is considered that the proposed development strikes a balance between respecting the surrounding context of the site while also ensuring that this prominent strategic site is appropriately densified. Each block has a subtle shift in direction as a response to its particular urban condition.

3.8 Open Space and Landscaping

The application lands have always been in private use and have thus been closed off from the general public. Therefore, the landscape strategy for the site will completely open up the site as a public amenity for the first time. The landscaping strategy has been prepared by Cameo and Partners Design Studio and is enclosed separately with this planning application. The Landscape Design Statement sets out in detail the open spaces provided throughout the site and notes that:

> *'The design philosophy for the proposed new residential scheme in Sandford aims to create a high-quality residential community with a splendid and unique, contemporary landscape design within a parkland setting which is cognisant of the historical context of the site and its notary buildings'.*

The Report notes that an overarching aim of the proposed development is to create a new residential development integrated within the existing landscape setting of the site through a series of connected landscape character areas.

Figure 3.5: Extract of Ground Floor Illustrative Landscape Masterplan

(Source: Cameo and Partners Design Studio, 2021)

Figure 3.6: Overview of the Proposed Development Demonstrating the Green Emphasis of the Scheme

(Source: 3D Design Bureau, 2021)

Public Open Space

The Landscape Plan and Report outlines the various character areas proposed within the development with a particular focus on the 25% public open space requirement of the Z15 zoning pertaining to the lands.

The public open space is provided as follows:

- **Public Park and Plaza Area Connected Through the Triple Height Undercroft of Block A1:**

  c. 10,970 sq m (c. 25.8% of the c. 42,547 sq m developable site area)

- **Northern Woodland Glade:**

  c. 3,328 sq m (c. 7.8% of the c. 42,547 sq m developable site area)

- **Boulevard between Blocks A and B providing a pedestrian and cycle connection between Milltown Road and Sandford Road:**

  c. 550 sq m (c. 1.2% of the c. 42,547 sq m developable site area)

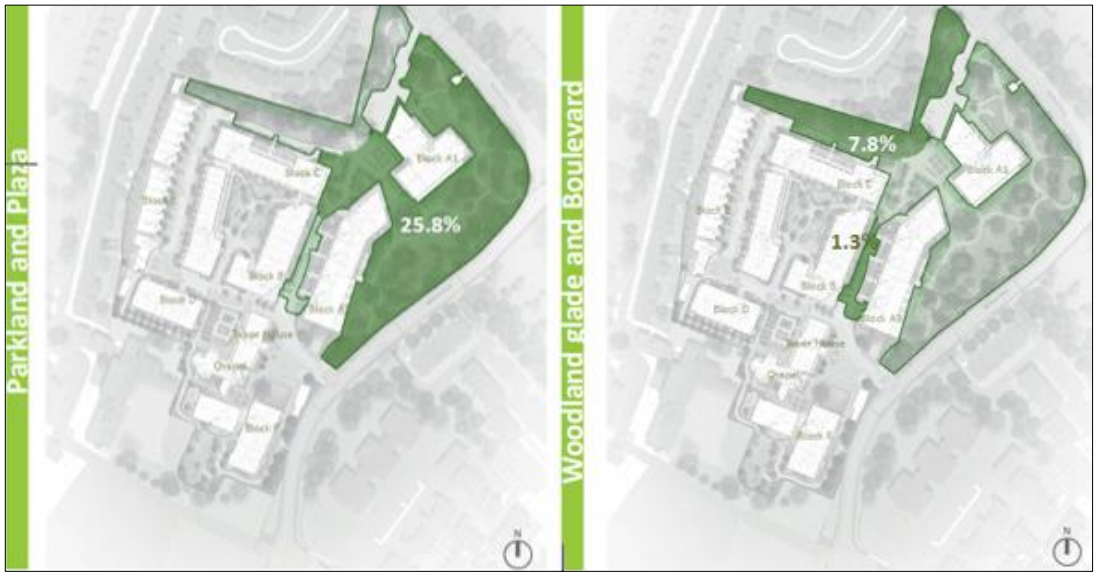

Figure 3.7: Public Open Space Provision at the Application Site

(Source: Cameo and Partners, 2021)

Figure 3.8: Public Open Space Provision at the Application Site

(Source: Cameo and Partners Design Studio, 2021)

Therefore, a total of 14,848 sq m (c. 34.9% of the developable site area) has been designated as public open space which significantly exceeds the requirement to provide 25% public open space.

The majority of this space (25.8%) will be provided in the eastern parkland and the plaza area which are linked through the triple height undercroft of Block A1.

We note that the large public park along the eastern boundary of the site is currently significantly overgrown and this space will be transformed by the subject development and will become a significant public amenity for the area. The opening up of the area while maintaining the woodland feel will allow access to the general public for the first time and the imposing boundary wall will be modified in sections to provide views into the site which will invite the public into the open spaces provided and will improve permeability in the area.

The proposed development will remove all Category U[4] trees for ecological purposes. To improve the quality and usability of the open space areas to the north and east of the site, the poor-quality Category C[5] trees (91 No.) are recommended for removal and thus the proposed development will seek to open up this park for residents and visitors to enjoy. Therefore, the provision of a high quality useable public park available to the wider community at the site will be a significant planning gain for the area (as the public have never enjoyed any right of access to these privately owned lands).

The public park links through the triple height undercroft of Block A1 to the plaza area where there will be no vehicular access allowed to the plaza area, thus ensuring that the space is high-quality for public use. The entrance from Sandford Road will be a secondary vehicular entrance, principally for taxis, set down and deliveries and bollards will prevent access to the plaza area, which will provide a safe and enjoyable environment for the public and residents. The opening up of the area while maintaining the woodland feel will allow access to the general public for the first time and the imposing boundary wall will be modified in sections to provide views into the site which will invite the public into the open spaces provided and will improve permeability in the area.

In addition to public park and plaza area connected through the undercroft of Block A1, a parkland walk (known as the Northern Woodland Glade) will also be provided to the north of Block C which is positioned adjacent to the plaza and the communal amenity space in Block C. This northern space represents c. 7.8% of the site area (or c. 3,328 sq m) and will provide further amenity on site in excess of the 25% requirement. In addition to utilising the eastern public park to travel through the site, the public can also utilise the pedestrian connection from Milltown Road and Sandford Road through the pedestrian boulevard (550 sq m or 1.3% of site area) between Blocks A and B.

[4] Trees in such condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management. Trees that are dead, dying or showing immediate and irreversible decline. (CMK, 2021)

[5] Trees of low quality and value (a minimum of 10 years). (CMK, 2021)

Figure 3.9: Illustrations of the Proposed Transformed Parkland

(Source: Cameo and Partners Design Studio, 2021)

Figure 3.10: Illustrations of the Proposed Transformed Parkland

(Source: Cameo and Partners Design Studio, 2021)

Figure 3.11: Illustrations of the Triple Height Archway Linking the Parkland and the Plaza Area (see Top Left Image Showing Bollards to Prevent Access to Plaza)

(Source: Cameo and Partners Design Studio, 2021)

Figure 3.12: Illustrations of the Plaza Area

(Source: Cameo and Partners Design Studio, 2021)

Natural play facilities for the scheme will be mainly focused within these areas, specifically aimed at children to reconnect with nature and there will also be opportunity for adult engagement through natural gym equipment. There will also be seating provided throughout the site.

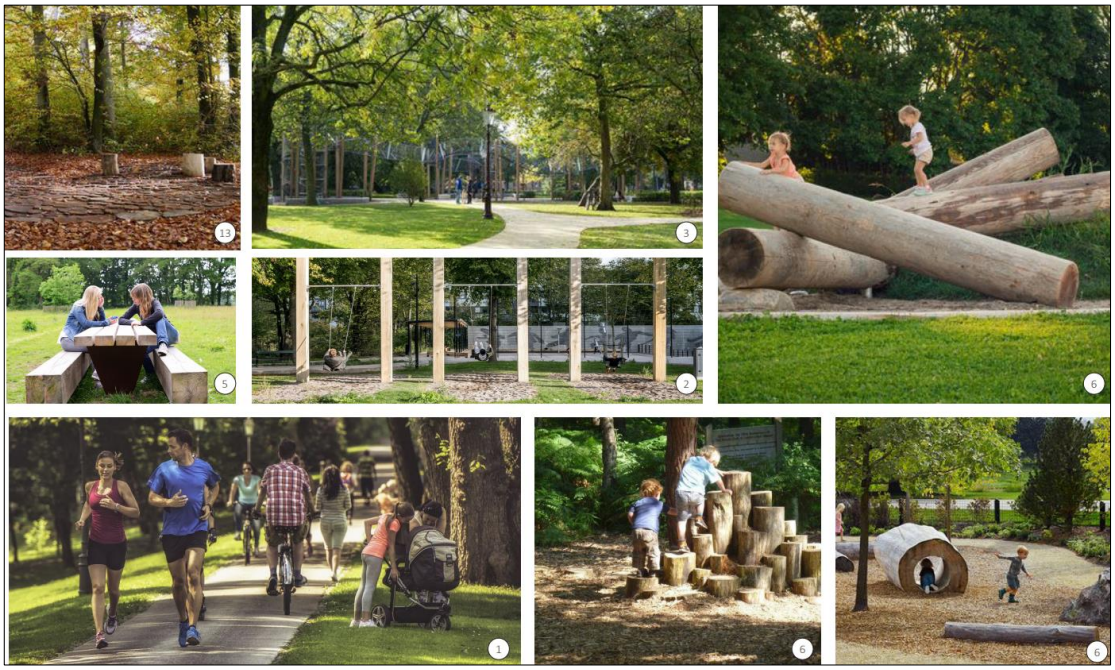

Figure 3.13: Examples of Public Open Space Features

(Source: Cameo and Partners Design Studio, 2021)

Figure 3.14: Illustrations of the Woodland Glade to the North of Block C

(Source: Cameo and Partners Design Studio, 2021)

Figure 3.15: Illustration of the Pedestrian Street Linking Milltown Road Entrance to the Public Plaza and Beyond to Sandford Road

(Source: Cameo and Partners Design Studio, 2021)

Therefore, it is clear that the proposed layout has comprehensively considered the public open spaces within the scheme. These spaces will be high-quality and will provide a place to meet, sit, exercise or to walk or cycle through, which is currently not an amenity available at the lands as the site has always been in private use.

Communal Open Space

The total communal open space proposed at ground level is 5,444 sq m (12.8% of developable site area) and is provided as follows:

1. **Belvedere Garden (North of Block C): 120 sq m**
2. **Tabor House and Formal Food Garden: 3,704 sq m**
3. **Courtyard between Block B and C: 1,510 sq m; and**
4. **Front of communal internal spaces in Block B and C: 110 sq m**

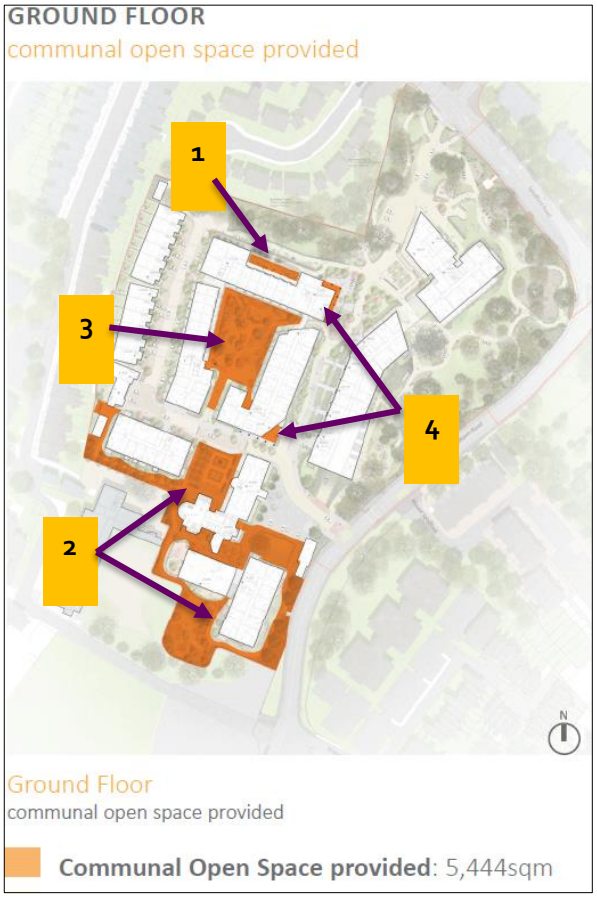

Figure 3.16: Communal Open Space Provision at the Application Site at Surface Level

(Source: Cameo and Partners, 2021)

An example of the landscaped communal areas are provided in Figures 3.17 – 3.19 below:

Figure 3.17: Illustrations of the Belvedere Garden to the North of Block C

(Source: Cameo and Partners Design Studio, 2021)

Figure 3.18: CGI of the Courtyard Between Blocks B and C

(Source: 3D Design Bureau, 2021)

Figure 3.19: Illustrations of Communal Open Space - Tabor House and Food Garden

(Source: Cameo and Partners Design Studio, 2021)

It is clear that the open space proposed has been central to the design of the development and will contribute to the assimilation of the development within its surrounding context, particularly having regard to the total provision of public and communal open space proposed which represents 47.7% of the site area.

In addition, there will be 431 sq m of upper level communal terraces in Block A1, Block B and Block C which will further add to the communal space provision within the proposed development.

Proposed Boundary Treatment and Access Arrangements

The subject development proposes a new vehicular and pedestrian access point from Milltown Road which will be the principal entrance to the subject development and which will facilitate access to the basement car park, the forecourt adjacent to Tabor House and the duplex units and apartments along the western boundary (Block E).

Some 2 No. new pedestrian gates will be provided at each access. In addition, a new pedestrian access will be provided at the junction of Milltown Road and Sandford Road which demonstrates that ample permeable opportunities are provided in the proposed development.

A portion of the boundary treatment of the existing wall will be modified along Milltown Road and Sandford Road. In this regard, a proposed upstand wall with railing will be provided in lieu of the existing cement or stone wall (predominately render removed) which will allow views into the site and will thus visually open the site up to the public and will enhance legibility in the area.

Cameo and Partners have also development a strategy for the boundary treatment as follows:

Figure 3.20: Boundary Treatment Strategy

(Source: Cameo and Partners Design Studio, 2021)

Figure 3.21: Illustrations of the Proposed Boundary Treatment at the Junction of Sandford Road and Milltown Road and New Pedestrian Entrance

(Source: Cameo and Partners Design Studio, 2021)

We note that the incorporation of permeable visual connections through the site and enhanced boundary treatments were a key consideration during the design process leading to greater public use of the space and represents a key planning gain for the wider community.

4.0 EXAMINATION OF ALTERNATIVES

4.1 Introduction

Chapter 4 of the EIAR sets out why the final layout was selected and provides details of alternative layouts considered throughout the design process. In addition, this chapter discusses alternative locations, alternative processes and alternative mitigation measures associated with the proposed development.

Annex IV (2) of the amended EIA Directive (2014/52/EU) notes that the following is required in relation to the consideration of alternatives in the preparation of an EIAR:

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

Therefore, the details provided in Chapter 4 are fully in accordance with Annex IV (2) of Directive 2014/52/EU.

4.2 Alternative Layouts

The main alternatives considered in Chapter 4 relates to alternative layouts considered by the Applicant and Design Team throughout the design process (6 No. layouts included in total). In summary, the following key items were considered in the early iterations of the scheme layout:

- Consideration of the reuse of existing buildings and provision of new build elements. It was ultimately decided that Tabor House and The Chapel could be functionally retained and reused within the development;
- Requirement to provide 25% public open space on the lands in accordance with the Z15 zoning objective; and
- Consideration of the mature tree belt and woodland park as a key site asset forming the eastern portion of the lands.

In summary, many of the reasons that early iterations of the scheme layout were not selected are as follows:

- The building forming the public park edge required further articulation and variation in massing;
- A continuous outer 'loop' road made for a car dominated environment and promoted too much emphasis on car movement while acting as a potential short-cut for cars from Milltown Road to Sandford Road causing traffic impact concerns;
- Further consideration of the interface with the northern edge onto Norwood Park was required in relation to secondary apartment block locations, separation distances and any potential privacy issues;

- The early studies raised challenges which became apparent during the detailed analysis of the existing buildings, and subsequently further options (Option E and F below) were developed with the functional reuse and refurbishment of the Chapel and Tabor House incorporated into the development.

The final layout of the proposed scheme will appropriately assimilate into the surrounding context to provide a sustainable residential development in close proximity to public transport, services, facilities and employment locations. The subject development provides the opportunity to showcase the 2 No. characterful buildings of Tabor House and The Chapel as focal points in the development, which are detachable from the building grouping.

The existing plot ratio of the developable site (c. 4.26 Ha) is 0.12 and the proposed plot ratio of the development site is 1.29, which represents efficient densification of core urban lands. The scheme also provides a substantial quantum of open space (c. 14,848 sq m) representing c. 34.9% of the site area which includes the provision of a large public park. As the site has been historically closed up to the public, the opening up of the site will welcome the public through the site for the first time and will become a gathering place for the community.

In addition to the public open space provision, the provision of permeable links (i.e. through the public park and through the pedestrian boulevard between Blocks A and B), new openings in the boundary wall (providing glimpses through the site) and the provision of new pedestrian gates will encourage permeability through the site which will benefit the wider community, whilst also assisting with the integration of the proposed scheme into the surrounding area. It is thus considered that the proposed development represents a significant planning gain for the area especially as the site has been historically closed up from the public.

4.3 Alternative Locations

The overarching vision of the Applicant and the Design Team since the outset of the project has been to develop a high-quality scheme on appropriately zoned serviced land.

When acquiring the site, the Applicant duly considered the zoning objective pertaining to the lands which are zoned Objective Z15 'Institutional and Community' in the *Dublin City Development Plan 2016 – 2022*, where 25% public open space is required, beyond the standard 10% typically required for a residential development on lands within the administrative area of Dublin City Council. In addressing the particular characteristics of the site, namely a large volume of vacant institutional buildings, a key requirement early in the design process was to determine which buildings could be functionally retained and reused within the development. In addition, the requirement for 25% public open space has been considered in line with the Z15 zoning objective pertaining to the lands, opening up these lands for the first time to the public as the lands have always been walled and gated and in private use by the Jesuit Community and closed off from the public.

The development layout was framed around these key design considerations. In addition to the large quantum of open space provided, the residential development now proposed has utilised the remainder of the site to provide a range of residential units and tenures as detailed extensively throughout this Chapter and application documentation.

Having regard to the core urban location of the site in proximity to high-frequency public transport, employment locations, services and facilities, the location of the lands within a built-up area, the sequential approach to development and the zoning objective of the subject site pertaining to the lands, alternative locations were not considered. Section 3.4.1 of the *Draft EPA Guidelines 2017* state that '*in some instances some of the alternatives… will not be applicable - e.g. there may be no relevant 'alternative location…'* The size of the site and the site's location close to the urban core, public transport and services and facilities has influenced the site's principal residential use along with the scale, height, and massing considered appropriate for the subject site.

4.4 Alternative Processes

The proposed development includes the provision of 671 No. residential units (604 No. Build-to-Rent and 67 No. Build-to-Sell units), residential support facilities and amenities, a creche and associated development. Therefore, as the development proposes in excess of 100 No. residential units, it is mandatory that the planning application is lodged as a Strategic Housing Development Planning Application to An Bord Pleanála, under the Planning and Development (Housing) and Residential Tenancies Act 2016. Having regard to the nature of the proposed development, alternative processes were considered but ultimately deemed irrelevant given the nature of the project.

4.5 'Do Nothing Alternative'

In the event of a 'do nothing scenario' the site would continue to remain in its current underutilised state which would represent an inefficient use of scarce core urban land within an existing built-up area. The application site currently comprises the original Milltown Park House with subsequent extensions, which are vacant and no longer in use, in a highly accessible core urban location in Dublin in close proximity to high frequency public transport and employment locations. The existing plot ratio of the developable site (c. 4.26 Ha) is 0.12 and the proposed plot ratio of the development site is 1.29, which represents efficient densification of core urban lands.

In addition, we note that the site was historically (and is currently) closed up from the public as the site has always been in private use. Therefore, if the development did not proceed, the site would not be opened up to the public and the extensive public open space representing 34.9% of the site and permeable links incorporated into the scheme layout would not be provided for the wider community to utilise. The development would welcome the public through the site and would become a gathering place for the community for the first time. Therefore, if the development does not proceed this would be considered a negative impact.

In conclusion, the proposed development will provide much needed housing units in an existing residential area in addition to a creche. If the development does not proceed, this would represent a lost opportunity to provide accessible public open space for the community as well as housing (i.e. 671 No. households would not be catered for).

4.6 Cumulative Impacts

Each design iteration comprehensively considered any potential impacts on neighbouring developments, modulating the edges of the scheme to provide an appropriate transition to its direct context. This ensures that an appropriate design response has been provided to minimise the cumulative impact of the development with neighbouring developments. We note that the Social Infrastructure Audit prepared by KPMG Future Analytics has also considered the capacity of surrounding infrastructure e.g. schools, health services, sports clubs etc. and concludes that sufficient capacity exists in the area to cater for the proposed development. Although it was concluded that a creche is not required, the Applicant has provided a creche in the scheme that can cater for the proposed development and the surrounding area.

A full list of proposed and pending applications was considered by the EIAR Team as set out in Chapter 3.0 (Section 3.5) and where relevant were included in the cumulative impacts assessment of the relevant chapter. In terms of this Examination of Alternatives Chapter, the surrounding developments are either at too great a distance or are too small to result in cumulative impacts with the subject proposed development. In addition, there are existing buildings located between the subject site and the list of developments outlined in Chapter 3.

In addition, Chapter 9 (Landscape and Visual Impact Assessment) prepared by Modelworks notes the following details in relation to cumulative impacts:

> *'There are several recently permitted developments, and proposals currently in the planning process, for a range of development types, including residential schemes of higher density (than the prevailing density) in the vicinity of the site.*
>
> *None of these permitted or proposed developments is (a) so close to the subject site, and/or (b) of such large scale that they could interact with the proposed development to result in townscape or visual impacts of greater significance than those predicted in Section 9.7 above. (There would be some cumulative townscape effect – see comment on the Eglinton Road SHD scheme below - but this would not change the significance or quality classifications in 9.7.1.2.)*
>
> *The Eglinton Road SHD scheme (PL29S.307267) is the largest of the permitted or proposed developments in the site vicinity. It is located at the opposite end of Eglinton Road from the site. That permission allows for the houses at nos. 1, 3, 5, 7, 9 and 11 Eglinton Road to be replaced by an apartment building of up to 13 storeys. This development and the subject proposal could not be seen in any one field of view (being separated by 500m and at opposite ends of a curved street). However, they would jointly contribute to a shift in townscape character experienced by the residents and users of Eglinton Road.*
>
> *This is an example of how the proposed development would interact with other proposed developments, permitted developments and the already constructed higher density developments in the area (e.g. Cedar Hall, Grove House, etc.) to result in a general shift in townscape character - towards a more urban, mixed density condition. This change is the result of compact growth policy, and it is not a negative change. It should be recognised that while the introduction of higher density development will unavoidably*

cause a change in character and the composition of views, low density housing will remain the predominant development typology in the site vicinity.'

Therefore, it is clear that the potential for any cumulative impacts to occur have been comprehensively considered.

4.7 Conclusion

As a result of a detailed design process, which included the 6 No. various design iterations outlined in this chapter and a significant number of design team meetings, it is considered that the proposed layout is the optimum arrangement in terms of appropriately densifying the subject lands while also protecting the residential amenity of the neighbouring residential properties.

As noted previously, the proposed layout locates the highest forms at the least sensitive locations throughout the site (fronting Milltown Road and Sandford Road, fronting the large public open space area to the east of the site, and towards the centre and southern portions of the subject lands), at a distance from sensitive residential receptors.

The scheme also provides a substantial quantum of open space (c. 14,848 sq m) representing c. 34.9% of the site area which includes the provision of a large public park. As the site has been historically closed up to the public, the opening up of the site will welcome the public through the site for the first time and will become a gathering place for the community.

In addition to the public open space provision, the provision of permeable links (i.e. through the public park and through the pedestrian boulevard between Blocks A and B), new openings in the boundary wall (providing glimpses through the site) and the provision of new pedestrian gates will encourage permeability through the site which will benefit the wider community, whilst also assisting with the integration of the proposed scheme into the surrounding area. It is thus considered that the proposed development represents a significant planning gain for the area especially as the site has been historically closed up from the public.

The proposed development will also provide a high-quality living environment for residents in addition to the provision of creche, which will benefit the future residents and the surrounding area. In conclusion, the proposed layout is well considered and includes an appropriate mix of residential dwelling types, support facilities and amenities and a creche.

5.0 POPULATION AND HUMAN HEALTH

5.1 Population Profile and Housing

Chapter 5 of this EIAR considers any likely impacts that the proposed development may have on population and human health. An analysis of the Census 2016 data was the principal data source in the preparation of this chapter. The site is located within the Rathmines East B Electoral Division and data relating to population profile and trends, housing, employment and commuting patterns for example, were studied.

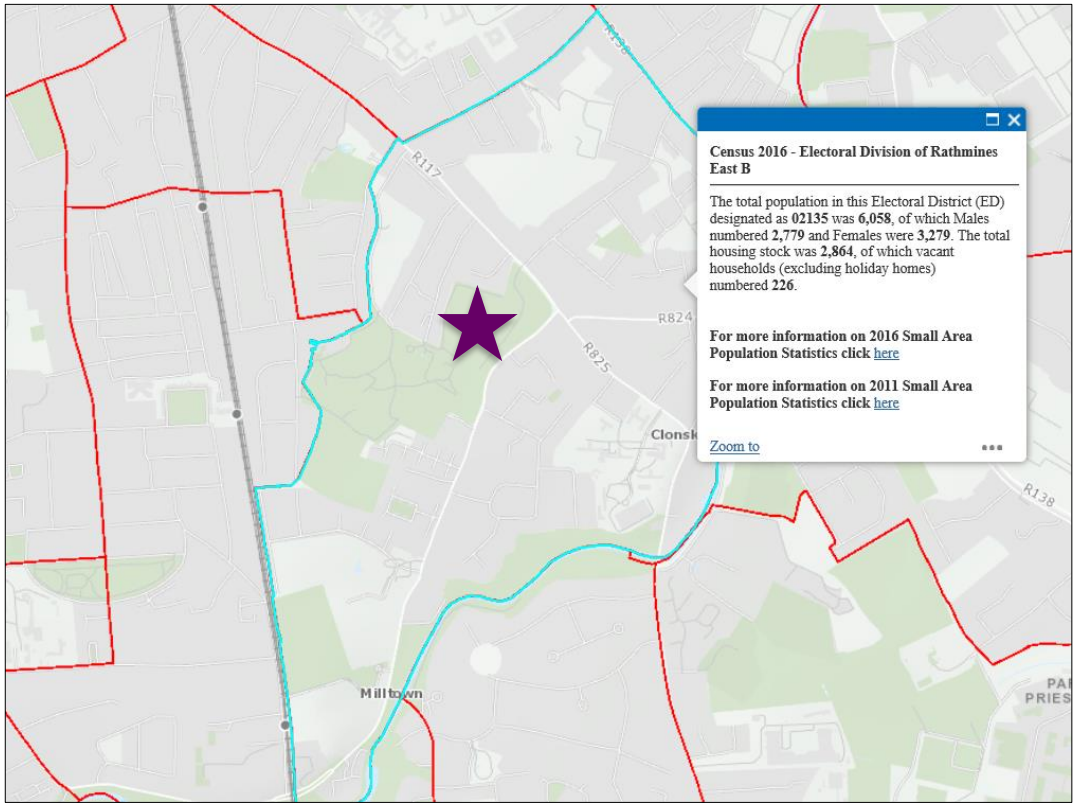

Figure 5.1: Map Demonstrating the Electoral Division of Rathmines East B with the Subject Site Annotated Indicatively by the Purple Star

(Source: Census 2016, annotated by Thornton O'Connor Town Planning, 2021)

According to the Census 2016, the Rathmines East B Electoral Division had a population of 6,058 No. persons. However, we note that the number of persons accommodated in the 2,410 No. households was 5,605 No. persons (i.e. 453 No. additional persons were present in this Electoral Division on the night of the census who are not normally present in the area).

The 2011 Census recorded a population of 5,533 No. persons within this ED on the night of the Census and the number of persons accommodated in the 2,309 No. households was 5,142 No. persons. Therefore, there has been an increase in the population recorded on the night of the Census of 525 No. persons (9.5% increase) and an increase in the number of persons accommodated in the households in this ED of 463 No. persons (9% increase).

There are a range of age groups living in the Rathmines East B ED according to the 2016 Census. As demonstrated in Table 5.1 below, a large concentration of persons are of working

age between 19 and 64 No. years old (4,226 No. persons or 70% of the ED population), which is higher than the figures for the State (2,872,502 No. persons representing 60.3% of the population) and for Dublin City (377,029 No. persons or 68% of the population).

Due to the high number of persons living in the area who are aged between 19 and 64 No. years old, the Dependency Ratio for the Rathmines East B ED is ultimately lower than recorded for the County and the State (Dependency Ratio relates to those not of working age i.e. 0 – 18 years old and 65+).

Population by Age[6]						
Age Group (years)	**Ireland 4,761,865 No. persons**		**Dublin City 554,554 No. persons**		**Rathmines East B ED 6,058 No. persons**	
0-4	331,515	**7%**	30,683	**5.53%**	328	**5.4%**
5-12	548,693	**11.52%**	42,603	**7.68%**	416	**6.9%**
13-18	371,588	**7.8%**	31,884	**5.75%**	288	**4.8%**
19-24	331,208	**7%**	51,308	**9.25%**	543	**9%**
25-39	1,048,831	**21.89%**	169,317	**30.53%**	2,215	**36.6%**
40-54	983,505	**20.65%**	103,857	**18.73%**	1,024	**17%**
55-64	508,958	**10.69%**	52,547	**9.48%**	444	**7.3%**
65+	637,567	**13.39%**	72,355	**13.05%**	800	**13%**
Total	**4,761,865**		**554,554**		**6,058**	
Dependency Ratio		**39.7%**		**32%**		**30%**

Table 5.1: Population Profile of the Rathmines East B Electoral Division, Dublin City and the State

(Source: Census 2016/CSO)

As the highest concentration of the Rathmines East B ED population are of working age, the proposed scheme will provide an enhanced choice of tenure in the area, affording greater flexibility to those who may be seeking to rent an apartment in the area or looking to purchase a dwelling.

We note that the scheme will also significantly benefit the existing population who are not in the workforce e.g. retirement age and cohort. There are a high number of persons are aged 65 + (13%) in the Rathmines East B ED who may welcome the opportunity to downsize to a smaller duplex or apartment in their local area (Build-to-Sell units). This would relieve pressure on the market sector by opening up larger family dwellings for sale in the surrounding areas.

We also note that 5.4% of the ED population were aged 0 – 5 years old at the time of the 2016 Census. The proposed development includes the provision of a crèche which in addition to catering for the younger cohort of persons that will be accommodated in the proposed development, will also cater for the younger cohort in the wider ED area.

The scheme provides 67 No. Part V units which will cater for persons in need of a dwelling as per the social housing list.

[6] http://census.cso.ie/sapmap2016/Results.aspx?Geog_Type=ED3409&Geog_Code=2AE196291DD413A3E055000000000001#SAPMAP_T1_100

The ED recorded an average of 2.3 No. persons per private household in 2016 which is lower than the national state average of 2.7 No. persons and the Dublin average of 2.5 No. persons. Therefore, the ED is predominated by smaller households and it is important to provide tenure choice for such household formations.

As shown below in Table 5.2, there are a large number of permanent private households which comprise 4 rooms or more within the Rathmines East B ED (1,441 No.). The Census 2016 provided the following definition when stating the number of rooms as follows:

- *'Do not count bathrooms, toilets, kitchenettes, utility rooms, consulting rooms, offices, shops, halls or landings, or rooms that can only be used for storage such as cupboards*
- *Do count all other rooms such as kitchens, living rooms, bedrooms, conservatories you can sit in, and studies*
- *If two rooms have been converted into one, count them as one room'.*

Permanent Private Households by Number of Rooms[7]		
No. of Rooms	**No. of Households**	**No. of Persons Accommodated**
1 room	93	144
2 rooms	313	548
3 rooms	412	839
4 rooms	408	820
5 rooms	308	758
6 rooms	250	651
7 rooms	190	564
8 or more rooms	285	955
Not stated	151	326
Total	2,410	5,605

Table 5.2: Permanent Private Households by Number of Rooms for the Rathmines East B Electoral Division

(Source: Census 2016/CSO)

Therefore, having regard to the above table, it can be concluded that the correlation between household sizes and average household sizes is disproportionate as the data demonstrates that despite the smaller average household sizes of 2.3 in the area, a large number of households comprise dwellings with 4 to 8+ rooms.

It is our opinion that there is a significant opportunity to densify this area of Dublin with a mix of studio, 1, 2 and 3 No. bedroom units to achieve a balance between household sizes and dwelling sizes. The Build-to-Rent element of the scheme will address the lack of rental accommodation in the area and as such the scheme will cater for a wider cohort of persons.

[7] http://census.cso.ie/sapmap2016/Results.aspx?Geog_Type=ED3409&Geog_Code=2AE196291DD413A3E055000000000001#SAPMAP_T6_650

5.2 Employment, Local Services and Facilities

The Census 2016 figures noted that 4.37% of the Rathmines East B ED are unemployed which is significantly lower than the national unemployment figure of 12.9%. This is a very favourable comparison to the national unemployment rate and is a direct reflection of the sustainable location of the site within this ED which has easy access to a wide range of employers. Therefore, the unemployment figures for 2016 for the Rathmines East B ED are considered very low when compared to the national figure of 12.9% as derived from the Census 2016, reflecting the multitude of employment nodes that are easily accessible to the area.

The most recent Economic and Social Research Institute (ESRI) *Quarterly Economic Commentary Summer*[8] notes the following in relation to the labour market:

> *'The COVID-19 pandemic has had a significant and lasting impact on the Irish labour market. Substantial fluctuations in the unemployment rate since early 2020 reflect the impact of the tightening and loosening of public health restrictions on businesses. The unemployment rate in February 2020 was 5 per cent while the COVID-adjusted unemployment rate[9] peaked at 30.5 per cent only two months later in April 2020. When restrictions were eased during the summer of 2020, the unemployment rate experienced a significant decline between May and September 2020.*
>
> *In line with the re-introduction of more stringent public health restrictions, the unemployment rate increased from 15.7 per cent in September 2020 to 25.3 per cent in January 2021. Since January 2021 the unemployment rate has declined, to stand at 22.4 per cent in April 2021. The average monthly unemployment rate for 2020 was approximately 18.9 per cent while the average for Q1 2021 was 24.7 per cent'.*

There are a wide range of services and facilities available in close proximity to the subject site as the site is positioned at the prominent interchange of Sandford Road and Milltown Road which is a key arterial crossroads between Milltown, Clonskeagh, Donnybrook, Ballsbridge and Ranelagh. Therefore, there are a number of neighbourhood centres in proximity to the site within easy cycling and/or walking distance of the subject site. In addition, Chapter 5 references the Social Infrastructure Audit prepared by KPMG Future Analytics which concludes that there is capacity for 16-17 No. pupils within the existing childcare facilities, 162-163 No. pupils in primary schools and 35 No. pupils in post-primary schools within a 2 km radius of the site.

The Social Infrastructure Audit concludes that the existing social infrastructure provision within close proximity to the subject site is capable of serving the population at the subject site. We note that there is a variety of facilities and services located in close proximity to the subject site that the future residents of the scheme can utilise on foot or bicycle. The proposed scheme also provides a co-working space, lounges, libraries and a multi-purpose rooms for example to serve the future residents of the scheme. In addition, the significant quantum of public and communal open spaces provided throughout the development and the proposed permeable links through the public park and pedestrian boulevard is considered

[8] Quarterly Economic Commentary, Summer 2021 | ESRI

[9] The COVID-adjusted unemployment rate classifies those on the PUP as unemployed. Where the text refers to an unemployment rate for a period after February 2020 the authors are referring to the COVID-adjusted unemployment rate (ESRI, 2021)

a unique planning gain for the area given that these lands were always in private use and not publicly accessible.

5.3 Potential Impacts of the Proposed Development and Summary of Mitigation Measures Proposed

The development will have a long-term positive impact on population due to the provision of a wide range of dwelling unit types which includes provision for Part V units and will cater for a wide cohort of persons.

As a result of the construction of the proposed development, c. 550 No. workers will be directly employed during the construction period in addition to c. 40 No. indirect workers (e.g. marketing, suppliers etc.). This increase in employment will clearly have a positive impact on existing population in the area as there would be employment opportunities for any workers living in the wider area surrounding the subject lands. We also note that additional workers on the site will utilise local shops and other businesses in the surrounding areas during the construction phase which will benefit the local economy. Therefore, the impact of the proposed development on employment and the economy is considered positive.

The application site will be opened up to the public, allowing access to previously inaccessible private lands. A total of 14,967 sq m (c. 34.2% of the site area) has been designated as public open space at the application lands which is a significant planning gain for the area, particularly as the lands have never been publicly available.

The subject site has significant frontage onto Sandford Road and Milltown Road and this in tandem with the large quantum of public open space provision, facilitates the unique opportunity to provide permeable connections through the site.

If the development did not proceed, this large site would principally remain in a vacant state. This could have a potentially negative effect on health and safety for security reasons as the large extent of the open site could encourage antisocial behaviour to take place at the subject lands. The buildings will also fall into disrepair which also represents the opportunity for anti-social behaviour to occur. There would be no change to the existing local services and amenities provision as there is currently no such provision at the subject lands which have always been in private use and not publicly available. As the application lands and buildings are vacant, there is nobody present at the site to spend money in the local economy.

As associated with all new developments, there will be a slight temporary negative impact on the surrounding area during construction stage arising from construction traffic entering and exiting the site and their associated noise, dust and slight nuisance. However, these issues can be appropriately mitigated as set out in Chapter 12 (Air Quality and Climate) 13 (Noise and Vibration) and 15 (Transportation) of this EIAR.

The Preliminary Construction Management Plan enclosed separately with this application also notes that a Traffic Management Plan (TMP) will be prepared for the site works which will minimise disruption to the adjacent road network (Outline Traffic Management Plan provided within the PCMP).

The Contractor shall be responsible for overall management of the site for the duration of the proposed works and must progress their works with reasonable skill, care, diligence and to proactively manage the works in a manner most likely to ensure the safety and welfare of those carrying out construction works. The Contractor shall comply with all relevant Statutory requirements such as the 2005 Safety Health and Welfare at Work Act, The Construction Regulations (SI 291 of 2013), the General Application Regulations (SI 299 of 2007), etc. (and any amendments thereof). In addition, the Contractor shall comply with all the reasonable safety requirements of the Client, the Project Supervisor for the Design Process and the Project Supervisor for the Construction Stage. Measures that would be taken under these Statutory requirements include:

- Appointment of a competent project supervisor for the design process, and a competent project supervisor for the construction stage.
- Contractor to ensure that all staff have received site-specific safety induction instruction.
- Appointment of a safety officer.
- Safe means of access to and egress from site are provided and maintained.

To negate any potential impacts during construction stage, a dust management plan will be implemented. In addition, the site will be securely fenced off from adjacent properties, public footpaths and roads.

Chapter 15 notes that a large proportion of construction workers are anticipated to arrive in shared transport and car sharing will be encouraged, therefore reducing the quantum of vehicles arriving at the site during construction.

The promotion of sustainable modes of transport from the site during the operational stage will significantly mitigate against any potential impacts that may arise on traffic in the area. Please see Chapter 15 (Transportation) which details the proposed development further in relation to potential traffic impacts and mitigation measures such as the implementation of a Parking Management Strategy, Mobility Management Plan provision of ample cycle parking, junction enhancements and promotion of car sharing. We note that the scheme has been designed in line with the *Design Manual for Urban Roads and Streets*.

Chapter 11 fully assesses the potential impact of the development on water-hydrology therefore, no predicted impacts on water-hydrology will arise and ultimately there is anticipated to be no impact on population and human health in this regard. Mitigation measures include implementation of the PCMP and Outlined CEMP during construction and SuDs measures will be implemented for the operation stage of the development.

In relation to air quality and climate, there may be potential for impacts on human health such as dust emissions during construction stage. A Dust Management Plan has been created and will be implemented to minimise such emissions. The Dust Management Plan is submitted along with this EIAR.

In relation to noise and vibration, in the short term the local area will be impacted during the construction period due the influx of construction traffic, noise, vibrations and dust. However,

we note that these impacts are temporary and are generally associated with all new developments in residential areas. Mitigation measures include selection of quiet plant, noise control at source, screening, liaison with the public and monitoring.

The impacts on the population and human beings in relation to landscape and visual impact are fully assessed in Chapter 9. The chapter notes that potential visual impacts during the construction phase are related to site set up (hoarding, construction compound etc.), demolition and site clearance, site services installation, construction of buildings, interior fit-out of buildings and external works (landscaping, streetscape, boundary works etc). However, Chapter 9 notes that any moderate and negative effects on the townscape in the immediate vicinity of the site would be temporary, reducing in significance with distance from the site. Chapter 9 concludes that significant townscape benefits would be achieved as a result of the proposed development such as place identification, improved legibility and introduction of buildings of high design and material quality. The assessment concludes that the townscape effects are predicted to be positive.

In relation to waste management, Chapter 14 sets out that a carefully planned approach to waste management and adherence to the project specific Construction and Demolition Waste Management Plan (C&DWMP – Appendix 14.1) and the Operational Waste Management Plan (OWMP – Appendix 14.2) will ensure appropriate management of waste and avoid any negative impacts on the local population.

Chapter 8 further notes that there will be an interaction between biodiversity and population and human health as there will be provision of lighting to provide a safe outdoor realm for residents which, without mitigation, could impact on nocturnal species, such as bats. Mitigation measures include the provision of a dark corridor with restricted lighting and a lighting design minimising impact on bats and other nocturnal animal, providing suitable commuting and foraging habitat.

The retained open space within the site will provide amenity areas for residents, including play areas, fitness areas and benches. This will involve thinning of trees within the woodland which, without mitigation, could impact on wildlife in the area for which the woodland provides cover and foraging ground. Mitigation measures involve planting of native shrubs in the understory which will enhance the woodland structure and planting of 238 new trees across the site. These measures will provide habitat for wildlife to safely commute and nesting opportunity for birds.

In relation to Microclimate-Wind, Chapter 17 outlines specific mitigation measures that have been incorporated into the proposed design to prevent excessive wind speeds during the operational phase of the development. The proposed development has been designed to have acceptable pedestrian wind comfort conditions during the operational phase. It is expected the wind microclimate will gradually adjust from the existing conditions to the final modelled scenario as construction progress develops. However, measures outlined in Chapter 17 (such as landscaping, provision of rooftop amenity canopy and solid balustrades to balconies on Floors 5 to 9 of Block A1) will need to be implemented before completion to ensure comfortable conditions once the proposed development becomes operational.

6.0 ARCHAEOLOGICAL AND CULTURAL HERITAGE

An archaeological, architectural and cultural heritage study was undertaken at the subject site in order to identify and record the location, nature and dimensions of any archaeological or cultural heritage features, fabric or artefacts that may be impacted by the proposed works. This assessment included a desk-based study and site walkover survey. The desktop study collated data from the Record of Monuments and Places (RMP), the Topographical files of the National Museum of Ireland (NMI), cartographic sources, aerial photography, documentary research and relevant on-line databases. In addition to the desktop assessment and site inspection, geophysical survey and test excavation assisted in providing an understanding of the receiving archaeological and cultural heritage environment and potential. The site is large in scale, occupying an area of c. 4.26 Ha./4.74 Ha. (developable/total application site) to on the southern fringe of Dublin City. While no potential archaeological sites or features were recorded within the subject site, human skeletal remains have been recorded adjacent to the south-west site boundary in the Topographical files of the NMI. Consequently, there remains moderate potential for the survival of buried archaeological remains at the site.

Potential Impacts

The proposed development will involve considerable ground disturbance works across the subject site including excavations and other groundworks (e.g. provision of access roads and service trenches), movement of machines and storage of material in sensitive areas. In the absence of the mitigation measures described below, significant impacts on potential buried archaeological remains at the site would be direct, negative and permanent.

Mitigation

Mitigation measures shall be undertaken as directed by the Department of Housing Local Government and Heritage (DHLGH) in compliance with national policy guidelines and statutory provisions for the protection of archaeology and cultural heritage.

Recommended Mitigation Measure: All ground disturbance works across the development site will be monitored by a suitably qualified archaeologist. In the event that archaeological material is recorded during monitoring, further discussion/consultation with the DHLGH will be sought in order to ascertain the appropriate treatment (i.e. preservation by record/preservation in situ) of any additional archaeological remains. Should the DHLGH recommend preservation by record/full archaeological excavation, this work will be undertaken under the appropriate licence.

Should archaeological sites or features be recorded during monitoring of groundworks as per the recommended mitigation measure, further discussion/consultation with the DHLGH will be sought to ascertain the appropriate treatment (i.e. preservation by record/preservation in situ) of any additional archaeological remains.

7.0 ARCHITECTURAL HERITAGE

The proposed development site is occupied by a large-scale institutional building range, which has been vacant since November 2019. The existing building group ranges in origin from the late-18th century through to the mid-20th century, none of which are protected structures or included in the National Inventory of Architectural Heritage. There are protected structures in the vicinity of the development site, most notably those fronting onto Sandford and Clonskeagh Roads, and to the southeast fronting on Milltown Road. The Belmont Avenue/ Mount Eden Road & Environs Architectural Conservation Area is positioned northeast of the subject site.

Chapter 7 of the EIAR identifies buildings and other features of heritage significance within and in the environs of the development site. It has recorded all building fabric on the site and qualifies the significance of each building to inform a viable strategy of purposeful retention and adaptive re-use. Baseline assessments have led to the intended retention of two buildings within the grouping, a chapel and a former residential building (Tabor House), both dating from the late 19th century. It is proposed to demolish all other structures on the site.

The chapter reviews aspects of change arising from the physical, visual or morphological impacts on architectural and cultural heritage, as a consequence of the proposed development, using a number of resources including the Record of Monuments and Places, the *Dublin City Development Plan*, cartographic and documentary sources and visual inspections of the building fabric.

It examines existing inter-relationships between the buildings and their singular and collective interactions with architectural heritage in the vicinity of the site, assessing potential impacts from the site's proposed development for their respective fabric, character and setting.

The enclosing boundary wall has an inherent historical character, which contributes to the character of the area. Proposals to introduce additional entrances within this wall will improve the permeability of the site and are not predicted to harm that character.

The development of a suite of residential blocks enclosing the retained structures and set within the extant parkland has been assessed in terms of visual impact, in the interest of maintained integrity of the retained structures and also with regard to morphological changes to the urban setting of protected fabric in the vicinity.

The assessment takes into account the proximity of the designated Architectural Conservation Area to the north of the development site and reviews potential impacts the development may present for its character.

Ameliorative measures are proposed where necessary to safeguard features of interest. In order to protect the sylvan nature of the boundary and to buffer the visual impact of the proposed development, protection of mature specimen trees and supplementary planting within the enclosure is acknowledged as a key mitigation in the Chapter. The implementation of other mitigation measures detailed in the Chapter will ensure that the effect during the construction phase is neutral and imperceptible.

8.0 BIODIVERSITY

The chapter on Biodiversity assessed potential impacts on sensitive receptors within the site of Milltown Park, Sandford Road, Dublin 6, and its immediate surroundings. The proposed site is located approximately 2.4km from South Dublin Bay Natura 2000 sites, namely South Dublin Bay SAC and South Dublin Bay and River Tolka Estuary SPA, and approximately 6.1km from the North Dublin Bay Natura 2000 sites, namely North Dublin Bay SAC and North Bull Island SPA. A further 15 Natura 2000 sites occur within the Zone of Influence of the proposed site. The potential impacts on these Natura 2000 sites are discussed further in the Appropriate Assessment Screening Report accompanying the application.

There are 16 No. proposed Natural Heritage Areas (pNHA) within the Zone of Influence of the proposed site, Grand Canal being the closest (1.5km distance). Dodder Valley pNHA lies within the same sub-catchment as the proposed site and the River Dodder provides a valuable green corridor within south Dublin. Connectivity with the proposed site is important in the urban context where connectivity is being reduced by urban development which can impact on the Dodder Valley pNHA. All other pNHAs are not anticipated to be significantly impacted by the proposed works due to distance from the site, their location or lack of pathways.

Other habitats and species identified at the site which could be impacted by the proposed works include mixed broadleaved/conifer woodland, treelines, scrub, grassland as foraging habitat for bats, terrestrial mammals, bats, breeding birds and wintering birds.

Following assessment, potential impacts at a local and regional level include:

- Reduced connectivity for species and habitats within Dodder Valley pNHA.
- Physical damage to retained vegetation during removal of vegetation.
- Loss of foraging habitat for terrestrial mammals.
- Loss of foraging and commuting habitat and potential roosts for bats.
- Lighting during hours of darkness would reduce the quality of foraging and roosting habitat for bats and small nocturnal mammals.
- Loss of nesting habitats for birds.

Mitigation measures during vegetation removal include protection of retained vegetation and works will not take place within the tree root protection zone. Regeneration of young trees is safeguarded by retaining young/early mature trees of high quality. Vegetation will be cleared on a rotational basis with scrubby patches left to provide nesting and cover for mammals, including Hedgehog.

The woodland along the north and east boundary will be retained thus securing habitat for terrestrial mammals and bats using the site. There will be removal of low quality trees and scrub in this area. Planting of native trees, scrub and ground cover vegetation will replace the removed vegetation.

Further mitigation for bats includes further examination by an experienced bat specialist of a tree with bat roost potential which is destined for removal (Arboricultural Tag Number 311) prior to felling. A re-assessment of the roof space of the building destined for demolition will be carried out before any demolition works commence. Bat boxes will be installed on a number of mature trees in the woodland. The lighting on site is designed to reduce the impact on bats and other nocturnal mammals.

The site is considered to be of local importance for breeding birds, given the presence of woodland and scrub. Jackdaw and Herring Gull were identified to nest on the roof of Tabor House. Removal of trees and scrub will take place outside of the bird nesting season (March to September inclusive). Demolition or reroofing of buildings must take place outside of the bird nesting season (March to September included). If works are to take place in 2022, or years thereafter, it should take place outside of the bird nesting season or the chimneys should be bird proofed by a specialist contractor prior to nest building/egg laying and a new breeding bird survey by a qualified ecologist should take place before any demolition works starts.

Ecological enhancement measures are incorporated in the scheme and include planting of native scrub as ground cover in the woodland which will provide habitat and cover for mammals and birds using the site and it will strengthen the woodlands function as a connecting habitat for wildlife in the wider area. Further enhancements include planting of native wildflowers and installing insect hotels to provide habitat for solitary bees.

In conclusion, it is considered that through the implementation of appropriate mitigation, the proposed development is not predicted to have a significant impact on the species and habitats present.

9.0 LANDSCAPE AND VISUAL IMPACT

9.1 Receiving Environment

The principal development site (hereafter referred to as the site) is a c. 4.26 Ha. land parcel formerly a part of the Milltown Park Jesuit Centre. It is comprised of two main parts:

- A complex of buildings (Milltown Park House, Milltown Park House Rear Extension, Tabor House, the Chapel, Finlay Wing and the Archive) in the southern part of the site near the existing Milltown Park entrance off Milltown Road;

- A large area of parkland character, comprised of grassland fields, a hard standing area and - most significantly - a broad belt of mature woodland inside the east and north boundaries (along Milltown Road and Sandford Road respectively). There is also a line of mature trees inside the north boundary (shared with the neighbouring estate, Norwood Park), and a line of maturing trees inside the west boundary (shared with a row of houses fronting Cherryfield Avenue).

A notable feature of the site is the tall (2m+) boundary wall along the north and east boundaries. The wall is of cement render along Sandford Road and a combination of cement render and exposed stone along Milltown Road. The character and presence of the site in the townscape are largely determined by the woodland belt and the boundary wall. Even in winter with the trees out of leaf, these screen most of the interior of the site from view from the surrounding roads and the properties.

The character of the site environs is mixed, with a distinct difference in townscapes of the Sandford Road area to the north and the Milltown Road area to the east and south. The elements and areas of greatest sensitivity to change include:

- Belmont Avenue Architectural Conservation Area;
- Sandford Road, Clonskeagh Road, Eglinton Road and Cherryfield Avenue Residential Conservation Areas;
- Norwood Park, a more recently developed estate enclosed by the site to the east and south, also zoned Residential Conservation area;
- The protected structures in close proximity to the site, including 132, 134, 136, 138 Sandford Road, and the western end of St James's Terrace on Clonskeagh Road;
- The historic buildings on the site;
- The mature trees/woodland on the site.

Balancing the area's sensitivities, there are also indications of some capacity for change in the area, which are given heightened importance by compact growth policy. These include:

- Milltown Road character area: This corridor is characterised by (a) a wide variety of plot and building typologies, scale and architecture with a large proportion of modern development including mid-high density residential schemes, and (b) infill development on previously institutional lands. The site has a greater presence in the Milltown Road area than it does in the Sandford Road area;

- Location at a key junction: The junction funnels traffic from three urban cores, i.e. Clonskeagh/UCD, Milltown and Donnybrook towards the city centre via Ranelagh.

The site occupies the most prominent of the four quadrants around the junction. Due to a number of factors, including the non-orthogonal configuration of the junction, the absence of buildings at the corner of the site, and the wall and trees along the site boundary, the junction does not manifest as a distinct 'place' in the townscape. Despite the large houses and trees around the junction it does not figure clearly in people's mental map of the area and does not contribute positively to legibility.

The junction as a place, and the streets to which the site has frontage, warrant greater emphasis in the townscape – to give better definition to the junction locally, and to improve the legibility of the urban structure. This can be achieved only by built form on the site (the other quadrants around the junction all being already developed). However, the site's main landscape asset, the belt of trees inside the boundary, is a constraint to development that would seek to address the roads and junction. Any building in the corner must be set back behind the trees. It is only through substantial height that a building on the site will achieve the dual objective of place-making and legibility.

- The historic buildings on the site: As well as being a sensitivity, the historic buildings present an opportunity for creating positive tension and visual interest in the evolving townscape, through juxtaposition with contemporary buildings and spaces, and for giving identity to new development;

- The mature trees/woodland on the site: As well as being a sensitivity, the woodland belt constitutes an opportunity due to its screening effect. It also adds character and amenity (as well as biodiversity value) to the site itself and the wider townscape.

Informed by this analysis, the sensitivity of the receiving environment can be classified 'medium' (definition: *Areas where the landscape has certain valued elements, features or characteristics but where the character is mixed or not particularly strong, or has evidence of alteration, degradation or erosion of elements and characteristics. The landscape character is such that there is some capacity for change. These areas may be recognised in landscape policy at local or county level and the principal management objective may be to consolidate landscape character or facilitate appropriate, necessary change*).

Predicted Townscape Effects

The magnitude of townscape change which would result from the proposed development can be classified 'medium' (definition: *Change that is moderate in extent, resulting in partial loss or alteration to key elements, features or characteristics of the landscape, and/or introduction of elements that may be prominent but not necessarily substantially uncharacteristic in the context. Such development results in change to the character of the landscape*).

The townscape change – the introduction of a complex of high density buildings to former institutional lands of parkland character – would be in keeping with the trend of change in the Milltown Road corridor, and would cause no significant change to the character of *that* area. The change to the Sandford Road corridor would be more substantial, and would affect the character of this area. The classification of magnitude of change also takes account of the proposed retention of much of the woodland belt along Sandford Road and Milltown Road, and the retention (with modifications) of the boundary wall.

Measuring the magnitude of proposed change against the sensitivity of the receiving environment, the significance of the townscape effects is predicted to be 'moderate' (definition: *An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends*).

Townscape change of some significance is unavoidable with the development of a large opportunity site in a prominent position, at the interface between two different character areas (one being characterised by low density development). Contemporary, high density development that fits comfortably into the Milltown Road area will inevitably contrast with the Sandford Road area. Additionally, if the development is intended to mark the junction to improve legibility, it must protrude above the tree line and therefore intrude in views from the lower density area of Sandford Road.

Such tensions are increasingly common and are not undesirable in an urban environment evolving as a result of compact growth policy. The access of suburban, previously private institutional properties to public transport, neighbourhood centres, places of employment and education, public open space and other urban amenities is too valuable not to exploit. The resulting change should therefore be viewed as neutral in principle. If a proposed development is responsive to the sensitivities in the receiving environment, and if it can also deliver townscape gains (additional to sustainable land use/ density) then its effects can be positive - even if it contrasts with some of the context development.

The assessment has found that the proposed development would achieve significant townscape benefits, including the provision of high quality new public open space for the future residents and the wider community, and place identification and improved legibility. Importantly, the development would retain the site's main natural and cultural/ architectural heritage assets, i.e. the woodland belt, Tabor House and the Chapel, incorporating these as features/ focal points of the new neighbourhood.

Additionally, in its arrangement of built form and height the proposal demonstrates consideration of the sensitivities in the receiving environment, specifically the neighbouring residential streets and nearby protected structures. The complete avoidance of juxtaposition of building typologies and scale is not possible when high density development is introduced to historically low density areas. However, considering the context, such juxtaposition has been minimised. Only at the site interface with Norwood Park would there be any significant step in scale. Here, the potential negative effects are minimised by the setback of the building (Block C) from the boundary, the retention of existing trees in a linear open space inside the boundary (forming a landscape buffer between the new building and the houses of Norwood Park), and the considered massing and height of the building – to reduce the perception of scale.

In summary, considering the sensitivities and opportunities in the receiving environment, the relevant planning policy and the mitigation measures built into the proposed development to avoid or reduce negative impacts, the townscape effects are predicted to be positive.

5.2 Predicted Visual Effects

Some 22 No. viewpoints were selected for assessment of the proposal's visual effects informed by Verified View Montages (VVMs or photomontages). The viewpoints were selected to represent visual receptors in all of the potentially affected character areas around the site, and to show the proposal from a range of angles and distances. VVMs were produced for both the summer and winter scenarios, to show the varying screening effect of vegetation between the seasons. The predicted visual effects are as follows:

No	Viewpoint Location	Sensitivity	Magnitude of Change	Significance & Quality of Visual Effects		
				Construction (Temporary)	Operation (Permanent)	Residual (Permanent)
1	Sandford Rd mid-distant view (approx. 200m)	Medium	Low-Medium	Slight negative	Slight positive	Slight neutral
2	Sandford Road – local view (approx. 65m)	Medium	Negligible-Low	Not significant neutral	Not significant neutral	Not significant neutral
3	Sandford Road opposite site	Medium	Low	Slight negative	Slight neutral	Slight neutral
4	Belmont Ave approaching Sandford Road	Medium	Low-Medium	Moderate negative	Moderate positive	Moderate positive
5	Belmont Avenue distant view (inside ACA)	High	Low-Medium	Moderate negative	Moderate neutral	Moderate neutral
6	Eglinton Road distant view (230m)	Medium	Low	Slight negative	Slight neutral	Slight neutral
7	Eglinton Road mid-distant view (115m)	Medium	Negligible	Not significant neutral	Not significant neutral	Not significant neutral
8	Junction of Eglinton Road and Clonskeagh Road	Medium	Medium	Moderate negative	Moderate positive	Moderate positive
9	Clonskeagh Road mid-distant view (110m)	Medium	Low-Medium	Slight negative	Slight neutral	Slight neutral
10	Norwood Park – view south	Medium-High	Medium-High	Significant negative	Significant neutral	Significant neutral
11	Norwood Park – view east	Medium-High	Medium	Moderate negative	Moderate neutral	Moderate neutral
12	Cherryfield Avenue Lower	Medium	Low	Slight negative	Slight neutral	Slight neutral
13	Cherryfield Avenue Upper	Medium	Low	Slight negative	Slight neutral	Slight neutral
14	Milltown Road opposite site	Medium	Low	Slight negative	Slight neutral	Slight neutral
15	Mount Sandford entrance – view west	Medium	Low - Medium	Moderate negative	Moderate positive	Moderate positive
16	Mount Sandford entrance – view north west	Medium	Low	Slight negative	Slight neutral	Slight neutral
17	Milltown Road footpath alongside site	Medium	Negligible-Low	Slight negative	Slight neutral	Slight neutral

18	Milltown Road – Distant view	Medium	Low-Medium	Moderate negative	Slight - Moderate positive	Slight - Moderate positive
19	View representing Garrynure	Medium	Medium	Moderate negative	Moderate positive	Moderate positive
20	Milltown Park access road	Medium	Medium	Moderate negative	Moderate positive	Moderate positive
21	Milltown Park – from rear of accommodation block	Medium	Medium	Moderate negative	Moderate neutral	Moderate neutral
22	Albany Road distant view (approx. 350m)	Medium	Negligible	Not significant neutral	Not significant neutral	Not significant neutral

The following are the notable conclusions of the visual effects assessment:

- **Limited and neutral or positive visual effect on the Sandford Road corridor**. The only elements of the proposed development that would have a significant presence in views from Sandford Road, Belmont Avenue, Eglinton Road and Clonskeagh Road, are Block A1 and the changes to the boundary wall (replacing part of the cement render and stone wall with a low wall and railing). In views from a distance (e.g. Viewpoints 1, 5, 6 and 9), Block A1 would protrude above the retained tree line. The extent of protrusion would be sufficient for the building to be seen and to be recognisable, but not so tall as to dominate or otherwise harm any existing buildings or other valued elements in the views. The development would therefore cause no loss of visual amenity, but it would contribute to place-making and legibility. The photomontages indicate that the 10 storey height of Block A1 is the ideal height to achieve the urban design objectives and also avoid any negative effects. In two views from the Sandford Road corridor, where the development would be slightly more exposed to view (Viewpoints 4 and 8), the visual effects have been assessed as positive. In both cases the development would result in an attractive and interesting urban composition, with no negative effect on any valued feature or characteristic of the views.

- **Limited effect on the setting and views of protected structures**. The protected structures closest to the site are the houses across Sandford Road to the north and St James's Terrace across Milltown Road to the east. The proposed Block A1 is separated from these houses by some 60m or more, and there are wide, busy streets and the retained mature trees on the site between them. Therefore, despite the relative height of Block A1, it would have limited effect on the setting or views of or from these protected structures (refer to the photomontages for Viewpoints 3, 4, 8 and 14.

- **Limited visual effects on Cherryfield Avenue (Residential Conservation zoned-area)**. The reduction in height of the proposed buildings towards the western site boundary limits the extent to which the proposed development would intrude in views from Cherryfield Avenue and the houses on the east side of the street, which back onto the site. While these houses would experience change in their views, the residual views would be similar to those of the majority of the houses in the area, which are typically arranged back-to-back with other houses.

- **Significant but neutral visual effects on Norwood Park**. The greatest magnitude of change to views would occur in views from Norwood Park, particularly the houses on the south side of the road, which back onto the site. In views to the east, Block A1 would protrude above the retained trees in the middle distance. It would have limited effect on the composition or character of the views, and would cause no reduction in visual amenity (a building of high design and material quality being added (in the middle distance) to the already urban composition - see photomontage for Viewpoint 11). In views south (Viewpoint 10) the magnitude of change would be higher, with Block C located across the boundary at a distance of 32.5-45m from the rear facades of the houses. Block C would unavoidably intrude in views from the street and the rear windows and gardens of a small number of houses. Several measures have been taken to minimise the effect on these views, including (a) the retention of the mature trees inside the boundary, (b) the setting back of Block C from the boundary behind a linear open space incorporating the trees, and (c) the deconstructed massing, modulated height, the highly articulated facades and material quality of Block C. Therefore, while the composition and character of the views would be changed, the new buildings in view would be sufficiently removed and of sufficiently high design quality to avoid causing any significant negative effects on visual amenity. Without a change in building typology (and corresponding reduction in residential density) this effect cannot be further reduced. Such changes are inevitable in the process of densification of the suburban environment.

- **Limited but positive visual effect on Milltown Road and adjacent properties/ developments**. Due to the retention of numerous mature trees inside the east boundary and the setting back of Block A behind the wide open space, the development would have limited effect on views from Milltown Road or the properties across the road (e.g. Viewpoints 14-19). Where the buildings would be visible (Viewpoints 15, 18, 19) they would make a positive contribution to the visual amenity of the already urban townscape corridor of Milltown Road. Possibly the most significant change in the views from Milltown Road itself would be the replacement of the existing high wall on the site boundary with a low wall and railing. This would open views into the site along the frontage of the new public park, featuring the retained woodland and glimpses of the attractive new buildings set back behind the park.

10.0 LAND, SOILS AND GEOLOGY

This chapter of the EIAR 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 to minimise any impacts.

In summary, the proposed development ("the site") comprises of 671 residential dwelling (604 No. Build to Rent and 67 No. Build to Sell) on a c. 4.26 ha site (developable area).

An assessment of the likely impact of the proposed development on soils and the geological environment included a preliminary ground investigation study and review of information available on the Geological Survey of Ireland (IGSL) online mapping service.

Ground conditions at the site, as observed during Preliminary Ground Investigations, are summarised as follows: topsoil layer overlying made ground deposits (described generally as slightly sandy, slightly gravelly CLAY) overlying cohesive deposits (described generally as slightly sandy slightly gravelly CLAY) overlying a stiff or very stiff slightly sandy slightly gravelly CLAY. The strength of the cohesive deposits typically increased with depth.

Ground water measurements taken in June 2020 and October 2020 indicated ground water depths of 1.0m to 7.5m BGL.

Review of GSI's online mapping service ("Bedrock Geology") generally describes geology in the vicinity of the site as "*Dark limestone & shale*". GSI have classified the site's groundwater vulnerability as "Low" and have classified underlying aquifers as "Locally Important".

Site development works will include stripping of topsoil, excavation of subsoil layers (to allow road construction, foundation excavation, basement excavation for underground carpark, drainage and utility installation and provision of underground attenuation of surface water) and importation of fill (structural fill beneath buildings and roadways (structural fill).

The current foundation proposal of standard strip and pad footings is based on results of the site investigations, the structural modelling, loading calculations and site constraints. Other foundation solutions considered include augered bored piles or driven piles. Ground improvement techniques were also considered for low rise lightly loaded structures such as the duplex houses e.g. lime stabilization.

In order to mitigate impacts noted above stripping of topsoil will be carried out in a controlled and carefully managed way and coordinated with the proposed staging for the development. Disturbed subsoil layers will be stabilised as soon as practicable (i.e. minimise the duration that subsoil layers are exposed to weather effects). Measures will also be implemented to capture and treat sediment laden surface water runoff (e.g. sediment retention ponds and surface water inlet protection).

Regarding construction traffic, earthworks plant and vehicles delivering construction materials to site will be confined to predetermined haul routes around the site.

Vehicle wheel wash facilities will be installed in the vicinity of any site entrances with road sweeping along Sandford Road / Milltown Road and dust suppression implemented as necessary.

In order to mitigate against spillages contaminating underlying soils, all oils, fuels, paints and other chemicals will be stored in a secure bunded hardstand area. Refuelling and servicing of construction machinery will take place in a designated hardstand area (when not possible to carry out such activities off site).

All temporary construction compounds are to be removed upon completion of the construction phase. 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.

Implementation of the measures outlined in Chapter 10 of this EIAR and the Preliminary Construction Management Plan will ensure that the potential impacts of the proposed development on soils and the geological environment do not occur during the construction phase.

11.0 WATER-HYDROLOGY

This chapter of the EIAR comprises of an assessment of the likely impact of the proposed development on the surrounding surface water and hydrogeological environments (including flood risk, surface water drainage, foul drainage and water supply) as well as identifying proposed mitigation measures to minimise any impacts.

In summary, the proposed development ("the site") comprises of 671 residential dwelling (604 No. Build to Rent and 67 No. Build to Sell) on a c. 4.26 ha site (developable area).

Assessment of the likely impact of the proposed development on the surrounding surface water and hydrogeological environments included site inspection / walkover, review of topographic survey information, review of Irish Water network plans, ground investigations, review of information available on the Environmental Protection Agency (EPA) online mapping service, review of information available on the Geological Survey of Ireland (GSI) online mapping service, review of OPW National Flood Hazard Mapping and CFRAM Studies, review of the Dublin City Development Plan 2016-2022 SFRA, consultation with Dublin City Council's Water Services Section and consultation with Irish Water.

As part of assessing the likely impact of the proposed development, surface water runoff, foul drainage discharge and water usage calculations were carried out in accordance with the Greater Dublin Strategic Drainage Study (GDSDS) and methods outlined in Irish Water's Codes of Practice for Waste Water Infrastructure and Water Supply.

The primary hydrological feature in the vicinity of the site is the Dodder River (approx. 500m to south-east of the site). An existing surface water drain runs along Eglinton Road east of the site. As the site generally falls from south-west to north-east, the existing surface water drain in Eglinton Road provide a suitable surface water outfall for the proposed development.
The existing surface water drain in Eglinton Road ultimately discharges to the Dodder River.

GSI's Groundwater Data Viewer indicates that the site is located within the "Dublin" Groundwater Body. The underlying bedrock aquifer is classified as "Locally Important Aquifer – Bedrock which is Moderately Productive only in Local Zones". GSI also classify the site's groundwater vulnerability as Low.

A flood hazard assessment has been undertaken by reviewing information from the Office of Public Works (OPW) National Flood Hazard Mapping (www.floods.ie) and the Eastern CFRAM Study. This assessment has been carried out in accordance with the procedures for a "Flood Risk Assessment" as outlined in the OPW's Guidelines for Planning Authorities – The Planning System and Flood Management (November 2009). Following the Flood Risk Assessment, it was determined that the site is located in Flood Zone C as defined by the Guidelines i.e. the proposed development is appropriate for the site's flood zone category.

An existing 600mm diameter combined sewer is located adjacent to the site's northern-eastern boundary (Sandford Road). An existing 375mm diameter combined sewer is also located adjacent to the site's south-eastern boundary (Milltown Road) which outfalls to the 600mm diameter combined sewer in Sandford Road. Pre-connection enquiry feedback has been received from Irish Water which confirms that, as it is proposed to discharge surface water flows from the development to existing surface water drainage infrastructure in Eglinton Road, discharge of foul drainage flows to existing combined sewers adjacent to the site is feasible.

An existing 9" cast iron watermain runs along the Sandford Road (north east of the development) and Milltown Road (south east of the development). Irish Water have confirmed that new connections to the existing water supply network are feasible.

Potential impacts that may arise during the construction phase include, surface water runoff becoming polluted by construction activities, accidental spills and leaks associated with storage of oils and fuels, leaks from construction machinery and spillage during refuelling and maintenance, concrete runoff (particularly discharge of wash water from concrete trucks), improper discharge of foul drainage from contractor's compound and cross contamination of potable water supply to construction compound.

In order to mitigate construction phase impacts a site-specific Construction and Environment 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 and Environment Management Plan.

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. Dublin City Council's Environmental Control Section is to be notified of the proposed destination for disposal of any liquid fuels.

Potential operational phase impacts include increased impermeable surface area potentially increasing surface water runoff and accidental hydrocarbon leaks with subsequent discharge into piped surface water drainage network.

In order to mitigate operational phase impacts surface water runoff from the site will be attenuated to the greenfield runoff rate as outlined in the Greater Dublin Strategic Drainage Study (GDSDS). Methodologies such as permeable paving, green roofs and discharge of surface water via a fuel / oil separator are being implemented as part of a SuDS surface water treatment train approach.

Proposed mitigation measures to address residual flood risks include maintenance of the drainage system on a regular basis to reduce the risk of a blockage and overland flow routes, directed towards open space areas, are identified / established in the event of storms exceeding the 1% AEP design capacity of the attenuation system

Implementation of the measures outlined in Chapter 11 of this EIAR and the Preliminary Construction Management Plan will ensure that the potential impacts of the proposed development on the surrounding surface water and hydrogeological environments do not occur during the construction phase.

12.0 AIR QUALITY AND CLIMATE

AWN Consulting Ltd has assessed the likely air quality and climate impacts associated with the construction and operational phases of the proposed residential development at Milltown Park, Sandford Road, Dublin 6.

In terms of the existing air quality environment, data available from similar environments indicates that levels of nitrogen dioxide (NO_2), particulate matter less than 10 microns and particulate matter less than 2.5 microns (PM_{10}/$PM_{2.5}$) are, generally, well within the National and European Union (EU) ambient air quality standards.

The existing climate baseline can be determined by reference to data from the EPA on Ireland's total greenhouse gas (GHG) emissions and compliance with European Union's Effort Sharing Decision "EU 2020 Strategy" (Decision 406/2009/EC). The EPA estimate that Ireland had total GHG emissions of 59.90 Mt CO_2eq in 2019 with 45.71 MtCO_2eq of emissions associated with the ESD sectors for which compliance with the EU targets must be met. This is 6.98 Mt CO_2eq higher than Ireland's annual target for emissions in 2019. Emissions are predicted to continue to exceed the targets in future years.

Impacts to air quality and climate can occur during both the construction and operational phases of the proposed development. With regard to the construction stage the greatest potential for air quality impacts is from fugitive dust emissions impacting nearby sensitive receptors. Impacts to climate can occur as a result of vehicle and machinery emissions. In terms of the operational stage air quality and climate impacts will predominantly occur as a result of the change in traffic flows on the local roads associated with the proposed development.

The surrounding area was found to have a high sensitivity to dust soiling and low sensitivity to dust related human health impacts. There is an overall high risk of potential dust soiling impacts and low human health impacts as a result of the proposed construction works. Any potential dust impacts can be mitigated through the use of best practice and minimisation measures which are outlined in Chapter 12. Therefore, dust impacts will be short-term and imperceptible at all nearby sensitive receptors. It is not predicted that significant impacts to climate will occur during the construction stage due to the nature and scale of the development. Construction stage impacts to climate are predicted to be short-term, neutral and imperceptible.

The changes in traffic volumes associated with the operational phase of the development were not substantial enough the meet the assessment criteria requiring a detailed air quality and climate modelling assessment. It can therefore be concluded that levels of traffic-derived air pollutants resulting from the development will not exceed the ambient air quality standards and the impact of the development in terms of NO_2 and PM_{10} emissions is long-term, neutral and imperceptible. The proposed development is not predicted to significantly impact climate during the operational stage and will not contribute significantly to Ireland's obligations under the EU Targets and emissions ceilings set out by Directive (EU) 2016/2284 "*On the Reduction of National Emissions of Certain Atmospheric Pollutants and Amending Directive 2003/35/EC and Repealing Directive 2001/81/EC*". Impacts to climate are deemed neutral, imperceptible and long-term with regard to CO_2 emissions.

The best practice dust 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 short-term, localised, negative and imperceptible with respect to human health. Operational phase predicted concentrations of pollutants are predicted to be significantly below the EU standards, the impact to human health is predicted to be imperceptible, neutral and long term.

No significant impacts to either air quality or climate are predicted during the construction or operational phases of the proposed development.

13.0 NOISE AND VIBRATION

AWN Consulting Limited has been commissioned to conduct an assessment of the likely noise and vibration impacts associated with the proposed Strategic Housing Development Milltown Park, Sandford Road, Dublin 6, D06 V9K7.

The existing noise climate in the vicinity of the proposed development has been surveyed. Prevailing noise levels are primarily due to local road traffic.

The noise impact assessment has focused on the potential outward impacts associated with the construction and operational phases of the proposed development on its surrounding environment.

During the main construction phase involving site clearance, demolition and building construction works, the assessment has determined that, while there is potential for short-term significant impacts while works are ongoing near the closest sensitive receivers adjacent to the site, the construction noise criteria can be complied with during the majority of the programme. A schedule of good practice measures including noise limits and screening will all be employed to reduce any noise and vibration impacts during this phase.

During the operational phase, the outward noise impact to the surrounding environment will include additional traffic on surrounding roads and plant noise from plant items serving the development. The impact assessment has concluded that additional traffic from the proposed development will have an imperceptible impact on the surrounding noise environment and that plant items will be designed to ensure any noise and vibration impacts during this phase will not exceed the recommended limit values. The resulting impact is of neutral, permanent and imperceptible.

Inward noise from the surrounding environment has been assessed and mitigation measures proposed where necessary to ensure internal noise targets are achieved.

14.0 MATERIAL ASSETS – WASTE MANAGEMENT

AWN Consulting Ltd. carried out an assessment of the potential impacts associated with waste management during the construction and operational phases of the proposed development. The receiving environment is largely defined by Dublin City Council as the local authority responsible for setting and administering waste management activities in the area through regional and development zone specific policies and regulations.

During the construction phase, typical C&D waste materials will be generated which will be source segregated on-site into appropriate skips/containers, where practical and removed from site by suitably permitted waste contractors to authorised waste facilities. Where possible, materials will be reused on-site to minimise raw material consumption. Source segregation of waste materials will improve the re-use opportunities of recyclable materials off-site. Completion of the basement and construction of new foundations and the installation of underground services will require the excavation of between c. 74,000m^3 and c.80,000m^3 of material, it is anticipated that 10,000m^3 of this excavated material will be able to be reused onsite. The remaining balance of excavated materials, which is either unsuitable for use as fill, or not required for use as fill, will be exported off site. Excavated material which is to be taken offsite will be taken for offsite reuse, recovery, recycling and/or disposal.

A carefully planned approach to waste management and adherence to the site-specific Construction and Demolition Waste Management Plan (Appendix 14.1) during the construction phase will ensure that the effect on the environment will be short-term, neutral and imperceptible.

During the operation phase, waste will be generated from the residents as well as the commercial tenant. Dedicated communal waste storage areas have been allocated throughout the development for residents. The residential waste storage areas have been appropriately sized to accommodate the estimated waste arisings in both apartments and shared residential areas. The commercial tenant has their own commercial WSA allocated, separate from residential WSAs. The waste storage areas have been allocated to ensure a convenient and efficient management strategy with source segregation a priority. Waste will be collected from the designated waste collection areas by permitted waste contractors and removed off-site for re-use, recycling, recovery and/or disposal.

An Operational Waste Management Plan has been prepared which provides a strategy for segregation (at source), storage and collection of wastes generated within the development during the operational phase including dry mixed recyclables, organic waste, mixed non-recyclable waste and glass as well as providing a strategy for management of waste batteries, WEEE, printer/toner cartridges, chemicals, textiles, waste cooking oil, furniture and abandoned bicycles (Appendix 14.2). The Plan complies with all legal requirements, waste policies and best practice guidelines and demonstrates that the required storage areas have been incorporated into the design of the development.

Provided the mitigation measures outlined in Chapter 14 are implemented and a high rate of reuse, recycling and recovery is achieved, the predicted effect of the operational phase on the environment will be long-term, neutral and imperceptible.

15.0 TRANSPORTATION

This section of the Environmental Impact Assessment Report (EIAR) document has been prepared by DBFL Consulting Engineers and addresses all transport and related sustainability issues including means of vehicular access, pedestrian, cyclist and local public transport connections. The principal objective of this chapter is to quantify any level of impact across the local road network and subsequently ascertain the operational performance of the local road network.

The subject site benefits from excellent public transport accessibility levels including the Green Line Luas services through the Beechwood Luas Stop (1km) which provides interchange opportunities northwards towards (i) the LUAS Red Line, (ii) Busáras central coach station, (iii) Connolly Railway Station and (iv) Heuston Railway Station. Bus services operated by Dublin Bus and Go Ahead are also easily accessible from the subject site.

The development proposals include the demolition of some of the existing structures on-site, the refurbishment and reuse of Tabor House and the Chapel and the provision of a residential development comprising 671 No. residential apartments comprising 604 No. Build-to-Rent apartments and 67 No. Build-to-Sell apartments and one 400 sq m creche.

The development also provides a new access from Milltown Road (which will be the principal vehicular entrance to the site) in addition to utilising the existing access from Sandford Road as a secondary access for emergencies and deliveries and a number of new pedestrian and cyclist access points with pedestrian/bicycle connections throughout the site.

The proposals include the provision of a total of 344 No. car parking spaces on-site at basement and surface level, which is equivalent to a car parking ratio of approximately 0.50 car parking spaces to every residential unit (excluding creche, taxi and drop-off spaces). In addition, a total of 1,361 cycle parking spaces are provided for both residents and visitors to the development. The level of bicycle parking proposed on-site for the apartment units has been provided in the context that the development car parking proposals are below the DCC development plan standards. This reduction is consistent with the 'substantial' reduction that the DHPLG guidelines recommend and at which the high DHPLG bicycle parking requirements would be of greater relevance.

For the purpose of this report, it was conservatively assumed that all 671 residential units have been built and occupied by 2022. A range of peak hour scenarios were investigated for an opening year of 2022, an interim year of 2027 and a future design year of 2037 including the following six different assessment scenarios: -

Do Nothing
- A1 – 2022 Base Traffic Flows + Committed Development Flows
- A2 – 2027 Base Traffic Flows + Committed Development Flows
- A3 – 2037 Base Traffic Flows + Committed Development Flows

Do Something
- B1 - 2022 Do Nothing (A1) + Proposed Residential Development Flows (671 units)
- B2 - 2027 Do Nothing (A2) + Proposed Residential Development Flows (671 units)
- B3 - 2037 Do Nothing (A3) + Proposed Residential Development Flows (671 units)

The potential level of impact that may be generated by the subject proposals has been investigated at the site access junctions with the R117 Sandford Road and the R117 Milltown Road in addition to the R117 Milltown Road / R117 Sandford Road / R824 Eglinton Road / R825 Saint James' Terrace junction.

At these key off site junctions it was demonstrated that the proposed development (671 units) would not result in a percentage increase in motorised traffic level above the 10% threshold, with the exception of the Southern site access junction with Milltown Road. Accordingly, only a more detailed evaluation of the operational performance of this site access junction was carried out within the EIAR. The analysis demonstrated that the Milltown Road site access junction will operate well within capacity for all "Do Something" scenarios, with a maximum RFC value of 13% for the 2037 Do Something PM peak hour.

With the objective of mitigating the potential impact of the proposed development during its operational stage, the following initiatives and associated timescale for their implementation have been identified and subsequently form an integral part of the subject development proposals.

Parking Management Strategy - A management regime has been set out which will be implemented by the development's management company to control access to the on-site car parking spaces thereby actively managing the availability of on-site car parking for residents and visitors to the development. This provision equates to a car parking ratio of approximately 0.50 car parking spaces per residential unit.

Management – A preliminary Mobility Management (MMP) has been compiled with the aim of guiding the delivery and management of co-ordinated 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.

Infrastructure – Infrastructure measures identified to reduce reliance of private vehicles include the provision of ample secure cycle parking on site, exceeding minimum guidance (DHPLG), and ensuring a design which promotes permeability for pedestrians and cyclists to, through and from the development.
Infrastructure – Junction enhancements have been identified and proposed at the R117 Sandford Road site access junction with the objective of creating a highly permeable environment for pedestrians and cyclists. A signalised pedestrian crossing is also proposed at the R117 Milltown Road, adjacent to the site access location.

Car Sharing – The provision of 10 No. dedicated car share (GoCar and development-owned) spaces at surface and basement level for the use of the scheme's residents and staff. The availability of these on-site provide a viable alternative to residents needing to own a private vehicle whilst still having access to a car as and when required.

Accordingly, it is concluded that through the implementation of the proposed mitigation measures and the rollout / uptake of the Mobility Management Plan and Parking Strategy initiatives, the proposals will not result in a material deterioration of road traffic conditions.

16.0 MATERIAL ASSETS – SITE SERVICES

16.1 Introduction

This chapter of the EIAR comprises of an assessment of the likely impact of the proposed development on existing utility services in the vicinity of the site as well as identifying proposed mitigation measures to minimise any impacts. The material assets considered in this chapter of the EIAR include Power, Gas and Telecommunications.

In summary, the proposed development ("the site") comprises of 671 residential dwelling (604 No. Build to Rent and 67 No. Build to Sell) on a c. 4.26 ha site (developable area).

Assessment of the likely impact of the proposed development on existing utility services in the vicinity of the site included a desktop review of ESB's Networks Utility Plans, Gas Networks Ireland's Service Plans and Eir's E-Maps. A GPR Utility Survey has also been carried out along Sandford Road, Milltown Road and Eglinton Road.

Existing Medium Voltage/Low Voltage underground cables are located adjacent to the site's northern-eastern boundary (Sandford Road) and south-eastern boundary (Milltown Road). Existing HV underground cables are also located along Milltown Road. Existing Low Voltage overhead lines (public lighting) are located adjacent to the site's south-eastern boundary (Milltown Road). Existing ESB infrastructure is also located along Eglinton Road.

Low pressure and medium pressure Gas Networks Ireland distribution pipelines are located adjacent to the site (along Sandford Road and Milltown Road). The Gas Networks Ireland record drawing shows a low pressure service pipe entering the site along Milltown Road. This pipe formerly served the Jesuit's lands to the west of the site. Service separation works have been carried out to cap this gas supply within the site (an alternative gas supply route has been established for the Jesuit's lands). Existing Gas Networks Ireland infrastructure is also located along Eglinton Road.

Telecommunications infrastructure is located along Sandford Road and Milltown Road (immediately adjacent to the site's northern-eastern boundary and south-eastern boundary). Existing Eir infrastructure is also located along Eglinton Road.

The existing infrastructure noted above will provide electrical, gas and telecommunication connections for the proposed development.

There is potential for interruption to ESB's network, Gas Networks Ireland's infrastructure and Eir's infrastructure while carrying out road works along the Milltown Road / Sandford Road (e.g. during formation of site access), while constructing the developments surface water outfall along Eglinton Road and while carrying out works to provide service connections to the proposed development.

A GPR Utility Survey has also been carried out along Sandford Road, Milltown Road and Eglington Road to confirm the location of the power, gas and telecommunication infrastructure. This survey is to be supplemented with slit trench investigations as required by the contractor in advance of commencing works along Sandford Road, Milltown Road and Eglinton Road.

Reinstatement of any excavations, trenches etc. relating to the provision of electrical, gas and telecommunications connections is to be carried out in accordance with the relevant utility provider's requirements.

Implementation of mitigation measures outlined in Chapter 16 of this EIAR and the Preliminary Construction Management Plan will ensure that the potential impacts of the proposed development on site services do not occur during the construction phase.

17.0 MICROCLIMATE – WIND

17.1 Introduction

The purpose of this assessment is to outline the predicted microclimate wind conditions experienced within and surrounding the proposed Sandford Road development located in Dublin 6.

The proposed method for compliance validation is via the industry best practice standard for pedestrian comfort (Lawson Criteria). The Lawson Criteria sets acceptable levels of wind speed and velocity for various human activities.

Given the specific location of the buildings and recorded metrological data available for the area, and standard interpolation calculation procedures, it is possible to predict the expected wind speeds and their annual occurrence.

17.2 Study Methodology

The methodology adopted for the study combines the use of Computational Fluid Dynamics (CFD) to predict air flow patterns and wind velocities around the proposed development, the use of wind data from the nearest suitable meteorological station and the recommended comfort and safety standards (The Lawson Criteria).

The study considered the following factors:

- The effect of the geometry, height and massing of the proposed development and existing surroundings on local wind speed and direction;
- The wind speed as a function of the local environment such as topography, ground roughness and nearby obstacles (buildings, bridges, etc.);
- The effects of site location (open field, inner city, etc.);
- Orientation of the buildings relative to the prevailing wind direction; and
- The pedestrian activity to be expected (sitting, standing, leisure and business walking).

The extent of the built area that is represented in the computational domain is dependent on the influence of the features on the region of interest which includes the site and its nearby surroundings. The analytical CFD model analyses the proposed development. It also includes existing buildings surrounding the development. The analytical CFD model is assessed against the full Lawson Criteria to identify the pedestrian comfort and safety conditions within and surrounding the development.

The assessment considers the following scenarios:

- Existing Receiving Environment: The assessment examines the wind conditions on the existing receiving environment prior to the construction of the proposed development. Wind climate data over a 30-year period has been analysed to provide a statistical assessment of the expected wind conditions and resultant pedestrian comfort conditions within the existing site.

- Potential Impact of the Proposed Development: The assessment examines the impact the proposed development will have on the existing receiving environment during both the construction and operational phases.

17.3 Potential Impact of the Proposed Development

The assessment determines the impact the proposed development will have on the existing receiving environment during both the construction and operational phases.

17.3.1 Construction Phase

The assessment of the wind microclimate during the construction phase has been based on professional judgement by reviewing the existing site conditions and the expected conditions once the development is in place via the CFD modelling. It is expected the wind microclimate will gradually adjust from the existing conditions to the final modelled scenario as construction progress develops.

17.3.2 Operational Phase

The impact during the operational phase has been determined using CFD modelling with the results summarised as follows:

17.3.2.1 Ground/Street Level

The pedestrian wind comfort results at ground/street level are summarised as follows:

- Most areas at street level are suitable for sitting.
- The majority of the remaining areas that do not comply with the "Sitting" class are suitable for "Standing".
- The pedestrian comfort at ground/street level is excellent throughout the development with the layout of the buildings and the existing and proposed trees having a significant positive effect in terms of mitigating excessive wind speeds.
- Based on the results presented, the proposed development will have an imperceptible impact on the pedestrian wind comfort at street level.

17.3.2.2 Shared Amenity Spaces

The pedestrian wind comfort results on the shared rooftop amenity spaces and the amenity space on 1st floor level are summarised as follows:

- The majority of amenity spaces are suitable for "Sitting".
- There are certain areas where the "Sitting" class is exceeded, however these areas are suitable for "Standing".
- Based on the results presented, the proposed development will have an imperceptible impact on the pedestrian wind comfort on the shared amenity spaces.

17.3.2.3 Private Balconies & Terraces

The pedestrian wind comfort results on all private balconies and terraces are summarised as follows:

- As private balconies and terraces are not considered common pedestrian areas they have not been assessed against the typical comfort classes for pedestrian comfort. However, they have been assessed based on the safety criteria with the most stringent condition being considered, i.e. "sensitive pedestrian" e.g. frail.
- Features integrated into the design such as inset balconies and solid balustrades at more exposed locations ensure that all private balconies and terraces are considered safe based on the sensitive pedestrian class.
- Based on the results presented, the proposed development will have an imperceptible impact on the safety of pedestrians on the private balconies and terraces.

17.4 Mitigation Measures

17.4.1 Construction Phase

The assessment of the wind microclimate during the construction phase has been based on professional judgement by reviewing the existing site conditions and the expected conditions once the development is in place via the CFD modelling.

It is expected the wind microclimate will gradually adjust from the existing conditions to the final modelled scenario as construction progress develops. However, the mitigation measures outlined in the following sections will need to be implemented before completion to ensure comfortable conditions once the proposed development becomes operational.

17.4.2 Operational Phase

The following specific mitigation measures have been incorporated into the proposed design to prevent excessive wind speeds during the operational phase of the development:

- **Apartment Block Arrangement:** The arrangement of the apartment blocks has been carefully chosen to help mitigate increased wind speeds throughout the site. The central areas within the development are well protected from the predominant south-west wind direction via the buildings located to the south-west. Furthermore, an internal courtyard space has been incorporated within Block B and C which provides a sheltered area for pedestrians to utilise throughout the year.

- **Rooftop Amenity Canopy:** A canopy has been integrated into the design of the building above the rooftop amenity space in Block A1. The canopy protects the amenity space from building downwash, deflecting the wind away and creating a comfortable environment for the occupants using the amenity space.

- **Inset Balconies:** The Block A1 tower which is most exposed to the wind due to its height, incorporates inset balconies. Inset balconies offer increased wind protection for people utilising the balcony spaces as they provide a natural shelter from the elements.

- **Solid Balustrades:** All private balconies on the tower element of Block A1 (floors 5 to 9) and the shared rooftop amenity areas will incorporate solid glazed balustrades. Full length solid balustrades block wind directly entering the balcony space, dissipating the wind speed within the balcony area which creates a much more comfortable experience for occupants.

- **Landscaping:** The landscaping has been strategically designed to mitigate increased wind speeds and to provide shelter for pedestrians at ground level, within the central courtyard spaces and on the rooftop amenity areas. The landscaping design incorporates trees, hedges and raised planters and sheltered seating pockets which all act as wind mitigation measures. Trees are to be planted close to primary entrance ways and along the streetscape, mitigating excessive wind speeds and providing shelter for pedestrians at street level. The use of trees and low-level shrubs all assist in the localised reduction of wind speed.

17.4.3 Potential Cumulative Impacts

The CFD assessment has accounted for the cumulative impact associated with the existing site and the proposed development. The analysis has shown that even with the proposed development in place, the wind speeds will still be comfortable for pedestrians with no areas of concern highlighted.

A list of granted developments surrounding the proposed project has been provided by the Design Team. Due to the substantial distance from the proposed project and the extent of those granted applications, a neutral cumulative impact will be perceive.

17.4.4 'Do Nothing' Impact

If the proposed development does not go ahead, based on the assessment carried out on the existing site and the statistical analysis of 30 No. years of climate data from the nearby Dublin airport, the existing site will remain well sheltered from the prevailing wind directions and will continue to be considered a comfortable environment for pedestrians.

17.5 Residual Impacts

The trees and planting associated with the landscape design will continue to grow and develop after the proposed mitigation measures have been implemented, thus providing increased protection from the wind resulting in increased pedestrian comfort conditions in these areas which will be a positive impact.

18.0 RISK MANAGEMENT

Risk is one of the most important elements to be considered as part of a development. It is critical that any project is screened against potential risks which it might encounter and/or impose on the nearby environment during its Construction and Operational Phase. This chapter of the EIAR sets out the assessment of the vulnerability of the Proposed Development located at Milltown Park, Sandford Road, Dublin 6 to risks of major accidents / and or disasters.

In order to understand the potential consequences and predicted impacts of any major accident or disaster due to the Proposed Development and the vulnerability of the project, a desk study was undertaken. The assessment reviewed:

- The vulnerability of the project to major accidents or disasters.
- The potential for the project to cause risks to human health, cultural heritage and the environment, as a result of that identified vulnerability.

A methodology has been used including the following assessment:

- Identifying and screening the hazards
- Phase 2: Screening the hazards
- Identifying the impact
- Assessing the likelihood of the major accident or disaster occurring, and
- Assessing any risks that remain.

The design has considered the potential for flooding, road accidents, invasive species, building failure or fire within the design methodology. From this, it is considered that the vulnerability of the Proposed Development to major accidents and/or disasters is not significant.

19.0 INTERACTIONS AND CUMULATIVE IMPACTS

19.1 Introduction

Chapter 19 of this EIAR outlines the most significant interactions associated with the proposed development. Table 19.1 provides a matrix which summarises the significant interactions associated with the proposed development.

19.2 Description of Significant Interactions

19.2.1 Interactions between Population/Human Health and Air Quality/Climate

Interactions between population/human health and air quality/climate are discussed in Chapters 5 and 12. The main interactions are predicated to arise during construction stage as there will be dust emissions associated with the construction of the proposed development. Mitigation measures such as the implementation of a Dust Management Plan (outlined in Appendix 12.2) will minimise dust emissions during construction stage and ensure that no adverse impacts will occur on population and human health. The mitigation measures that will be put in place at the proposed development will ensure that the impact of the proposed development complies with all ambient air quality legislative limits and therefore the predicted impact is short-term, imperceptible and neutral with respect to population and human health during construction and long-term, imperceptible and neutral during operation phase.

19.2.2 Interactions between Population/Human Health and Transportation

The scheme will be developed in line with the Transportation Chapter (Chapter 15 of this EIAR) and the separately enclosed Preliminary Construction Management Plan (PCMP) to ensure any impacts on local traffic is minimised during the construction stage. Chapter 15 notes that a large proportion of the construction employees are anticipated to arrive in shared transport therefore reducing the potential for associated temporary negative impacts on the surrounding road network. Appropriate on-site parking and compounding will be provided on this large site to prevent overflow onto the local network. Deliveries will be actively controlled and subsequently arrive at a dispersed rate during the course of the working day. Provided that mitigation measures and management procedures detailed in Chapter 15 are implemented, the residual impact on the local receiving environment during the construction stage will be short-term, imperceptible and neutral.

As the development proposes some 671 No. residential units and associated (albeit) reduced car-parking, there will be additional traffic movements at the site and in the vicinity. The implementation of mitigation measures such as the implementation of the Mobility Management Plan will ensure that the residual effect on the local receiving environment is both managed and minimised. The promotion of sustainable modes of transport from the site, the large quantum of bicycle parking provided and the incorporation of permeable links through the site will contribute towards modal shift in travel patterns and increased physical activity, which will have a positive, significant and long-term effect on the area.

If the development does not proceed at the subject lands, there would be a potential negative impact for pedestrians and cyclists in the local area as the significantly enhanced pedestrian

and cyclist permeability through the site would not be provided to shorten journeys to public transport, services and facilities.

19.2.3 Interactions between Air Quality and Climate, Transportation and Population/Human Health

Chapters 12 and 15 outline interactions between air quality and traffic/transportation respectively. Interactions between air quality and traffic can be significant. With increased traffic movements and reduced engine efficiency, i.e. due to congestion, the emissions of vehicles increase. The impacts of the proposed development on air quality are assessed by reviewing the change in annual average daily traffic on roads close to the site. Chapter 12 concludes that the impact of the interaction between traffic and air quality is considered to be long-term, imperceptible and neutral. As set out above in Sections 19.2.1 and 19.2.2, the interaction between air quality/climate and transportation with population and human health is not expected to generate any significant impacts.

19.2.4 Interactions between Population/Human Health and Noise/Vibration

Interactions between population/human health and noise/vibration are discussed in Chapters 5 and 13. The potential impacts on human beings in relation to the generation of noise and vibration during the construction phases are that high levels of noise and vibration could cause nuisance to people in nearby sensitive locations. Best practice noise and vibration control measures will be employed by the contractor during the construction phase in order to avoid significant impacts at the nearest sensitive buildings. Implementation of the mitigation measures set out and adherence to good practice noise reducing measures will ensure that the short-term, slight to significant, negative impacts on human health will be lessened.

Similarly, during the operational phase, plant selections designed to achieve the relevant noise criteria will result in a residual impact that is long-term, imperceptible and neutral to people in nearby noise sensitive locations. External noise sources have been assessed and mitigation to ensure internal noise levels achieve the relevant noise criteria have been provided.

19.2.5 Interactions between Population/Human Health, Landscape and Wind

Chapter 9 provides a Landscape and Visual Impact Assessment prepared by Modelworks. The chapter sets out that the proposed development would introduce a new, higher density residential neighbourhood to the townscape, making more sustainable use of the valuable urban land resource. The proposal includes a substantial area of communal and public open space, most notably a new public park (including a playground and a network of footpaths) inside the site boundaries along Sandford Road and Milltown Road. The park would be visible and accessible from the public realm around the site, representing a significant gain in public open space with long-term, positive and significant impacts on the health of the existing population and the new resident community.

The interactions between the proposed development and its environs and human health have been evaluated within the Wind Assessment. The modelling has included the proposed design, the proposed landscaping strategy and the existing landscape which will remain, in conjunction with the existing buildings surrounding the development. The combination of all

interactions has resulted in a comfortable environment for pedestrians within the proposed development, and the interaction between population/human health, landscape and wind will be long-term, neutral and imperceptible.

19.2.6 Interactions between Population/Human Health and Waste Management

As set out in Chapter 14, the potential impacts on human beings in relation to the generation of waste during the demolition, construction and operational phases are the incorrect management of waste. This could result in littering which could cause a nuisance to the public and attract vermin. A carefully planned approach to waste management and adherence to the project specific Construction and Demolition Waste Management Plan and Operational Waste Management Plan, will ensure appropriate management of waste and avoid any negative impacts on the local population, and thus the interactions between population/human health and waste management will be long-term, imperceptible and neutral.

19.2.7 Interactions between Population/Human Health and Biodiversity

As set out in Chapter 8 (Biodiversity), the open space within the site will provide amenity areas, including play areas, fitness areas and benches. This will involve thinning of trees within the woodland which, without mitigation to protect the wildlife, could impact on wildlife in the area for which the woodland provides cover and foraging ground. Mitigation measures involve planting of native shrubs in the understory which will enhance the woodland structure and planting of 238 No. new trees/large shrubs across the site. These measures will provide habitat for wildlife to safely commute and nesting opportunity for birds.

Interaction with population and human health involves the provision of lighting to provide a safe outdoor realm for residents which, without mitigation, could impact on nocturnal species, such as bats. Mitigation measures include the provision of a dark corridor with restricted lighting and a lighting design minimising impact on bats and other nocturnal animal, providing suitable commuting and foraging habitat. With the implementation of the outlined mitigation measures, the interaction between population/human health and biodiversity will be long-term, not significant and neutral.

19.2.8 Interactions between Population/Human Health and Water-Hydrology

Potential impacts on human health have been considered in the Water-Hydrology chapter (Chapter 11). The chapter sets out that the implementation of the measures outlined within the chapter will ensure that the potential impacts do not occur on water and hydrology and ultimately there is anticipated to be no impact on population and human health in this regard.

As set out in Chapter 11, surface water drainage has been carried out in accordance with Greater Dublin Strategic Drainage Study (GDSDS) and SuDS methodologies will be implemented, therefore no predicted impacts on water and hydrology will arise during the operational stage. Therefore, the interaction between population/human health and water-hydrology are considered to be long-term, imperceptible and neutral.

19.2.9 Interactions between Biodiversity and Landscape

The retained open space within the site will provide amenity areas for residents, including play areas, fitness areas and benches. This will involve thinning of trees within the woodland which, without mitigation to protect the wildlife, could impact on wildlife in the area for which the woodland provides cover and foraging ground. Mitigation measures involve planting of native shrubs in the understory which will enhance the woodland structure and planting of 238 No. new trees/large shrubs across the site. These measures will provide habitat for wildlife to safely commute and nesting opportunity for birds.

It is also proposed as part of the development to plant 238 No. new trees and large shrubs. Given that these specimens would all be in better condition than the majority of the 283 No. trees to be removed, and that the 121 No. retained trees would be in better condition than they currently are (due to the thinning of the woodland and the maintenance of each retained specimen), there would be a similar quantity and a net improvement in the quality of shrub and tree cover on the site as a result of the development which will ensure the site's function to provide habitat for a range of species and providing a wildlife corridor at the site. Therefore, the interactions between biodiversity and landscape is considered to be long-term, slight and neutral.

19.2.10 Interactions between Land, Soils and Geology, Biodiversity and Air Quality

The Air Quality and Climate Chapter (Chapter 12) notes that construction phase activities such as land clearing, excavations, stockpiling of materials etc. have the potential for interactions between air quality and land and soils in the form of dust emissions. With the appropriate mitigation measures to prevent fugitive dust emissions, it is predicted that there will be no significant interactions between air quality and land and soils. As set out in Chapter 10 (Land, Soils and Geology), dust generation can occur during extended dry weather periods as a result of construction traffic. Dust suppression measures (e.g. dampening down) will be implemented as necessary during dry periods and vehicle wheel washes will be installed for example.

The works involve stripping of topsoil and excavations, which will remove some vegetation such astrees and scrub. It will also generate dust and potentially impact on the air quality in the locality. However, the generation of dust will be temporary during construction phase and is not anticipated to have a significant impact on biodiversity.

The impact of the interactions between land, soils and geology, biodiversity and air quality are considered to be short-term, imperceptible and neutral.

19.2.11 Interactions between Archaeology and Land, Soils and Geology

It is set out in Chapter 6 of the EIAR (Archaeology and Cultural Heritage) and Chapter 10 (Land, Soils and Geology) that should archaeological material be recorded in the course of monitoring, this may necessitate areas being left open to the elements for a period in order to facilitate consultation with Department of Housing Local Government and Heritage (DHLGH), processing of licences and/or full excavation/preservation-by-record of archaeological features. Consequently, in this scenario, there will be interactions with land and soils, which are considered short-term, not significant and neutral.

19.2.12 Interactions between Archaeology and Architectural Heritage

The Archaeology and Cultural Heritage Chapter (Chapter 6) details that should earlier building footprints be recorded in the course of archaeological monitoring, the results of any subsequent archaeological works will contribute to our knowledge of the evolution of the Milltown Park complex (see Chapter 7 – Architectural Heritage), which is considered long-term, not significant and positive.

19.2.13 Interactions between Archaeology and Biodiversity

Interaction with archaeology relates to the construction phase where archaeological monitoring could record archaeological material adjacent to preserved mature trees. This has potential implications for arboriculture requirements. However, 238 No. of trees and large shrubs will be planted across the site and the potential impact on individual trees due to any archaeological findings is not anticipated to have a significant impact on the overall biodiversity on site. The impact of the interactions between archaeology and biodiversity is considered to be long-term, not significant and neutral.

19.2.13 Interactions between Architectural Heritage and Landscape

Chapter 9 of this EIAR (LVIA prepared by Modelworks) sets out that the proposed development would retain Tabor House and the Chapel, the two most valuable existing architectural features of the site, as part of the cluster of buildings. Their condition, and the character and condition of their setting would be improved by the development, with both buildings opened up to view from Milltown Road.

As a remnant of the Milltown Park demesne the woodland belt inside the Sandford Road and Milltown Road boundaries is also a cultural heritage feature. While the proposed development includes the removal of a number of trees from the woodland belt, the majority of specimens in good condition would be retained (and supplemented by new planting), so that the woodland belt remains as a distinct landscape feature of the site. The development will improve the character and condition of the setting of Tabor House and the Chapel with views provided towards the refurbished buildings from Milltown Road, and the proposed replacement/modification of the tall boundary wall with a low wall and railing will also allow greater public appreciation of the woodland as a landscape/cultural heritage feature. The impact of the interaction between architectural heritage and landscape is considered to be long-term, moderate and positive.

19.2.14 Interactions between Land, Soils and Geology, Transportation and Noise/Vibration

Delivery of materials to site (e.g. aggregates for road construction, concrete for foundations, delivery of construction plant to site) will lead to potential impact on the surrounding road network. There will be a level of construction related noise and vibration during the construction of the development on the lands.

However, mitigation works outlined in Chapter 10 (Land, Soils and Geology) such as the provision of vehicle wheel wash facilities will be installed in the vicinity of site entrances and road sweeping will be implemented as necessary in order to maintain the road network in the vicinity of the site.

Mitigation measures proposed will ensure that the potential impacts of the proposed development on land, soils and the geological environment do not occur during the construction phase and that any residual impacts will be short term, imperceptible and neutral. On completion of the construction phase no further mitigation measures are proposed as there will be no further impact on soils and the geological environment.

In relation to the interaction between transportation and noise/vibration, with the implementation of mitigation measures the interaction between construction noise and vibration and transportation will be short-term, slight to significant and neutral. In the operation stage, the interaction will be permanent, imperceptible and neutral.

19.2.15 Interactions between Land, Soils and Geology and Water-Hydrology

Stripping of topsoil will result in exposure of the underlying subsoil layers to the effects of weather and construction traffic and may result in subsoil erosion and generation of sediment laden surface water runoff. Due to relatively high level of groundwater encountered in some boreholes there may be a need to dewater excavations during construction. Chapter 10 (Land, Soils and Geology) sets out that the stripping of topsoil will be carried out in a controlled and carefully managed way and coordinated with the proposed staging for the development. Topsoil stockpiles will be protected for the duration of the works and not located in areas where sediment laden runoff may enter existing surface water drains. Topsoil stockpiles will also be located so as not to necessitate double handling.

Mitigation measures proposed such as the above will ensure that the potential impacts of the proposed development on soils and the geological environment do not occur during the construction phase and that any residual impacts will be short term, imperceptible and neutral.

19.2.16 Interactions between Land, Soils and Geology and Waste Management

During the construction phase excavated soil, stone and made ground (between c.74,000m^3 and c. 80,000 m^3) will be generated from the excavations required to facilitate site levelling, construction of the basement and construction of new foundations. It is estimated that between c. 64,000m^3 and c. 70,000m^3 of excavated material will need to be removed offsite, however it is envisaged that c. 10,000m^3 material will be reused onsite.

Where material has to be taken off site it will be taken for reuse or recovery, where practical, with disposal as last resort. 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.

The management of waste during the construction phase in accordance with the Construction and Demolition Waste Management Plan will meet the requirements of regional and national waste legislation and promote the management of waste in line with the priorities of the waste hierarchy. Adherence to the mitigation measures in Chapter 14 (Material Assets: Waste Management) such as on-site segregation of waste and contacting nearby sites to investigate reuse opportunities for clean and inert materials, and the requirements of the Construction and Demolition Waste Management Plan (Appendix 14.1), will ensure the effect is long-term, imperceptible and neutral.

19.2.17 Interactions between Land, Soils and Geology and Material Assets – Site Services

Trench excavations to facilitate site service installation will result in exposure of subsoils to potential erosion and subsequent sediment generation. Mitigation measures are outlined in Section 10.6 of Chapter 10 Land, Soils and Geology (i.e. service trenches to be backfilled as soon as practicable to minimise potential erosion of subsoils), and the impact of the interaction is considered to be short-term, imperceptible and neutral.

19.2.18 Interactions between Water-Hydrology and Transportation

Construction and operation stage traffic have the potential to impact water quality via hydrocarbon spills and leaks and via increased sediment / particle loading on trafficked surfaces. Measures to mitigate against impacts are detailed in Chapter 11 (Water-Hydrology), and the impact of the interaction is considered to be short-term, imperceptible and neutral.

19.2.19 Interactions between Transportation and Material Assets – Waste Management

Construction and operational stage traffic have the potential to be impacted by waste generation and resource management on site. Local traffic and transportation will be impacted by the additional vehicle movements generated by removal of waste from the site during the construction and operational phases of the development. The increase in vehicle movements as a result of waste generated during the construction phase will be temporary in duration. There will be an increase in vehicle movements in the area as a result of waste collections during the operational phase but these movement will be imperceptible in the context of the overall traffic and transportation increase and has been addressed in Chapter 15 (Material Assets: Transportation).

Provided the mitigation measures detailed in Chapter 15 (Material Assets: Transportation) and the requirements of the Operational Waste Management Plan (included as Appendix 14.2) are adhered to, the interaction should be short to long-term, imperceptible and neutral.

19.3 Cumulative Impacts

Any potential cumulative impacts have been considered in the preparation of this EIAR and are detailed where relevant in the various EIAR Chapters e.g. construction stage impacts, surface water drainage infrastructure, foul drainage, water supply, landscape and visual impact and traffic for example. We confirm that this EIAR has assessed environmental impacts from existing developments as part of the baseline assessments.

At the time of writing this Environmental Impact Assessment Report, we note the following relevant applications, some of which are in the administrative area of Dun Laoghaire-Rathdown County Council. This list of planning applications has been reviewed and considered by the authors of each EIAR Chapter and included in the cumulative assessment where deemed appropriate.

Granted:

	Planning Reference	Development and Location	Date Granted
1.	**ABP Reg. Ref. PL29S.307267**	148 No. Unit Residential Development Eglinton Road, Donnybrook, Dublin 4	**ABP Decision Date:** 31st August 2020
2.	**DCC Reg. Ref. 2189/20** **ABP Reg. Ref. PL29S.307375**	36 No. Unit Residential Development Sandford Lodge, Sandford Road, Dublin 6	**Decision Date:** 11th March 2021 **ABP Grant:** 27th March 2020
3.	**DCC Reg. Ref. 3301/20** ***Currently Under Appeal*** **ABP Reg. Ref. ABP-309378-21**	100 No. BTR Unit Shared Accommodation Nos. 22-24 Donnybrook Road, Kiely's Pub, Donnybrook, Dublin 4	**Granted:** 13th January 2021 **ABP Decision Due:** 10th June 2021 (Not yet made)
4.	**DCC Reg. Ref. 2115/19**	203 No. Bed Student Accommodation Alexandra College, Richmond Avenue South, Milltown, Dublin 6	**Granted:** 20th March 2019 **Final Grant:** 25th April 2019
5.	**DCC Reg. Ref. 3907/18**	Works at Alexandra College, Richmond Avenue South, Milltown, Dublin 6 (including construction on a new internal campus road, relocation of existing car and coach parking, provision of additional bicycle parking spaces and the provision of improvement works to the campus entrance on Milltown Road to include a set-back gateway)	**Granted:** 25th January 2019 **Final Grant:** 5th March 2019
6.	**DCC Reg. Ref. 3513/20** **ABP Reg. Ref. ABP-309720-21**	Mixed Use Development of 49 No. Build-to-Rent units and 231 sq m retail space	**Granted:** 24th February 2021 **Final Grant:**

		Nos. 25-27 Donnybrook Road and Nos. 1-3 The Crescent, Donnybrook, Dublin 4	26th May 2021 (Appeals Withdrawn)
7.	**DCC Reg. Ref. 2124/20**	Single storey extension (c. 120 sq m) to the south of the existing school to provide additional canteen facilities Muckross Park College, Marlborough Road, Dublin 4	**Granted:** 20th March 2020 **Final Grant:** 29th June 2020
8.	**No. 1. DCC Reg. Ref. 2582/16** **No. 2. DCC Reg. Ref. 3312/20**	Demolition of existing sheds (c. 25 sq m) and construction of 4 No. detached houses No. 91 Belmont Avenue, Donnybrook, Dublin 4 Revised ground floor rear extension to include a single storey rear return for a utility room No. 91 Belmont Avenue, Donnybrook, Dublin 4	**Granted:** 8th August 2016 **Final Grant:** 16th September 2016 **Granted:** 28th October 2020 **Final Grant:** 9th December 2020
9.	**DCC Reg. Ref. WEB1065/19** **ABP Reg. Ref. ABP-304727-19**	New 3g artificial turf pitch capable of accommodating full size rugby and football over the site on an existing natural grass pitch within the playing fields Gonzaga College, Sandford Road, Ranelagh, Dublin 6	**Granted:** 31st May 2019 **Final Grant:** 9th October 2019
10.	**DCC Reg. Ref. 3159/17** **ABP Reg. Ref. ABP-300024-17**	Revision to DCC Reg. Ref. 2308/16 to increase the total apartment units from 96 No. to 116 No. Lands at the former Paper Mills site, bounded by the River Dodder to the East, Clonskeagh Road to the West, Clonskeagh Bridge to the South-West, Dublin 6	**Granted:** 27th September 2017 **Final Grant:** 4th July 2018

11.	**DCC Reg. Ref. 3144/18**	Demolition of the existing Anglesea Stand and Anglesea Terrace structure (c. 7,716 sq m), 'lean-to' open fronted shed bounding Simmonscourt Road (approx. 145 sq m) and removal of modern terrace (approx. 44sq m) area surrounding the clock tower (a protected structure). Provision of a new grandstand (7,332.2 sq m) over 3 levels, 21.3 m [26.8 m OD] in height (with associated floodlighting and acoustic public address within roof of new stand) with a connection (via a glazed bridge link at level 01) to the pocket building of (1,204.3 sq m GFA) comprising a 2 level (storey) 9.91 m [15.41 m OD] in height building with plant (89 sq m) at roof level (within a louvered cover - overall height 10.66 m 16.12 m OD)) to the east. Site within the overall RDS Lands, Ballsbridge, Dublin 4	**Granted:** 24th July 2018 **Final Grant:** 31st August 2018
12.	**DCC Reg. Ref. 2189/20** **ABP Reg. Ref. ABP-307375-20**	Demolition (c. 392 sq m) of Block 5 (1 storey) and Block 6 (1 storey) (total 4 No. units) and the construction of 36 No. residential units in the form of 2 No. three storey terraces Lands at Sandford Lodge, Sandford Close, Sandford Road, Dublin 6	**Granted:** 27th March 2020 **Final Grant:** 11th March 2021
13.	**DCC Reg. Ref. 2244/21** *Currently on Appeal under:* **ABP Reg. Ref. ABP-310204-21**	Demolition of structures on site and construction of a 12 No. storey development including 84 apartments with retail and café/restaurant (570 sq m) Junction of Donnybrook Road and Brookvale Road, Donnybrook, Dublin 4, D04 K3T8	**Refused:** Refused by DCC on 14th April 2021 **ABP Decision Due Date:** 13th September 2021

14.	**DCC Reg. Ref. 3939/19** **ABP Reg. Ref. ABP-306755-20**	The demolition of the existing Rectory and the construction of 9 No. dwellings The Rectory, Purser Gardens, Rathmines, Dublin 6, D06 E0Y5	**Granted:** 19th February 2020 **ABP Grant:** 9th September 2020
15.	**DCC Reg. Ref. 4011/18** **ABP Reg. Ref. ABP-304085-19**	The demolition of all buildings on the former commercial site to the rear and the construction of a new residential development comprising 20 No. residential houses No. 1 Annesley Park, Dublin 6	**Granted:** 4th March 2019 **ABP Grant:** 4th November 2019
16.	**DCC Reg. Ref. 2812/20**	Demolition of existing single storey structures to the side and rear. - Construction of single storey rear extension to the side and rear of the existing dwelling No. 23 Bushfield Terrace, Donnybrook, Dublin 4, D04 V2RO	**Granted:** 29th July 2020 **Final Grant:** 9th September 2020
17.	**DCC Reg. Ref. 2412/19** **ABP Reg. Ref. ABP-305475-19**	The construction of a residential scheme arranged in 3 No. new three-four storey blocks with habitable attic accommodation at a site at The former Donnybrook Laundry at The Crescent, Donnybrook, Dublin 4, D04 R856 and No. 17 The Crescent, Donnybrook Road, Dublin 4 D04 A6Y7	**Granted:** 22nd August 2019 **ABP Grant:** 29th January 2020
18.	**DCC Reg. Ref. 2731/21 (alterations to DCC Reg. Ref. 3890/14 extended by DCC Reg Ref. 3890/14/X1-4 No. bedroom dwelling)**	Development comprising provision of a pedestrian entrance gate off Eglinton Road; (ii) provision of a temporary construction access off Eglinton Road; and (iii) all ancillary works necessary No. 1 Eglinton Square, Donnybrook, Dublin 4, D04 E2W2	**DCC Decision:** Split decision 29th June 2021 – Grant proposed pedestrian entrance gate and refuse proposed temporary construction entrance.

19.	**(SHD) ABP Reg. Ref. ABP-310138-21 (www.msmshd.ie)**	Demolition of existing buildings on site and part of the granite wall along Dundrum Road, excluding Small Hall and the construction of 231 No. apartments and a childcare facility Mount Saint Mary's and Saint Joseph's, Dundrum Road, Dundrum, Dublin 14	**ABP Decision Date:** 25th August 2021

Pending:

	Planning Reference	Development	Date Granted
1.	**DCC Reg. Ref. 2843/21**	Construction of Donnybrook Primary Care Centre comprising 4 No. storeys over basement level accommodating HSE medical diagnostics, consulting and treatment rooms plus ancillary offices The Royal Hospital Donnybrook, Morehampton Road, Donnybrook, Dublin 4, D04 HX40	**DCC Decision:** Further Information Received 25th August 2021 Decision due 21st September 2021
2.	**DCC Reg. Ref. 2477/21**	The demolition of a single storey rear return and provision of 2 No. residential units; and the provision of a new part 2 to part 4 No. storey structure to the rear of the site accommodating 10 No. residential units No. 47 Ranelagh Road, Ranelagh, Dublin 6	**DCC Decision:** (Further Information Requested 20th May 2021)
3.	**DCC Reg. Ref. 2762/21**	Construction of an additional storey consisting of an additional 2-bedroom apartment at third floor level, with private balconies. There will be an increase in units from 6 to 7 No. apartments Nos. 47-48 Chelmsford Road, Ranelagh, Dublin 6	**Refused:** 5th July 2021 **Appealed to ABP:** Decision due 2nd December 2021

4.	**DCC Reg. Ref. 2704/21**	Construction of 64 No. Build-to-Rent apartment units comprising 19 No. studio apartments, 41 No. one bedroom apartments and 4 No. two bedroom apartments St. Mary's Home, Pembroke Park and No. 28A Clyde Lane, Dublin 4	**DCC Decision:** (Further Information Requested 24th June 2021)

Therefore, it is clear that the potential for any cumulative impacts to occur have been comprehensively considered in the preparation of this EIAR, as detailed where relevant throughout the various chapters.

Interactions →	Population and Human Health	Archaeological and Cultural Heritage	Architectural Heritage	Biodiversity	Landscape and Visual Impact	Land, Soils and Geology	Water-Hydrology	Air Quality and Climate	Noise and Vibration	Material Assets - Waste Management	Transportation	Material Assets - Site Services	Material Assets – Daylight and Sunlight	Microclimate – Wind
Population and Human Health				✓	✓		✓	✓	✓	✓	✓			✓
Archaeology			✓	✓		✓								
Architectural Heritage					✓									
Biodiversity					✓	✓		✓						
Landscape and Visual Impact														✓
Land, Soils and Geology							✓	✓	✓	✓	✓	✓		
Water-Hydrology											✓			
Air Quality and Climate											✓			
Noise and Vibration											✓			
Material Assets - Waste Management											✓			
Transportation														
Material Assets - Site Services														
Material Assets – Daylight and Sunlight														
Microclimate – Wind														

Table 19.1 Matrix of Significant Interactions Discussed Throughout Chapter 19

20.0 MITIGATION MEASURES AND MONITORING

A summary of mitigation measures and monitoring proposed throughout this Environmental Impact Assessment Report is set out in this section. We note that this is a summary of measures proposed and further detail should be sought in each individual chapter.

Chapter 5: Population and Human Health

- Implementation of a Dust Management Plan, a Mobility Management Plan, Parking Strategy, Preliminary Construction Management Plan and Outline Construction and Environmental Management Plan.

- The Contractor shall be responsible for overall management of the site for the duration of the proposed works and must progress their works with reasonable skill, care, diligence and to proactively manage the works in a manner most likely to ensure the safety and welfare of those carrying out construction works.

- The Contractor shall comply with all relevant Statutory requirements such as the 2005 Safety Health and Welfare at Work Act, The Construction Regulations (SI 291 of 2013), the General Application Regulations (SI 299 of 2007), etc. (and any amendments thereof). In addition, the Contractor shall comply with all the reasonable safety requirements of the Client, the Project Supervisor for the Design Process and the Project Supervisor for the Construction Stage. Measures that would be taken under these Statutory requirements include:

    - Appointment of a competent project supervisor for the design process, and a competent project supervisor for the construction stage.

    - Contractor to ensure that all staff have received site-specific safety induction instruction.

    - Appointment of a safety officer.

    - Safe means of access to and egress from site are provided and maintained.

- A large quantum of the on-site employees will arrive in shared transport, therefore the encouragement of car sharing will reduce the quantum of vehicles arriving at the site during construction, which will therefore minimise any potential impacts on the surrounding road network during construction.

- In relation to noise and vibration, mitigation measures include selection of quiet plant, noise control at source, screening, liaison with the public and monitoring for example.

- A carefully planned approach to waste management and adherence to the project specific Construction and Demolition Waste Management Plan (C&DWMP – Appendix 14.1) and the Operational Waste Management Plan (OWMP – Appendix 14.2) will ensure appropriate management of waste and avoid any negative impacts on the local population.

- In relation to Wind-Microclimate, mitigation measures such as landscaping, provision of rooftop amenity canopy and solid balustrades to balconies on Floors 5 to 9 of Block A1 will need to be implemented before completion to ensure comfortable conditions once the proposed development becomes operational.

Chapter 6: Archaeological and Cultural Heritage

Mitigation Measures

There are currently no archaeological remains identified within the site. However, it has been established as an area of moderate archaeological potential. In particular, the discovery of human remains adjacent to the site in an adjoining property is significant. The recommendations below are made subject to the approval of the Department of Housing Local Government and Heritage (DHLGH). As the statutory body responsible for the protection of Ireland's archaeological and cultural heritage resource, they may issue alternative or additional recommendations.

Pre-Construction Phase

Pre-construction assessments (desktop study, walkover survey, geophysical survey and test trench assessment) have been undertaken at the site. No further pre-construction assessment is proposed at this stage.

Recommended Mitigation Measure

All ground disturbance works across the development site will be monitored by a suitably qualified archaeologist. In the event that archaeological material is recorded during monitoring, further discussion/consultation with the DHLGH will be sought in order to ascertain the appropriate treatment (i.e. preservation by record/preservation in situ) of any additional archaeological remains. Should the DHLGH recommend preservation by record/full archaeological excavation, this work will be undertaken under the appropriate licence. The DHLGH may recommend preservation in situ, should avoidance of any newly discovered archaeological remains be possible.

Monitoring

Construction groundworks will be monitored by a suitably qualified archaeologist. Any future licensed archaeological works will require an application process including approval of proposed methodologies by the National Monuments Service of DHLGH in consultation with the National Museum of Ireland and notification of works.

Chapter 7: Architectural Heritage

Mitigation Measures

Chapter 7 of this EIAR outlines various mitigation measures as follows:

- It is recommended that all the building range's exteriors, interiors and settings be thoroughly recorded. All records will be of a quality meriting inclusion in the Irish Architectural Archives.

- The careful management of the demolition process in the designed temporary protection of extant structures prior to the commencement of their permanent works will ensure that retained buildings are protected from damage, with no direct impacts envisaged. As described in Chapter 6, archaeological investigations will record evidence of earlier embedded structures, if found to exist beneath extant upstanding fabric. New interventions consequential to the loss of physical connections to buildings, which are proposed to be demolished, will be measured and sympathetic to existing architecture.

- Flanking sections will be protected during the removal stage and consolidated to ensure their long-term co-existence with new perforations. Any proposed interventions will be executed using high-quality materials, in a palette to complement the muted tones of the existing wall. The sylvan nature of the existing site will be protected in so far as possible and enhanced by further planting. Flanking sections of retained, early masonry, will be protected during demolitions and consolidated to ensure their continuance as a characterful boundary onto Milltown Road. Modifications to the boundary wall adjoining the entrance will be the sympathetic to the existing entrance in terms of scale and materiality to minimise the visual impact on the established streetscape.

- Potential impacts associated with the construction phase of the development will be considered by way of introducing a range of mitigating measures to protect existing site boundaries and mature trees. On completion of the development, the sylvan screening that presently defines the architectural setting of protected structure in the vicinity of the subject site will be supplemented to overcome possible environmental changes arising from the construction phase of the development. The Sandford Road entrance will be retained to minimise the visual impact on the southward views from the Architectural Conservation Area.

The chapter considers potential impacts to Protected Structures in the vicinity and outlines whether mitigation measures are envisaged. For the majority of the Protected Structures, no mitigations are envisaged given their considerable distance. In relation to Nos. 132-138 Sandford Road, the following mitigation is proposed:

> *'The proposal to retain sections of original boundary wall, together with introducing new sections with permeability through the site where its sylvan character will be safeguarded, will lessen visible change from the enclosing urban realm in one sense, whilst enhancing it in revealing the proposed parkland as an extension to the public realm'.*

In relation to No. 1 Saint James's Terrace to No. 12 Saint James's Terrace, the following mitigation is proposed:

> *'The protection of mature trees and supplementary planting will reduce the visual impact of the new development. Contemporary interventions to the boundary wall will be undertaken using high quality self-finished materials, and selection of a muted colour palette sympathetic to the existing historic context to reduce impact on the streetscape'.*

Chapter 7 also states the following in relation to the redevelopment of the site:

> *'Development of the existing site is inevitable. The existing building range has evolved in direct response to its religious institutional function and is inseparable architecturally from that function. Its function has now become obsolete and the buildings vacated. An uncertain future for the building range was determined when their original function was permanently lost. In the absence of a corresponding compatible function, their wholescale re-use is architecturally and economically unviable. None of the buildings within the grouping are protected structures, and not being afforded statutory protection are subject to the same rigours of statutory compliance as new build structures.*
>
> *As a consequence, the removal of certain buildings to generate a viable residential scheme is not unexpected. Their removal is mitigated in the selected retention and careful presentation of the groupings most significant pair of historic buildings, as has been described in previous sections and in the attached Appendix 7.3. Further mitigations are proposed in the execution of a detailed building inventory, supported with accurately documented survey drawings.*
>
> *The retention of two buildings for purposeful re-use within the vast building range presents an inherently positive impact for the legibility of the original function of the site.*
>
> *The proposed development has emerged in direct response to the positioning, orientation and setting of the retained pair of buildings. The presented integrated approach to this unique site's redevelopment absorbs the challenges of cohesive urbanism to a greater extent than would be possible if it were developed piecemeal.*
>
> *The scale and positioning of the site affords it special consideration in its capacity to offer a unique urban contribution. In response, the design of the proposed replacement building grouping has evolved in efforts to merge with its established, historic and characterful urban environment.'*

Monitoring

Archaeological monitoring and recording will follow the demolition of structures and the excavation of the site. The main contractor for the scheme will monitor works in the vicinity of retained historic buildings and enclosing boundary walls on a daily basis, to ensure that protection measures are observed at all times.

Chapter 8: Biodiversity

Mitigation Measures

Construction Phase

Dodder Valley pNHA

The woodland on the proposed development site will be planted with native shrubs as groundcover and native tree species will be incorporated into the planting regime. This will secure the sites function as a connecting wildlife corridor with River Dodder and the Dodder Valley pNHA. Details on measures in place to strengthen the biodiversity on the site are provided in the section below.

Habitats

Mixed broadleaved/conifer woodland / treelines / scrub / grassland

During removal of vegetation and construction works, trees to be retained will be protected by the erection of protective fencing under supervision of Site Arborist prior to construction and no works are to be undertaken within the tree root protection zone, as specified in the Arborist Report (CMK Horticulture & Arboriculture Ltd, 2021). The Site Arborist shall monitor the tree protection during construction. Further, the regeneration of young trees needs to be safe guarded and young/early mature trees of high quality will be retained.

Planting of new vegetation will take place during construction in tandem with the construction of buildings. To compensate for the removal of 283 No. trees there will be 238 No. new large multi-stem trees and large shrubs planted across the site. Native species of scrub will be planted in the mixed broadleaved/conifer woodland and have been specifically selected to provide nesting habitat for birds and safe cover for mammals. This will enhance the field layer in the woodland as it is currently dominated by non-native species. Species to be planted include: Hawthorn *Crataegus monogyna*, Dogwood *Cornus sanguinea*, Elder, Holly and Guelder Rose *Viburnum opulus*.

The proposed tree planting includes native and non-native (ornamental) species. The native species have been chosen primarily based on species currently present on the site. Native tree species to be planted include: Holly, Wild Cherry, Downy Birch *Betula pubescens*, Pedunculate Oak *Quercus robur*, Rowan *Sorbus aucuparia* and Hazel.

There are six elm trees present on site (five English Elm *Ulmus Procera* and one Wych Elm *Ulmus glabra*). One English Elm (Arborist Tag No. 220) and the Wych Elm (Arborist Tag No. 214) will be retained on the site. Elms have a limited long-term potential due to Dutch Elm disease. Therefore, the Elms to be removed will be replaced with tree species with better long-term prospects, as specified above.

The grassland west of Tabor House, which at present is used for foraging by bats, will be planted with wildflower meadow from native wildflower seed mix and an orchard (*Malus* spp.) which will provide valuable resource for pollinators and thus continue to provide foraging resource for bats. Insect hotels will be installed in this area and in the green space east of the northern entrance of the site which has a mix of heritage lawn and wildflower planting. The

insect hotels will be placed in a sunny location facing south, south-east. These will provide nesting habitat for solitary bees.

All the above are incorporated into the Landscape Design Statement (Sandford DAS) accompanying this application. Planting of new vegetation will take place during construction in tandem with the construction of buildings. Planting of native scrub will enhance the woodland habitat and strengthen it as a connecting habitat for wildlife in the wider area. The incorporation of native tree species in the planting scheme will further provide for green connecting corridors within the site.

Green roofs are proposed on the new buildings (refer to Landscape Masterplan) which will compensate for the loss of grassland habitat and enhance biodiversity of the developed site and further connecting the green corridors within the site. Native species (e.g. those associated with native dry grasslands) will be planted on the roofs. Suitably planted green roofs can also provide important foraging habitats for birds and bats.

Terrestrial Mammals

General avoidance measures that will be incorporated to minimise disturbance to mammals during construction:

- The hours of working will be limited to daylight hours where possible, to limit disturbance to nocturnal and crepuscular animals;

- Contractors must ensure that no harm comes to wildlife by maintaining the site efficiently and clearing away materials which are not in use, such as wire or bags in which animals can become entangled;

- Any pipes should be capped when not in use (especially at night) to prevent animals becoming trapped. Any excavations should be covered overnight to prevent animals from falling and getting trapped. If that is not possible, a strategically placed plank should be placed to allow animals to escape; and

- During vegetation removal, caution is needed in case of nesting Hedgehogs within the woodland. The site will be visually checked by an Ecological Clerk of Works (ECoW) prior to bringing in any machinery and be cleared on a rotational basis with scrubby patches left to provide nesting habitat and cover for Hedgehog. In addition, piles of dead wood and brash piles shall be created in undisturbed areas of the site during construction.

The woodland in the north and east part of the site will be retained and enhanced by planting of groundcover with native scrub thus securing habitat for mammals habiting the site. There will be removal of low quality trees and scrub. However, high quality trees (mature and young) and Ivy will be retained. Planting of native species of trees and scrub will strengthen the woodland as a connecting habitat and will compensate for loss of foraging and commuting habitat.

Bats

Lighting

Lighting will be switched off during non-working hours where possible and directional lighting will be used during the construction phase. This will minimise spill to any other area forming part of the bats commute. The specification and colour temperature of light treatments is chosen based on their tolerability by bats. LED luminaires are ideal due to their sharp cut-off, lower intensity, and dimming capability. A warm white spectrum (2700 K – 3000 K) will be used to reduce the blue light component.

Vegetation removal

Three trees on site were identified to have bat roost potential. One of these trees (Arboricultural Tag Number 311) is destined for removal. The following tree felling procedure will be adhered to when felling trees identified as suitable to provide potential bat roosts:

All bats, and any trees that are identified as bat roosts, are legally protected by the Wildlife Acts and the EU Habitats Directive.

The tree with Arboricultural Tag Number 311, which is destined for removal, will be re-examined by an experienced bat specialist before tree felling starts. The examination will be carried out at height under derogation licence using torch and/or endoscope. If features are confirmed as not being suitable for use as roosts, then work can continue. If bats/evidence of bats/or suspected roosts are found, then these will be legally protected, and an application for a derogation licence will be made before moving forward with the works with appropriate mitigation in place, involving soft felling, lowering sections to the ground and then leaving in place overnight (to allow any bats to make their way out).

Demolition of buildings

A pre-construction bat survey of the roof space of Milltown Park House will be conducted prior to any demolition works in case conditions change over the timeframe of the planning application until construction starts. The survey will be conducted by a suitably qualified and licensed bat ecologist. If bats are present, demolition will have to be postponed and a derogation licence will be required before carrying out any works. Prior to works commencing, bats must have safely left the roost which can be done by an exclusion procedure involving installation of one-way valves over access points for bats following instructions from a bat ecologist. The majority of roosts are only used seasonally and demolition works should be adapted to this.

Enhancement measures

Three bat boxes will be installed on mature trees present within the woodland. The following trees have been identified as suitable, referring to Arboricultural Tag Number: 297, 352 and 324. These trees are selected due to being mature and in suitable location for bat boxes. Before the bat boxes are installed, Ivy will be removed from the area surrounding the placement of each Bat box (1m radius). Large multi chambered bat boxes will be used (e.g. https://www.nhbs.com/large-multi-chamber-woodstone-bat-box or similar) as they are likely to benefit species identified on site, including Common Pipistrelle *Pipistrellus*

pipistrellus, Soprano Pipistrelle *Pipistrellus pygmaeus*, Leisler's Bat *Nyctalus leisleri* and potentially some Myotis Bat species.

Birds

Seasonality

Any clearance of trees and scrub will be conducted outside of the bird nesting season (March to September inclusive).

Demolition or reroofing of buildings must take place outside of the bird nesting season (March to September included) as Jackdaw and Herring Gull are nesting in the chimneys. If works are to take place in 2022, or years thereafter, it should take place outside of the bird nesting season or the chimneys should be bird proofed by a specialist contractor prior to nest building/egg laying and a new breeding bird survey by a qualified ecologist should take place before any demolition works start.

Enhancement measures

Some 4 No. bird boxes will be installed in the woodland along the eastern boundary. Trees identified to install the bird boxes on have the Arboricultural Tag Numbers 11, 175, 191 and 269.

Planting

Planting of native species of trees and scrub will compensate for loss of foraging, commuting and nesting habitat. The planting of native shrubs in the ground layer of woodland will provide cover and nesting opportunities for birds and the mixed planting of wildflowers, heritage lawn, fruit trees and green roofs will attract insects which is a food resource for many bird species.

Biosecurity

Invasive Plant Solutions have carried out an invasive alien plant species survey and prepared a report including a management plan for the construction phase of the development (provided in Appendix 8.4). The management plan includes a management programme for Three-cornered Garlic and Spanish Bluebell, and ongoing monitoring of the site to screen for the future risk of the introduction of Invasive Non-Native Species onto the lands from outside the property and biosecurity measures. The management plan includes a multi annual herbicide control programme with a targeted application of a glyphosate based herbicide (Roundup Biactive XL in solution, at a dilution rate of 1:40, or similar).

Prior to clearance of vegetation and works commence in the area, Winter Heliotrope should be removed and appropriately disposed to avoid further dispersal of the species. Removal of Winter Heliotrope can be done by either physical control or chemical control. Due to an extensive rhizome network, physical removal is only practical on a limited scale. The Winter Heliotrope is extensive on the present site and as such chemical control is the preferred option.

Grey Squirrel is widespread across the Dublin suburban landscape and any management would have to be at a county level and not dealt with locally. Mitigation measures are not proposed for this species.

Operation Phase

Bats

Lighting

A dark corridor will be maintained around the boundary of the site to provide commuting and foraging habitat for bats. The key bat habitats include the woodland surrounding the site in the north and east which was identified as bat commuting habitat during the activity surveys and it connects the site to adjacent gardens and potential commuting routes outside of the site.

The second key bat habitat which is located to the west of Tabor House was identified as an important foraging area for bats during the activity surveys. This area will be planted with a wildflower meadow and fruit trees to attract insects and provide foraging opportunities for bats. The Holly treeline in the centre of the site was also identified as a commuting route for bats, however this will be removed as part of the new development. The key bat habitats including the woodland along the north and eastern boundary will not be lit by artificial lighting and the key bat foraging area of wildflower meadow west of Tabor house will have restricted lighting with light turned off at curfew time 22:30 during the summer months May to September inclusive. The open public space will act as supporting habitat providing a buffer zone around the key habitat and connecting the woodland with the wildflower meadow. The lighting in the buffer zone will be restricted, details are provided in the section below.

The dark corridor will maintain the sites connectivity with the surrounding area, providing connectivity with the wider urban landscape.

The following design mitigation is incorporated into the Lighting Report and Drawings prepared by Pritchard Themis which will alleviate the risk of light disturbance to bats.

- Hours of illumination:

  Feature lighting of trees and on the west side facades of Tabor House and the Chapel will be turned off at curfew 22:30 all year round. Lighting in the formal garden area (wildflower meadow) west of Tabor House and the Chapel is set to turn off at this curfew during summer months May to September inclusive.

- Light levels and type:

  The specification and colour temperature of light treatments is chosen based on their tolerability by bats. UV free LED luminaires will be used as they are ideal due to their sharp cut-off, lower intensity, and dimming capability. A warm white spectrum (no higher than 3000K) will be used to reduce the blue light component. The LED luminaires will also feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to the Bats.

Bollards that sit within the buffer zone of the dark corridor will have a light output set to a down-rated driver to ensure a lower lux level.

Street lighting in the area behind Building F is within the buffer zone of the dark corridor and will be set to average at a maintained average of 5 lux.

- Column heights of lamp posts and direction of light:

  As bats most likely forage and commute in the unlit areas surrounding the site, the following measures are in place to reduce the amount of light spillage where it is not needed:

  - The height of lamp columns will be 6m or less.
  - Lighting will also be directed away from retained vegetation, i.e. the woodland.
  - The use of uplighting will be restricted to the central route between the proposed buildings. Any uplighters will be fitted with louvres to control light spill. Downlighting will be used in locations close to the woodland and retained vegetation. Uplighting of trees and west side facades of Tabor House and the Chapel will be turned off at 22:30 during summer months.
  - Bollards with a height of 800mm will be used on tertiary pedestrian routes, including the footpath along the woodland. The bollards along the woodland will have a spacing of 9-13m apart. The footpath surface will be of a natural material which does not create a reflection, minimising any potential upward reflection of the light.

Although it is deemed unlikely that light emitted from buildings will significantly impact on potential foraging and commuting areas for bats as these will largely lie along the extremities of the Site, particularly along the north and eastern Site boundary; night-time light spill from the interiors of the proposed buildings via windows/entrances; and the levels of spill/glare from outdoor lighting in place on the building exterior and throughout the site; will be minimised through selective lighting measures (such as fittings set back into the room) utilised for units facing towards the buffer zone.

Loss of habitat

The grassland to the western side of the Chapel and Tabor House was frequently used by foraging bats during the surveys. This area will be planted with wildflower meadow from native wildflower seed mix and an orchard (*Malus* spp.) which will provide valuable resource for pollinators and thus continue to provide foraging resource for bats. Green roofs planted with suitable species that support invertebrates can offer additional foraging habitat for bats. The restricted lighting in the buffer zone (supporting habitat) will ensure that bats can commute between the woodland and foraging area west of the Chapel and Tabor House.

Enhancement measures

Bat boxes will be installed on mature trees present within the woodland (Arboricultural Tag Number: 297, 352 and 324). Ivy will have to be removed from the area surrounding the placement of each Bat box (1m radius). It is recommended that large multi chambered bat boxes are used (e.g. https://www.nhbs.com/large-multi-chamber-woodstone-bat-box or similar) as it is likely to benefit species identified on site, including Common Pipistrelle, Soprano Pipistrelle, Leisler's Bat and potentially some Myotis Bat species. Green roofs planted with suitable species that support invertebrates can offer additional foraging habitat for bats.

Monitoring

Following guidelines (NPWS, 2016) bat use of the site will be monitored for one year post construction to evaluate implemented measures to provide foraging and commuting habitat and roosting sites for bats. The monitoring should be carried out by a qualified Ecologist and take place in the summer months May – September in the form of activity surveys including transects and automatic static detectors.

Chapter 9: Landscape and Visual Impact

Mitigation Measures

Apart from (a) the measures incorporated in the proposed design at operation stage, (b) the measures for tree protection (as recommended in the Tree Protection Strategy prepared by CMK Horticulture & Arboriculture Ltd) and biodiversity protection (as recommended in Chapter 8), and (c) standard best practice construction site management (e.g. erection and maintenance of site hoarding, orderly storage of materials and vehicles, etc.), no additional mitigation measures are proposed for townscape and visual effects.

Operational Phase

The proposal has been subject to detailed environmental impact assessment, including of potential townscape and visual effects, throughout the design and pre-planning process. Informed by this assessment, the proposal has been designed to avoid causing any significant negative townscape and visual effects.

Important mitigation measures built into the proposal from the outset include:

- The retention of the tree/ woodland belt inside the north and east boundaries as part of the scheme's main public open space (not all of the trees, but most of the better quality trees – a sufficient volume to retain the tree belt as a key feature of the landscape), with the buildings (Block A and C) set back well behind the trees. This would (a) retain the site's 'parkland' character in views from Sandford Road and Milltown Park, (b) provide screening of the buildings, and (c) lend maturity, identity/ character, landscape and visual amenity tothe new neighbourhood.

- The retention of Tabor House and the Chapel on the site. The dual intention was to (a) preserve these assets in the interest of cultural/ architectural heritage conservation, and (b) to lend maturity, identity/ character, landscape and visual

amenity to the new neighbourhood.

- Retention of trees, setting back of the buildings (Block C) and modulation of building height along the north (Norwood Park) boundary. Block C is set back from the boundary behind a linear open space incorporating the retained trees, to function as a landscape/ visual buffer between the building and the nearest houses of Norwood Park. The northern range of Block C is also broken into four distinct volumes, of two, four, six and eight storeys. The intention of this articulated form is to reduce the perception of massing/height in the views from Norwood Park.

- Positioning of lower buildings (Block E and the lower volume of Block D) inside the west (Cherryfield Avenue) boundary. The proposed Block E terraces are three storeys and are positioned against the west boundary in a back-to-back arrangement with the Cherryfield Avenue houses. This is a typical lower density suburban arrangement. The Block D apartment building steps down from five to three storeys towards the west boundary, with the same intention of minimising the intrusion of the building in views from Cherryfield Avenue.

- High quality design and materials. The proposed scheme is conceived as a higher density neighbourhood of the highest architectural and landscape quality, commensurate with the qualities of the urban context. Therefore, even when visiblefrom the surroundings (as a higher density development in a traditionally low density area unavoidably would be), the buildings and landscape would be attractive. The townscape character and views would change, but their quality would be maintained.

In addition to these decisions taken at the start of the design process, an important mitigation measure was the reduction in scale of Block A1. This element of the proposal is deliberately tall in order to achieve place-making and townscape legibility gains. However, at 13 No. storeys (as originally proposed), the step up in height from the surrounding built form could have been consideredexcessive and the building excessively intrusive in views. In recognition of this Block A1 was reduced to 10 No. storeys and set back several metres further from the Sandford Road boundary (the setting back was also to improve the open space inside the north boundary). The result is that the building would be visible and recognisable from the surrounding area (i.e. it would function as a landmark) without dominating or otherwise harming its townscape context.

Monitoring

The retention of existing trees on site is an important element of the proposal. Any unplanned loss of trees beyond that considered and designed for in the subject application could result in negative townscape and visual impacts.

The planning application is accompanied by a Tree Protection Strategy prepared by CMK Horticulture & Arboriculture Ltd., which includes the requirement for (a) a Site Arborist tobe appointed for the project, (b) the monitoring of tree protection measures by the Site Arborist throughout construction, (c) supervision by the Site Arborist of all works in the vicinity of trees, and (d) the specification by the Site Arborist of remedial works in the event of any damage to trees. The strategy also requires a re-survey of the retained trees post construction to ensure their survival in optimum condition.

Chapter 10: Land, Soils and Geology

Mitigation Measures

Construction Phase

Stripping of Topsoil

Stripping of topsoil will be carried out in a controlled and carefully managed way and coordinated with the proposed staging for the development. As noted previously, approximately 40% of stripped topsoil will be reused on site (incorporated into landscaping) with remaining topsoil reused on another site as a by-product in accordance with Article 27 of the EC (Waste Directive) Regulations (2011) or disposed of at a licenced waste receiving facility (subject to the approval of the facility operator in accordance with their facility permit or licence).

At any given time, the extent of topsoil strip (and consequent exposure of subsoil) will be limited to the immediate vicinity of active work areas.

Topsoil stockpiles will be protected for the duration of the works and not located in areas where sediment laden runoff may enter existing surface water drains.

Topsoil stockpiles will also be located so as not to necessitate double handling.

Excavation of Subsoil Layers

The need to excavate existing subsoil layers has been minimised as the proposed ground floor levels and external pavement levels have been designed to follow the natural topography of the site. The basement excavation has also been minimized in as far as the structural and functional constraints will allow.

Disturbed subsoil layers will be stabilized as soon as practicable (e.g. backfill of service trenches, construction of road capping layers, concrete blinding of the basement excavation, 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.

Similar to comments regarding stripped topsoil, stockpiles of excavated subsoil material will be protected for the duration of the works. Stockpiles of subsoil material will be located separately from topsoil stockpiles.

Measures will be implemented to capture and treat sediment laden surface water runoff (e.g. surface water inlet protection and earth bunding adjacent to open drainage ditches).

Imported Fill

Importation of fill to site will be required. Materials imported to site for use as fill will be natural stones sourced from locally available quarries 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.

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.

Construction Traffic

Earthworks plant and vehicles delivering construction materials to site will be confined to predetermined haul routes around the site and designated delivery areas. This mitigates the risk of rutting and deterioration of the topsoil layer and any exposed subsoil layers.

Vehicle wheel wash facilities will be installed in the vicinity of any site entrances and road sweeping implemented as necessary in order to maintain the road network in the immediate vicinity of the site.

Dust suppression measures (e.g. dampening down) will be implemented as necessary during dry weather periods.

Accidental Spills and Leaks

In order to mitigate against spillages contaminating underlying soils, all oils, fuels, paints and other chemicals will be stored in a secure bunded hardstand area.

Refueling and servicing of construction machinery will take place in a designated hardstand area (when not possible to carry out such activities off site).

A response procedure will be put in place to deal with any accidental pollution events and spillage kits will be available and construction staff will be familiar with the emergency procedures and use of the equipment. Concrete batching will take place off site when possible to minimise the risk of ground contamination on site during the concrete batching process.

Geological Environment

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

Risks to Human Health

- Contractor / Project Supervisor Construction Stage (PSCS) to implement safe systems of construction including but not limited to battering the sides of trench excavations and installation of excavation shoring systems.

- Full precautions to be taken when working in vicinity of boundary structures for protection of same. Method and sequence of construction to be agreed with design team prior to commencement of work. Contractor's Temporary Works Designer to prepare Method Statement and Temporary Works Cert to ensure stability of excavations and adjacent structures.

- Contractor to obtain utility company network plans and arrange observation as required.

- Contractor to locate and record all services on site prior to commencement of excavations.

- Contractor to prepare and implement a Construction Traffic Management Plan that will be agreed with the Design Team and local authority and which will ensure the safety of the public during construction (note, an outline Traffic Management Plan is included in the Preliminary Construction Management Plan).

- Contractor must supervise vehicle movements to and from the site during construction in order to ensure that this traffic management plan is fully implemented. Plan to include deliveries to the site, staff parking, works outside the defined site such as utility connections.

- Public pedestrian routes to be established at site entrance as required.

- All personnel using machinery/plant to have undergone training on the use of said machinery/plant. Ongoing site supervision to be undertaken to ensure all use of machinery/plant is in accordance with the training undertaken.

- Contractor's employees to be provided with all required PPE in accordance with Safety, Health and Welfare at Work Act, 2005.

- Contractor to prepare a Dust Management Plan with reference to the mitigation measures outlined in Chapter 12.0 (Air Quality and Climate).

Operational Phase

On completion of the construction phase, no further mitigation measures are proposed as there will be no further impact on soils and the geological environment.

Monitoring

Proposed monitoring during the construction phase in relation to the soil and geological environment are as follows:

- Adherence to Construction Management Plan (note, a Preliminary Construction Management Plan is enclosed separately which must be adhered to) and Outline Construction and Environment Management Plan.

- Construction monitoring of the works (e.g. inspection of existing ground conditions on completion of cut to road formation level in advance of placing capping material, stability of excavations etc.).

- Inspection of fuel / oil storage areas.

- Monitoring cleanliness of adjacent road network, implementation of dust suppression and provision of vehicle wheel wash facilities.

- Monitoring of contractor's stockpile management (e.g. protection of excavated material to be reused as fill, protection of soils for removal from site from contamination).

No ongoing monitoring is proposed on completion of the construction phase.

Chapter 11: Water-Hydrology

Mitigation Measures

Construction Phase

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

- A Preliminary Construction Management Plan has been prepared as part of this application and is to be implemented during the construction phase. Site inductions will include reference to the procedures and best practice as outlined in the Preliminary Construction Management Plan. An Outline Construction and Environmental Management Plan (CEMP) has been prepared as part of the planning application and will be implemented during the construction phase.

- Weather conditions and typical seasonal weather variations will also be taken account of when planning stripping of topsoil 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 will be stored in a secure bunded hardstand area. Refuelling and servicing of construction machinery will take place in a designated hardstand area (where not possible to carry out such activities off site).

- Concrete batching (for use in in situ concrete pours) will take place off site and wash down 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).

- 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. The contractor shall obtain a temporary connection from the existing water supply network along Milltown Road / Sandford Road in accordance with Irish water requirements for same.

Operational Phase

The design of proposed site levels (roads, FFL etc.) has been carried out to ensure the proposed development is elevated and set in such a way as to avoid concentrating additional surface water flow in any particular location.

Following the Site Specific Flood Risk Assessment, it has been determined that the proposed development 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.

Proposed mitigation measures to address residual flood risks are summarised below;

- Proposed drainage system to be maintained on a regular basis to reduce the risk of a blockage.

- Overland flow routes, directed towards open space areas, are identified / established in the event of storms exceeding the 1% AEP design capacity of the attenuation system

The development's basement shall not have an adverse effect on the existing ground water regime as the basement extends into the low porosity boulder clays (refer to DBFL's Basement Impact Assessment for the proposed development).

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 control device in conjunction with below ground attenuation storage.

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

- Permeable paving in driveway areas.

- Surface water runoff from duplex roofs will be routed to the proposed surface water pipe network via the porous aggregates beneath permeable paved driveways.

- Surface water runoff from apartment roofs will be captured by green roofs (sedum blanket) prior to being routed to the piped surface water drainage network.

- Surface water runoff from the majority of site's internal street network will be directed to the proposed pipe network via tree pits or other SUDS features (with overflows to conventional road gullies). Part of the site's internal street network (adjacent to Block E) drains via 3 No. bio-retention areas. In limited instances, surface water runoff from paved areas will be directed to the proposed pipe network via conventional road gullies.

- A drainage reservoir (drainage board) is to be provided on the podium slab over basement. The podium will have a mix of soft landscaping and permeable hard landscaping (over a drainage board which would serve as a reservoir).

- Attenuation of the 30 and 100-year return period storms (refer to DBFL Report 190226-rep-002, Infrastructure Design Report).

- Installation of a Hydrobrake (limiting surface water discharge from the site to 2.0 l/sec/ha).

- Surface water discharge will also pass via a 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 full retention fuel / oil separator noted above.

No specific mitigation measures are proposed in relation to foul drainage however, all new foul drainage lines will be pressure tested and be subject to a CCTV survey in order to identify any possible defects prior to being made operational (in accordance with Irish water's QA Field Inspection Requirement Manual).

No specific mitigation measures are proposed in relation to water supply, however, water conservation measures such as dual flush water cisterns and low flow taps will be included in the design.

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.

- Pluvial flood risk - drainage system design allows for a 20% increase in flows.

- Provision of min. freeboard (500mm) from 1% AEP as required by GDSDS (mitigation against impact of climate change).

It is also noted that AWN's Hydrological Risk Assessment concludes that '*During operation the potential for an impact to ground or storm water is negligible and there are measures incorporated within the proposed development to manage stormwater run-off quality. These specific measures will provide further protection to the receiving soil and water environments*'.

Monitoring

Proposed monitoring during the construction phase in relation to the water and hydrogeological environment are as follows:

- Implementation of measures included in the Preliminary Construction Management Plan and outline Construction and Environment Management Plan included in application documents).

- Inspection of fuel / oil storage areas.

- Monitoring cleanliness of adjacent road network, implementation of dust suppression and vehicle wheel wash facilities.

During the operational phase an inspection and maintenance contract are to be implemented in relation to the proposed drainage network, Class 1 full retention fuel / oil separator, hydrobrakes and attenuation devices).

Chapter 12: Air Quality and Climate

Mitigation Measures

Construction Phase

Air Quality

The pro-active control of fugitive dust will ensure the prevention of significant emissions, rather than an inefficient attempt to control them once they have been released. The main contractor will be responsible for the coordination, implementation and ongoing monitoring of the Dust Management Plan. The key aspects of controlling dust are listed below. Full details of the Dust Management Plan can be found in Appendix 12.2. These measures will be incorporated into the Construction Environmental Management Plan (CEMP) prepared for the site. An outline CEMP has been prepared by Thornton O'Connor Town Planning and is enclosed separately.

The Dust Management Plan notes the following measures in summary:

- Prior to demolition blocks will be soft stripped inside buildings (retaining walls and windows in the rest of the building where possible, to provide a screen against dust).

- During the demolition process, water suppression will 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 will be used.

- Drop heights from conveyors, loading shovels, hoppers and other loading equipment will be minimised, if necessary fine water sprays should be employed.

In addition, a Preliminary Construction Management plan has been prepared by DBFL Consulting Engineers and is enclosed. In summary, the measures which will be implementedwill include:

- 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 must be regularly watered, as appropriate, during dry and/or windy conditions.

- Vehicles using site roads will have their speed restricted, and this speed restriction must be enforced rigidly (on any un-surfaced site road, this will be 20 kph and on hard surfaced roads as site management dictates).

- Vehicles delivering material with dust potential (soil, aggregates etc.) will be enclosed or covered with tarpaulin at all times to restrict the escape of dust.

- Public roads outside the site will be inspected on a daily basis for cleanliness and cleaned as necessary.

- Debris, sediment, grit etc. captured by road sweeping vehicles is to be disposed off-site at a licensed facility.

- Vehicles exiting the site shall make use of a wheel wash facility where appropriate prior to entering onto public roads.

- 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.

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.

Climate

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 notbe significant.

Nevertheless, some site-specific mitigation measures will 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, and minimising the waste of materials due to poor timing or over ordering on site will aid to minimise the embodied carbon footprint of the site.

Operational Phase

The impact of the proposed development on air quality and climate is predicted to be imperceptible with respect to the operational phase in the long term. Therefore, no site specific mitigation measures are required.

The proposed development has been designed to minimise the impact to climate where

possible during operation. Details of the measures to be incorporated into the design of thedevelopment are outlined below and further within the Energy & Sustainability Report prepared in support of this planning application.

- UV free-LED fittings and timer controls are considerations being undertaken to improve the impact lighting may have on climate.
- A central building management system (BMS) will be used to check metering to monitor and optimise substantive energy use.
- A number of private and visitor bicycle spaces will be provided along with lower car parking ratios of 0.50 per unit to encourage sustainable modes of transport to residents.

Monitoring

Construction Phase

Monitoring of construction dust deposition at nearby sensitive receptors during the construction phase of the proposed development is recommended to ensure mitigation measures are working satisfactorily. This can be carried out using the Bergerhoff method in accordance with the requirements of the German Standard VDI 2119. The Bergerhoff Gauge consists of a collecting vessel and a stand with a protecting gauge. The collecting vessel is secured to the stand with the opening of the collecting vessel located approximately 2m above ground level. The TA Luft limit value is 350 mg/(m2*day) during the monitoring period between 28 - 32 days.

Operational Phase

There is no monitoring recommended for the operational phase of the development as impacts to air quality and climate are predicted to be imperceptible.

Chapter 13: Noise and Vibration

Mitigation Measures

Construction Stage

With regard to construction activities, best practice control measures for noise and vibration from construction sites are found within BS 5228 (2009 +A1 2014) Code of Practice for Noise and Vibration Control on Construction and Open Sites Parts 1 and 2. Whilst construction noise and vibration impacts are expected to vary during the construction phase depending on the distance between the activities and noise sensitive buildings, the contractor will ensure that all best practice noise and vibration control methods will be used, as necessary in order to ensure impacts at off-site Noise Sensitive Locations are minimised.

The best practice measures set out in BS 5228-1 and BS 5228-2 includes guidance on several aspects of construction site mitigation measures, including, but not limited to:

- selection of quiet plant;

- noise control at source;
- screening; and,
- liaison with the public.

Construction activities will vary depending on the phase of construction. The following matrix identifies which mitigation measures are applicable to the various phases.

Construction Phase		**Mitigation Measure**			
		Selection of quiet plant	**Noise control at source**	**Piling**	**Screening**
Site Preparation		X	X		X
Demolition		X	X		X
Foundations	Option A	X	X		X
	Option B	X	X	X	X
	Option C	X	X		X
General Construction		X	X		X
Landscaping		X	X		X
		Liaison with Public	**Project Programme**	**Monitoring**	**General Measures**
Site Preparation		X	X	X	X
Demolition		X	X	X	X
Foundations	Option A	X	X	X	X
	Option B	X	X	X	X
	Option C	X	X	X	X
General Construction		X	X	X	X
Landscaping		X	X		X

Selection of Quiet Plant

The potential for any item of plant to generate noise should be assessed prior to the item being brought onto the site. The least noisy item will be selected wherever possible. Should a particular item of plant already on the site be found to generate high noise levels, the first action should be to identify whether or not said item can be replaced with a quieter alternative.

Noise Control at Source

If replacing a noisy item of plant is not a viable or practical option, consideration will be given to noise control "at source". This refers to the modification of an item of plant or the application of improved sound reduction methods in consultation with the supplier. For example, resonance effects in panel work or cover plates will be reduced through stiffening or application of damping compounds; rattling and grinding noises can often be controlled by fixing resilient materials in between the surfaces in contact.

Referring to the potential noise generating sources for the works under consideration, the following best practice migration measures will be considered:

- The lifting of bulky items, dropping and loading of materials will be restricted to normal working hours.
- Mobile plant should be switched off when not in use and not left idling.
- For piling plant, noise reduction can be achieved by enclosing the driving system in an acoustic shroud.
- For concrete mixers, control measures will be employed during cleaning to ensure no impulsive hammering is undertaken at the mixer drum.
- For all materials handling ensure that materials are not dropped from excessive heights, lining drops chutes and dump trucks with resilient materials.
- Demountable enclosures can also be used to screen operatives using hand tools and will be moved around site as necessary.
- All items of plant will be subject to regular maintenance. Such maintenance can prevent unnecessary increases in plant noise and can serve to prolong the effectiveness of noise control measures.

Piling is the construction activity which is most likely to cause disturbance. General guidance in relation to piling is outlined in the following paragraphs.

Piling programmes will be arranged so as to control the amount of disturbance in noise and vibration sensitive areas at times that are considered of greatest sensitivity. If piling works are in progress on a site at the same time as other works of construction or demolition that themselves may generate significant noise and vibration, the working programme will be phased so as to prevent unacceptable disturbance at any time.

Prior to construction the planner, developer, architect and engineer, as well as the local authority, will be made aware of the proposed method of working of the piling contractor. The piling contractor will in turn have evaluated any practicable and more acceptable alternatives that would economically achieve, in the given ground conditions, equivalent structural results.

On typical piling sites the major sources of noise are essentially mobile and the noise received at any control points will therefore vary from day to day as work proceeds. The duration of piling works is typically relatively short in relation to the length of construction work as a whole, and the amount of time spent working near to noise sensitive areas can represent only a part of the piling period.

Noise reduction can be achieved by enclosing the driving system in an acoustic shroud. For steady continuous noise, such as that generated by diesel engines, it may be possible to reduce the noise emitted by fitting a more effective exhaust silencer system or utilising an acoustic canopy to replace the normal engine cover. Impact noise when piling is being driven

can be reduced by introducing a non-metallic dolly between the hammer and the driving helmet.

Screening by barriers and hoardings is less effective than total enclosure but can be a useful adjunct to other noise control measures. For maximum benefit, screens should be close either to the source of noise (as with stationary plant) or to the listener. Removal of a direct line of sight between source and listener can be advantageous both physically and psychologically. In certain types of piling works there will be ancillary mechanical plant and equipment that may be stationary, in which case, care should be taken in location, having due regard also for access routes. When appropriate, screens or enclosures should be provided for such equipment.

Screening

Screening is an effective method of reducing the noise level at a receiver location and can be used successfully as an additional measure to all other forms of noise control. It is understood that the existing concrete perimeter wall will remain during the construction process and provide a degree of screening.

In addition, careful planning of the site layout will also be considered. The placement of site buildings such as offices and stores will be used, where feasible, to provide noise screening when placed between the source and the receiver.

Liaison with the Public

A designated environmental liaison officer will be appointed to site during construction works. Any noise complaints will be logged and followed up in a prompt fashion by the liaison officer. In addition, where a particularly noisy construction activity is planned or other works with the potential to generate high levels of noise, or where noisy works are expected to operate outside of normal working hours etc., the liaison officer will inform the nearest noise sensitive locations of the time and expected duration of the noisy works.

Project Programme

The phasing programme will be arranged so as to control the amount of disturbance in noise and vibration sensitive areas at times that are considered of greatest sensitivity. During excavation/ piling or other high noise generating works are in progress on a site at the same time as other works of construction that themselves may generate significant noise and vibration, the working programme will be phased so as to prevent unacceptable disturbance at any time.

Operational Phase

Mechanical Plant Noise

As part of the detailed design of the development, plant items with appropriate noise ratings and, where necessary, appropriately selected remedial measures (e.g. enclosures, silencers etc.) will be specified in order that the adopted plant noise criteria is achieved at the façades of noise sensitive properties, including those within the development itself.

Chapter 13 has specified cumulative plant noise limits at the nearest noise sensitive properties that must be achieved in order to ensure the impact is acceptable. To achieve these noise limits consideration will be given, at the detailed design stage, to a variety of mitigation measures and forms of noise control techniques. Some examples of these measures are as follows:

- Reduced/quiet modes;
- Duct mounted attenuators on the atmosphere side of air moving plant;
- Splitter attenuators or acoustic louvres providing free ventilation to internal plant areas;
- Solid barriers screening any external plant; and
- Anti-vibration mounts on reciprocating plant.

In addition to the above, it is proposed that the following practices are adopted to minimise potential noise disturbance for neighbours.

- All mechanical plant items e.g. motors, pumps etc. shall be regularly maintained to ensure that excessive noise generated any worn or rattling components is minimised.
- Any new or replacement mechanical plant items, including plant located inside new or existing buildings, shall be designed so that all noise emissions from site do not exceed the noise limits outlined in Chapter 13.

Entertainment Noise

The amenity spaces that have entertainment noise associated will be designed at a later stage however to ensure no negative impact associated with these spaces, the following acoustic measures will be incorporated where necessary.

Measure	Description
Appropriate Linings	Proposed constructions (e.g. external walls) should be reviewed in order to determine whether additional measures are required in order to control noise emissions from the highlighted areas. These measures would typically consist of independent wall linings where appropriate.
Glazing	Where glazing is proposed in the design the installed elements should offer an appropriate sound insulation performance in order to minimise noise break out.
Doors	Access to noisy internal areas from external locations may require acoustic lobbies with double doors separated by an appropriate distance.
Ventilation	Ventilation should be supplied by suitably attenuated mechanical means. Once details of the proposed building services installation are known, consideration should be given to the potential for entertainment noise breakout to atmosphere via ductwork; the

	potential for services noise transfer to both external and internal areas.
Audio System	The audio systems should feature a distributed array of loudspeakers arranged such that the coverage zones are tightly controlled and all patrons are within the "near field" of one or more loudspeakers. This will limit the amount of sound energy incident upon the external walls and in turn help to control the amount of noise transfer and break-out.
Noise Level	Once the measures outlined above are implemented it would be recommended that a maximum permissible noise level be set for each venue (i.e. a noise level that should not be exceeded in order to ensure that noise emissions are kept to an acceptable level).

Inward Noise Impact – Acoustic Design Statement Part 2

Chapter 13 identified some facades that will be provided with glazing and ventilation that achieves minimum sound insultation performances (such as the north and east of Block A and east of Block F). Other facades in the development have no minimum requirement for sound insulation.

The assessment has demonstrated that the recommended internal noise criteria will 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. There is no acoustic requirement relating to the creche façade. Appropriate internal noise levels are predicted to be achieved with standard double glazing and ventilators.

Monitoring

Construction Phase

The contractor will be required to ensure construction activities operate within the noise and vibration limits set out within this assessment. The contractor will be required to undertake regular noise and vibration monitoring at locations representative of the closest sensitive locations to ensure the relevant criteria are not exceeded.

Noise monitoring should be conducted in accordance with the International Standard ISO 1996: 2017: Acoustics – Description, measurement and assessment of environmental noise.

Vibration monitoring should be conducted in accordance with BS 6472:2008 Guide to evaluation of human exposure to vibration in buildings. Vibration sources other than blasting (human disturbance) and BS ISO 4866:2010 Mechanical vibration and shock. Vibration of fixed structures. Guidelines for the measurement of vibrations and evaluation of their effects on structures (building damage).

Operational Phase

Noise or vibration monitoring is not required once the development is operational.

Chapter 14: Material Assets - Waste Management

Mitigation Measures

Construction Stage

A project specific Construction & Demolition Waste Management Plan (C&D WMP) has been prepared in line with the requirements of the requirements of the guidance document issued by the Department of Environment Heritage, Local Government (DoEHLG) and is included as Appendix 14.1. 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 contractor(s) will be required to refine/update the C&D WMP or submit an addendum to C&D WMP to DCC to detail specific measures to minimise waste generation and resource consumption and provide details of the proposed waste contractors and destinations of each waste stream.

A quantity of soil, stone and made ground which will need to be excavated to facilitate the proposed development. Project Engineers have estimated that between c. 64,000m^3 and c. 70,000m^3 of excavated material will need to be removed offsite, however it is envisaged that c. 10,000m^3 excavated material will be reused onsite. 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 – it is anticipated that 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) willalso be segregated and will be stored in appropriate receptacles (in suitably bundedareas, where required);
- A waste manager will be appointed by the main contractor(s) to ensure effective management of waste during the 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 suitable 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.

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

Operational Stage

A project specific Operational Waste Management Plan (OWMP) has been prepared and is included as Appendix 14.2. Implementation of this OWMP will ensure a high level of recycling, reuse and recovery at the development. All recyclable materials will be segregated at source to reduce waste contractor costs and ensure maximum diversion of materials from landfill, thus achieving the targets set out in the EMR Waste Management Plan 2015 – 2021 and abiding by the DCC waste bye-laws.

In addition, the following mitigation measures will be implemented:

- On-site segregation of all waste materials into appropriate categories including (but not limited to):
    - Organic waste;
    - Dry Mixed Recyclables;
    - Mixed Non-Recyclable Waste;
    - Glass;
    - Waste electrical and electronic equipment (WEEE);
    - Batteries (non-hazardous and hazardous);
    - Cooking oil;
    - Light bulbs;

- Cleaning chemicals (pesticides, paints, adhesives, resins, detergents, etc.);
- Furniture (and from time to time other bulky waste); and
- Abandoned bicycles.

- All waste materials will be stored in colour coded bins or other suitable receptacles in designated, easily accessible locations. Bins will be clearly identified with the approved waste type to ensure there is no cross contamination of waste materials;

- All waste collected from the development will be reused, recycled or recovered where possible, with the exception of those waste streams where appropriate facilities are currently not available; and

- All waste leaving the site will be transported by suitable permitted contractors and taken to suitably registered, permitted or licensed facilities.

These mitigation measures will ensure the waste arising from the development is dealt with in compliance with the provisions of the Waste Management Act 1996, as amended, associated Regulations, the Litter Pollution Act 1997, the EMR Waste Management Plan (2015 - 2021) and the DCC waste bye-laws. It will also ensure optimum levels of waste reduction, reuse, recycling and recovery are achieved.

Monitoring

Construction Stage

The management of waste during the construction phase should be monitored to ensure compliance with relevant local authority requirements, and effective implementation of the Construction and Demolition Waste Management Plan including maintenance of waste documentation.

Operation Stage

The management of waste during the operational phase should be monitored to ensure effective implementation of the Operational Waste Management Plan by the building management company and the nominated waste contractor(s).

Chapter 15: Material Assets - Traffic and Transportation

Mitigation Measures

Construction Stage

An Outline Construction and Environmental Management Plan (CEMP) has been prepared as part of the planning application with an associated Preliminary Construction Management Plan (PCMP). The PCMP includes an Outline Traffic Management Plan as well as incorporating a range of integrated control measures and associated management activities with the objective of minimising the potential impacts of construction activities associated with the development. The following initiatives will be implemented to avoid, minimise and/or mitigate against the anticipated construction period impacts:

- During the pre-construction phase, the site will be securely fenced off/hoarded off from adjacent properties, public footpaths and roads;

- Appropriate on-site parking (temporary parking for the duration of construction works) and compound area will be provided to prevent overflow onto the local network;

- A large proportion of construction workers are anticipated to arrive in shared transport. 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;

- Any specific recommendations with regard to construction traffic management made by Dublin City 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 such as the use of traffic signage. 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);

- Site entrance point/s from the public road 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 road;

- Material storage zones 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 Dublin City Council prior to commencement of activities on-site; and

- On completion of the works, all construction materials, debris, temporary hardstands etc. from the site compound will be removed off-site and the site compound area reinstated in full on completion of the works.

Operation Stage

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.

- Implementation of Parking Management Strategy - A management regime has been set out (and accompanies this planning application) which will be implemented by the development's management company to control access to the on-site car parking spaces thereby actively managing the availability of on-site car parking for residents and visitors to the development. This provision equates to a car parking ratio of approximately 0.50 car parking spaces per residential unit. The signing of a rental agreement or purchase of 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 the limited on-site residents car parking provision. Nevertheless, all residents of the proposed residential apartment scheme will have the opportunity to apply to the on-site management company for a resident's car parking permit (updated weekly, fortnightly, monthly, quarterly or annually) and subsequently access to a dedicated (assigned) on-site basement car parking space. 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.

- Implementation of the Mobility Management Plan. A preliminary Mobility Management (MMP) has been compiled (Appendix 15.2) with the aim of guiding the delivery and management of co-ordinated 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.

- Infrastructure measures identified to reduce reliance of private vehicles include the provision of ample secure cycle parking on site, meeting the minimum guidance (*Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities, 2020, DHPLG*), and ensuring a design which promotes permeability for pedestrians and cyclists to, through and from the development. The lower level of car 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.

- Junction enhancements have been identified and proposed at the R117 Sandford Road site access junction, including an upgrade to the existing controlled pedestrian crossing to a toucan crossing, with the objective of creating a highly permeable environment for pedestrians and cyclists and the tightening of corner radii on the Belmont Avenue arm, with dropped kerbs and tactile paving providing a safer informal crossing than the existing scenario. A signalised toucan crossing is also proposed at the R117 Milltown Road, adjacent to the site access location, facilitating safe connections for pedestrians and cyclists.

- The provision of 10 No. dedicated car share (GoCar and development-owned) spaces at surface and basement level for the use of the scheme's residents and staff. The availability of these on-site provide a viable alternative to residents needing to own a private vehicle whilst still having access to a car as and when required.

Monitoring

Construction Phase

During the construction stage, the following monitoring exercises are proposed:

- Compliance with construction vehicle routing practices;
- Compliance with construction vehicle parking practices;
- Internal and external road conditions; and
- Timing of construction activities.

Operation Phase

As part of the Mobility Management Plan (MMP) process, bi-annual post occupancy surveys are to be carried out in order to determine the success of the measures and initiatives as set out in the proposed MMP document. The information obtained from the monitoring surveys will be used to identify ways in which the MMP measures and initiatives should be taken forward in order to maintain and further encourage sustainable travel characteristics.

Chapter 16: Material Assets - Site Services

Mitigation Measures

Construction Phase

- Contractor to prepare Method Statement detailing proposals for works in the vicinity of existing utilities including detail of process to minimise potential for interruption to power, gas and telecoms infrastructure. Contractor's method statement to be agreed with PSDP (Project Supervisor for the Design Process).
- Contractor to locate and record all services on site prior to commencement of excavations.
- A GPR utility survey has been carried out along Sandford Road, Milltown Road and Eglinton Road to confirm the location of power, gas and telecommunications infrastructure. This survey is to be supplemented with slit trench investigation as required by the contractor in advance of commencing works along Sandford Road, Milltown Road and Eglington Road.
- Contractor to obtain utility company network plans and arrange observation as required.

- Connections to the existing power, gas and telecommunications networks will be coordinated with the relevant utility provider and carried out by approved contractors.

- Contractor to comply with HSA Code of Practice for Avoiding Danger from Underground Services (refer to Appendix 16.3).

- Contractor to prepare and implement a Construction Traffic Management Plan that will be agreed with the Design Team and Local Authority and which will ensure the safety of the public during construction (note, an outline Traffic Management Plan is included in the Preliminary Construction Management Plan).

- All personnel using machinery/plant to have undergone training on the use of said machinery/plant. Ongoing site supervision to be undertaken to ensure all use of machinery/plant is in accordance with the training undertaken.

Operational Phase

On completion of the construction phase there will be no further impact on electrical, gas or telecommunications supplies. No mitigation measures are proposed in relation to the site services described in this chapter.

Monitoring

No specific monitoring is proposed in relation to electrical, gas and telecommunications infrastructure.

Chapter 17: Microclimate – Wind

Mitigation Measures

Construction Phase

The assessment of the wind microclimate during the construction phase has been based on professional judgement by reviewing the existing site conditions and the expected conditions once the development is in place via the Computational Fluid Dynamics (CFD) modelling.

It is expected the wind microclimate will gradually adjust from the existing conditions to the final modelled scenario as construction progress develops. However, the mitigation measures outlined in the following sections will need to be implemented before completion to ensure comfortable conditions once the proposed development becomes operational.

Operational Phase

Chapter 18 outlines specific mitigation measures that have been incorporated into the proposed design to prevent excessive wind speeds during the operational phase of the development. The proposed development has been designed to have acceptable pedestrian wind comfort conditions during the operational phase.

The trees and planting associated with the landscape design will continue to grow and develop after the proposed mitigation measures have been implemented, thus providing increased protection from the wind resulting in increased pedestrian comfort conditions in these areas which will be a positive impact.

The following specific mitigation measures have been incorporated for the operational phase of the development:

Apartment Block Arrangement

The arrangement of the apartment blocks has been carefully chosen to help mitigate increased wind speeds throughout the site. The central areas within the development are well protected from the predominant south-west wind direction via the buildings located to the south-west. Furthermore, an internal courtyard space has been incorporated within Block B and C which provides a sheltered area for pedestrians to utilise throughout the year.

Rooftop Amenity Canopy

A canopy has been integrated into the design of the building above the rooftop amenity space in Block A1. The canopy protects the amenity space from building downwash, deflecting the wind away and creating a comfortable environment for the occupants using the amenity space.

Inset Balconies

The Block A1 tower which is most exposed to the wind due to its height, predominantly incorporates inset balconies. Inset balconies offer increased wind protection for people utilising the balcony spaces as they provide a natural shelter from the elements.

Solid Balustrades

All private balconies on the tower element of Block A1 (floors 5 to 9) and the shared rooftop amenity areas will incorporate solid glazed balustrades. Full length solid balustrades block wind directly entering the balcony space, dissipating the wind speed within the balcony area which creates a much more comfortable experience for occupants.

Landscaping

The landscaping has been strategically designed to mitigate increased wind speeds and to provide shelter for pedestrians at ground level, within the central courtyard spaces and on the rooftop amenity areas. The landscaping design incorporates trees, hedges and raised planters and sheltered seating pockets which all act as wind mitigation measures.

Trees are to be planted close to primary entrance ways and along the streetscape, mitigating excessive wind speeds and providing shelter for pedestrians at street level. The use of trees and low-level shrubs all assist in the localised reduction of wind speed.

The modelling has included the proposed design, the proposed landscaping strategy and the existing landscape which will remain, in conjunction with the existing buildings surrounding

the development. The combination of all interactions has resulted in a comfortable environment for pedestrians within the proposed development.

Monitoring

Construction Phase

During the construction phase the wind conditions will gradually change from the conditions experienced in the existing environment to the conditions experienced during the operational phase. As wind comfort conditions are comfortable at both phases and no issues have been identified, no monitoring is required.

Operational Phase

The proposed development has been designed to have acceptable pedestrian wind comfort conditions during the operational phase, therefore no monitoring is required.

Chapter 18: Risk Management

Mitigation Measures

Chapter 18 of this EIAR sets out that control measures observed for health and safety and environmental management as per relevant code of practices (Code of Practice for Inspecting and Certifying Buildings and Works) and relevant legislation including Building Control Act 1990 (No. 3 of 1990), as amended and Building Control Regulations 1997, as amended. The residual impacts will be negligible once all control, mitigation and monitoring measures have been implemented. The design has considered the potential for flooding, road accidents or fire within the design methodology. The vulnerability of the proposed development to major accidents and/or disasters is not considered significant.

Monitoring

There is no monitoring required with regards to risk management. All monitoring proposals for the interacting chapters have been detailed in the relevant technical chapters and are included in Chapter 20 Mitigation Measures and Monitoring.

Cumulative Impacts

Any potential cumulative impacts have been considered in the preparation of this EIAR and are detailed where relevant in the various EIAR Chapters e.g. construction stage impacts, surface water drainage infrastructure, foul drainage, water supply, landscape and visual impact and traffic for example. Therefore, it is clear that the potential for any cumulative impacts to occur have been comprehensively considered in the preparation of this EIAR, as detailed throughout the various chapters. A full list of proposed and pending applications was considered by the EIAR Team as set out in Chapter 3.0 (Section 3.5) and where relevant were included in the cumulative impacts assessment of the relevant chapter. As a result, it is not proposed to include any specific measures for monitoring or mitigation to be undertaken in relation to cumulative impacts.

21.0 DIFFICULTIES ENCOUNTERED

There have been no significant difficulties encountered during the preparation and compilation of the majority of this Environmental Impact Assessment Report.

Chapter 5 'Population and Human Health' prepared by Thornton O'Connor Town Planning notes the following difficulty:

> *'There were no significant difficulties encountered in the preparation of this chapter. However, we note some references to 2019 or early 2020 data were utilised in the chapter as the Covid-19 pandemic has had an impact on the economy and employment figures. However, we consider it important to assess the positive trends that were emerging before the pandemic impacted the country'.*

Chapter 7 'Architectural Heritage' prepared by Molloy and Associates Conservation Architects notes the following difficulty:

> *'Due to restrictions since March 2020 due to Covid-19, research of the site in public archives has not been possible. Access however has been provided to extensive, privately held archives in the Jesuit Community. The limitations presented for / prohibiting of research in public archives, whilst atypical for architectural heritage assessment in normal times, are not on balance of all findings, site and archival, believed to alternatively influence the final architectural heritage opinion on significance of structures within the grouping'.*

Chapter 14 'Material Assets-Waste Management' prepared by AWN Consulting notes the following difficulty:

> *'Until final materials and detailed construction methodologies have been confirmed, it is difficult to predict with a high level of accuracy the construction waste that will be generated from the proposed works as the exact materials and quantities may be subject to some degree of change and variation during the construction process.*
>
> *There is a number of licensed, permitted and registered waste facilities in the Fingal region and in the surrounding counties. However, these sites may not be available for use when required or may be limited by the waste contractor selected to service the development in the appropriate phase. In addition, there is potential for more suitably placed waste facilities or recovery facilities to become operational in the future which may be more beneficial from an environmental perspective.*
>
> *The ultimate selection of waste contractors and waste facilities would be subject to appropriate selection criteria proximity, competency, capacity, serviceability, and cost.'*

Appendix 5.1 'Review of BRE Sunlight & Daylight Assessment' prepared by 3D Design Bureau notes the following difficulty:

> *'It was neither possible nor practical for the Design Team to gain unfettered access to every parcel of private property within the study area surrounding the application site in order to carry out measured building survey. Therefore, while 3DDB has confidence that the three dimensional model used in the assessment of the impact of the proposed*

development on sunlight & daylight access achieves a high degree of accuracy, it should be noted that some level of assumption was necessary in completing the model'.

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