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iSM INDEPENDENT SITE MANAGEMENT

Telecommunications Report - Section 3.2 of the Building Height Guidelines (2018)

LARGE-SCALE RESIDENTIAL DEVELOPMENT AT WHITESTOWN WAY, TALLAGHT

14 May 2026

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DEFINITIONS

Author:	Independent Site Management Limited (hereinafter referred to as "ISM")
Mitigation Measures:	means the allowances made for the retention of important Telecommunication Channels (hereinafter referred to as "Mitigation Measures")
Planning Authority:	means South Dublin County Council (hereinafter referred to as the "Planning Authority")
Radio Frequency:	means a frequency or band of frequencies in the range 104 to 1011 or 1012 Hz, of the electromagnetic spectrum suitable for use in telecommunications.
Microwave Links:	means the transmission of information by electromagnetic waves with wavelengths in the microwave range (1 m - 1 mm) of the electromagnetic spectrum suitable for use in telecommunications.
Report Date:	means the date which the assessment was carried out (hereinafter referred to as "Report Date")
Telecommunication Channels:	means Radio Frequency links & Microwave Transmission links (hereinafter referred to as "Telecommunication Channels")
The Developer:	means ARP 4.2 Sustainable Communities (Ireland) Fund (hereinafter referred to as the "Developer")
The Development:	means the proposed development situated at a site of approximately 1.32 Ha principally located at Whitestown Way, Dublin 24 (hereinafter referred to as the "Development")

EXECUTIVE SUMMARY

Independent Site Management ('ISM') has been engaged to provide a specific assessment that the proposal being made by ARP 4.2 Sustainable Communities (Ireland) Fund (the "Developer") within its submission to South Dublin County Council (the 'Planning Authority'), allows for the retention of important Telecommunication Channels ("Telecommunication Channels") such as microwave links, to satisfy the criteria of Section 3.2 of the Building Height Guidelines (2018) and Section 2.4, Appendix 10 of the South Dublin County Council Development Plan 2022-2028 - Building Height and Density Guide.

To provide this assessment, ISM reviewed the Developer's proposed development (the "Development"), together with their proposed allowances to retain relevant Telecommunication Channels in the context of the immediate surrounding registered and documented telecommunication sites.

Pursuant to our review, ISM can conclude based on the findings outlined herein that the proposal being made by the Developer within its submission to the Planning Authority allows for the retention of important Telecommunication Channels, such as Microwave links, and therefore satisfies the criteria of Section 3.2 of the Building Height Guidelines (2018) and Section 2.4, Appendix 10 of the South Dublin County Council Development Plan 2022-2028 - Building Height and Density Guide.

ABOUT THE AUTHOR

ISM is a consultancy firm and asset management company that provides telecommunication consultancy and telecommunication services to developers and property owners.

ISM works closely with all providers of wireless and fixed line telecommunication services to bridge their infrastructure requirements with that of private and public development. ISM has successfully been providing this service in Ireland for over 20 years.

ISM is a multidiscipline firm proficient in the 6 main areas in the delivery of telecommunication services:

(1) Telecommunication Asset Management Cellular and Fixed Line Fibre Optic.
(2) Telecommunication Contract and Licensing.
(3) Radio Frequency technology.
(4) Microwave Transmission technology.
(5) In-building distributed antenna systems.
(6) Fixed Line fibre optic & copper technologies.

ISM has had an integral part in procuring, designing, building and subsequently managing over 300 mobile base stations and/or fixed wireless sites, the vast majority of which originated in densely populated, urban environments.

ISM has designed, built and currently operates over 10 in-building distributed antenna systems, and 2 large managed fibre optic networks.

DEVELOPMENT DESCRIPTION

ARP 4.2 Sustainable Communities (Ireland) Fund intends to apply for permission for the development of a 'Large-Scale Residential Development' (LRD) at a site of approximately 1.32 Ha principally located at Whitestown Way, Dublin 24. The site is generally bound: to the east by Whitestown Way; to the south by Riverside Business Park; to the west by Whitestown Road / Whitestown Industrial Estate, undeveloped lands and the Vita Actives premises; and to the north by, the Vita Actives premises and The Arena mixed-used development. It also extends to include part of Whitestown Way for junction, road infrastructure and landscape works.

The proposed development principally comprises the construction of a mixed-use development in 2 No. blocks (Block A to the east and Block B to the west) with a gross floor area of 14,976.5 sq m (excluding undercroft car parking area of 1,975.8 sq m) and ranging in height from 1 No. storey to 6 No. storeys. The blocks are connected via a single-storey undercroft/podium level. The development includes: 169 No. residential units (80 No. 1-bed, 85 No. 2-bed and 4 No. 3-bed); 2 No. class 1 / class 2 commercial units (totalling 356.5 sq m); and a crèche (162.8 sq m) with external play area.

The development also comprises: new street and turning head at the site's southern side and junction with Whitestown Way to the east; 77 No. car parking spaces, with 66 No. within the undercroft car parking area and 11 No. on-street; 2 No. set-down bays; cycle parking; hard and soft landscaping, including public open space, communal amenity space and incidental spaces; private amenity spaces (as balconies and terraces facing all directions); boundary treatments; sub-station; plant/operational rooms; bin stores; public lighting; green roofs; rooftop plant, PV arrays, lift overruns, telecommunications infrastructure and automatic opening vents; and all associated works above and below ground.

SITE LOCATION/LAYOUT MAP

Figure 1

TELECOMMUNICATION CHANNELS

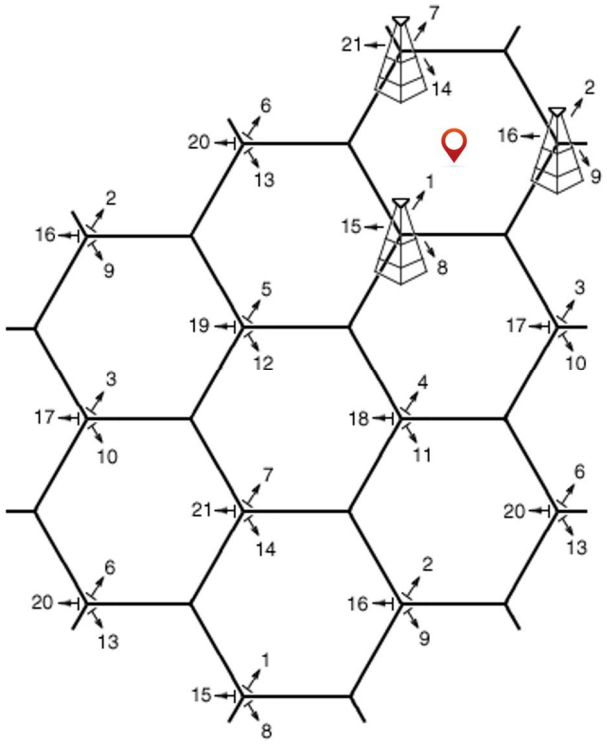
This report assesses the two wireless Telecommunication Channels or networks of Telecommunication Channels that may be affected by the height and scale of a new development, Radio Frequency links & Microwave Transmission links.

Radio Frequency links & Microwave Transmission Links are used in Ireland's mobile phone and fixed wireless networks and disseminate at an average above ground level height of 20m, making them the most relevant Telecommunication Channels to be assessed in relation to the height and scale of a new development and to that end what allowance the Developer needs to make for their retention.

Mobile phones send and receive signals via links from nearby antenna sites or cellular towers, technically known as base stations, using Radio Frequency waves. Microwave Transmission links use microwave dishes to "transmit" from these base stations to other base stations forming a network. Radio Frequency waves operate at a lower power within lower frequencies of the radio spectrum, whereas Microwave Transmission operates at higher power within higher frequencies of the radio spectrum.

Radio Frequency waves are distributed over land areas in "cells", each served by at least one fixed-location transceiver (base station), but more normally by three cell sites or base stations. These base stations provide the cell with network coverage, which can then be used for voice, data, and other types of content. A cell typically uses a different set of frequencies from neighbouring cells to avoid interference and provide guaranteed service quality within each cell.

When joined together, these cells provide Radio Frequency coverage over a wide geographic area (Cellular network). This enables numerous portable transceivers (e.g., mobile phones, tablets and laptops equipped with mobile broadband modems, pagers, etc.) to communicate with each other and with fixed transceivers and telephones anywhere in the network, via base stations, even if some of the transceivers are moving through more than one cell during transmission.



As demonstrated on this cell map illustrating Radio Frequency coverage, each Radio Frequency "cell" is supported by at least 3No. base stations sites. This means that should an obstacle occur between an area and a base station site, such as a new development, the affected area will be covered by other base stations from other locations.

= a given location

= base station site

Figure 2

Cellular networks offer a number of desirable features, but most notably, additional cell towers can be added indefinitely and are not limited by the horizon, therefore it can be considered **indeterminable** as to whether a new development affects the Radio Frequency coverage of a geographical area which is being served by multiple base stations, not necessarily the closest.

Conversely, Microwave Transmission links are point-to-point links, which are easily determined to be affected, or not, by the height and scale of a new development. In point-to-point wireless communications, it is important for the line of sight between two base stations to be free from any obstruction (terrain, vegetation, buildings, wind farms and a host of other obstructions). As any interference or obstruction in the line of sight can result in a loss of signal.

While installing Microwave links, it is important to keep an elliptical region between the transmitting Microwave link and the receiving Microwave link free from any obstruction for the proper functioning of the system. This 3D elliptical region between the transmit antenna and the receive antenna is called the **Fresnel Zone**. The size of the ellipse is determined by the frequency of operation and the distance between the two sites.

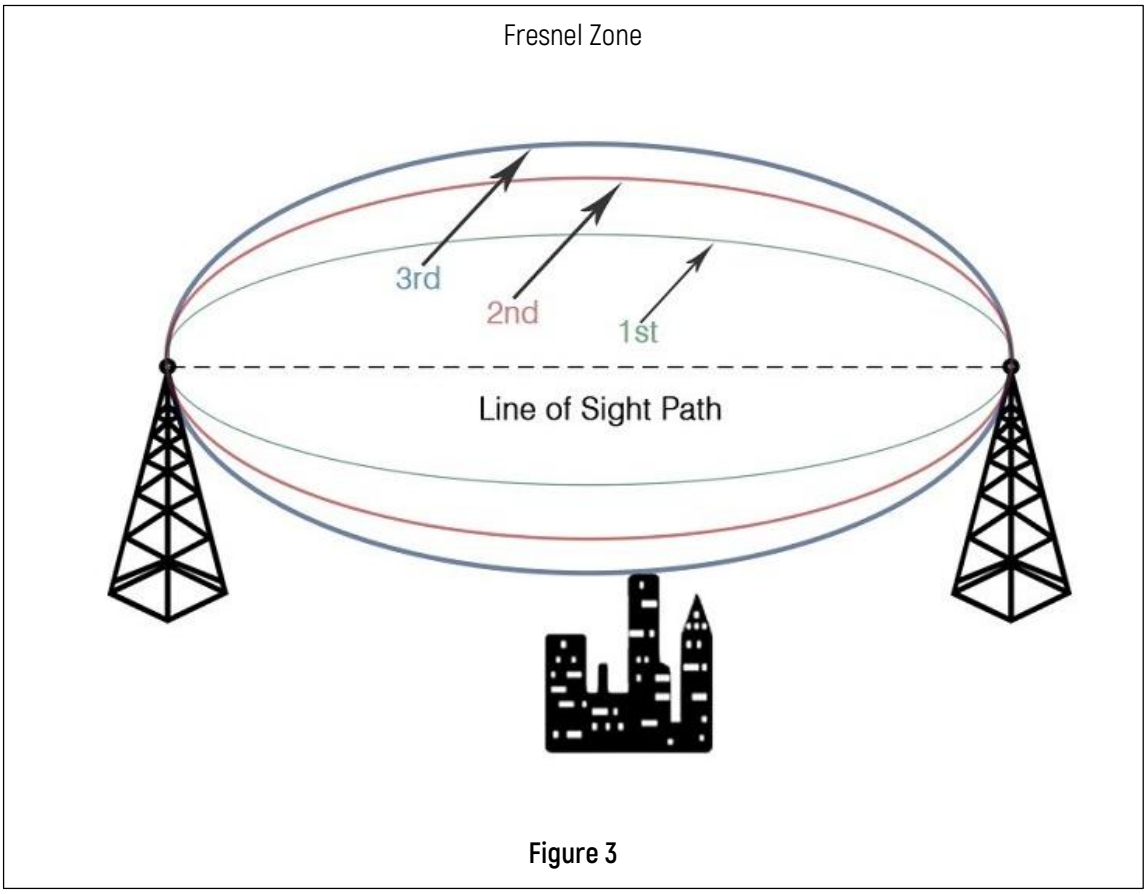


Figure 3

Essentially, if there is an obstacle in the Fresnel zone, part of the radio signal will be diffracted or bent away from the straight-line path. The practical effect is that on a point-to-point Microwave link, referred to herein, the refraction will reduce the amount of energy reaching the receiving microwave dish. The thickness or radius of the Fresnel zone depends on the frequency of the signal – the higher the frequency, the smaller the Fresnel zone. Microwave links are high frequency radio links used for point-to-point transmission.

FINDINGS

ISM's specific assessment identified 2No. Microwave links that will require the Developer to make specific allowances for their retention ("Mitigation Measures").

ISM carried out a full assessment of neighbouring registered and documented telecommunication sites to assess what Microwave links would be impacted by the height and scale of the Development. Please refer to Figure 5 & 6 of the appendices for full analysis. The assessment of Microwave Transmission links entailed both a visual survey of each identified neighbouring telecommunication site within a reasonable geographic proximity to the Development and a request for information from telecommunication providers where the visual survey was inconclusive.

Impacted Microwave links:

(1) 2No. Microwave links installed by Eir Mobile & Three Ireland respectively, transversing between 2No. telecommunication mast sites: (1) located on a telecommunication mast site (Old Bawn ESB) approximately 1,290m to the southeast of the proposed development site; & (2) located on a telecommunication mast site (Killinarden ESB) approximately 557m to the northwest of the proposed development site;. Please refer to Figure 4.

These telecommunication mast sites provide cellular coverage for their immediate local area, catering predominantly for the residential neighbourhoods, and the surrounding business & retail premises. These sites also cater for the public amenity spaces in close proximity, together with providing coverage for foot and vehicular traffic along both the Tallaght Bypass / Blessington Road and the Old Bawn Road.

The identified Microwave links are situated at approximate above ground level heights of 18m (AGL). Therefore, it would be our finding that it is highly likely that the proposed height and scale of the Development will cause significant diffraction to these Microwave links.

❷ Killinarden ESB

❶❸ Old Bawn ESB

Figure 4

Additionally, ISM carried out a full assessment of neighbouring registered and documented telecommunication sites to assess what Radio Frequency links might be impacted by the height and scale of the Development. To assess this, we carried out a drive test throughout the surrounding areas to ascertain what cells were serving the residential areas to the north, south, east & west of the Development Site. Please refer to Figure 7 of the appendices for full analysis.

Our assessment identified Radio Frequency coverage for the local geographic area is served by several cells at a range of distances from the development site on a 360° basis which is a typical cell pattern for urban Radio Frequency coverage. The drive test data determined that the residential areas and public road areas to the north, south, east & west of the Development are adequately covered by the cell sites identified in figure 7 and are not reliant on Radio Frequency coverage from any one cell that would be obstructed by the Development.

Please note that telecommunication networks are always evolving, and as such, these findings remain subject to change.

MITIGATION MEASURES

To provide an adequate allowance for the retention of the 2No. identified Microwave links that will be impacted by the Development, the Developer is proposing the installation of 6No. 300mm Microwave Transmission link dishes mounted on 3No. steel support poles affixed to the lift shaft overrun on Block B.

These support poles are sufficient to accommodate 2No. Ø.3m Microwave links each, which provides an adequate solution for the Developer to mitigate the impact the Development will have on the identified Microwave links emanating from the neighbouring telecommunication mast sites to the northwest and to the southeast of the Development, as well as providing some capacity for future links that may or may not be required.

Please refer to Figure 8 of the appendices for full analysis.

ISM can therefore conclude that the proposal being made by the Developer within its submission to South Dublin County Council allows for the retention of important Telecommunication Channels, such as Microwave links, to satisfy the criteria of Section 3.2 of the Building Height Guidelines (2018) and Section 2.4, Appendix 10 of the South Dublin County Council Development Plan 2022-2028 - Building Height and Density Guide.

DISCLAIMER

Due to the confidential nature of planning applications/submissions, ISM does not, as standard practice, contact or involve Ireland's licenced Mobile Network Operators, namely: Vodafone Ireland; Three Ireland; or Eircom Limited t/a Eir Mobile, when preparing this report. If contact is made with a Mobile Network Operator, we duly note the source information within our reports.

ISM has wholly relied upon the publicly available information provided by Commission for Communications Regulation, "ComReg", it's own extensive record of wireless infrastructure, and the results of a comprehensive visual survey carried out on the Report Date notated herein. Therefore, the specific Mobile Network Operator transmitting the identified telecommunication channel is recorded on a best endeavour basis.

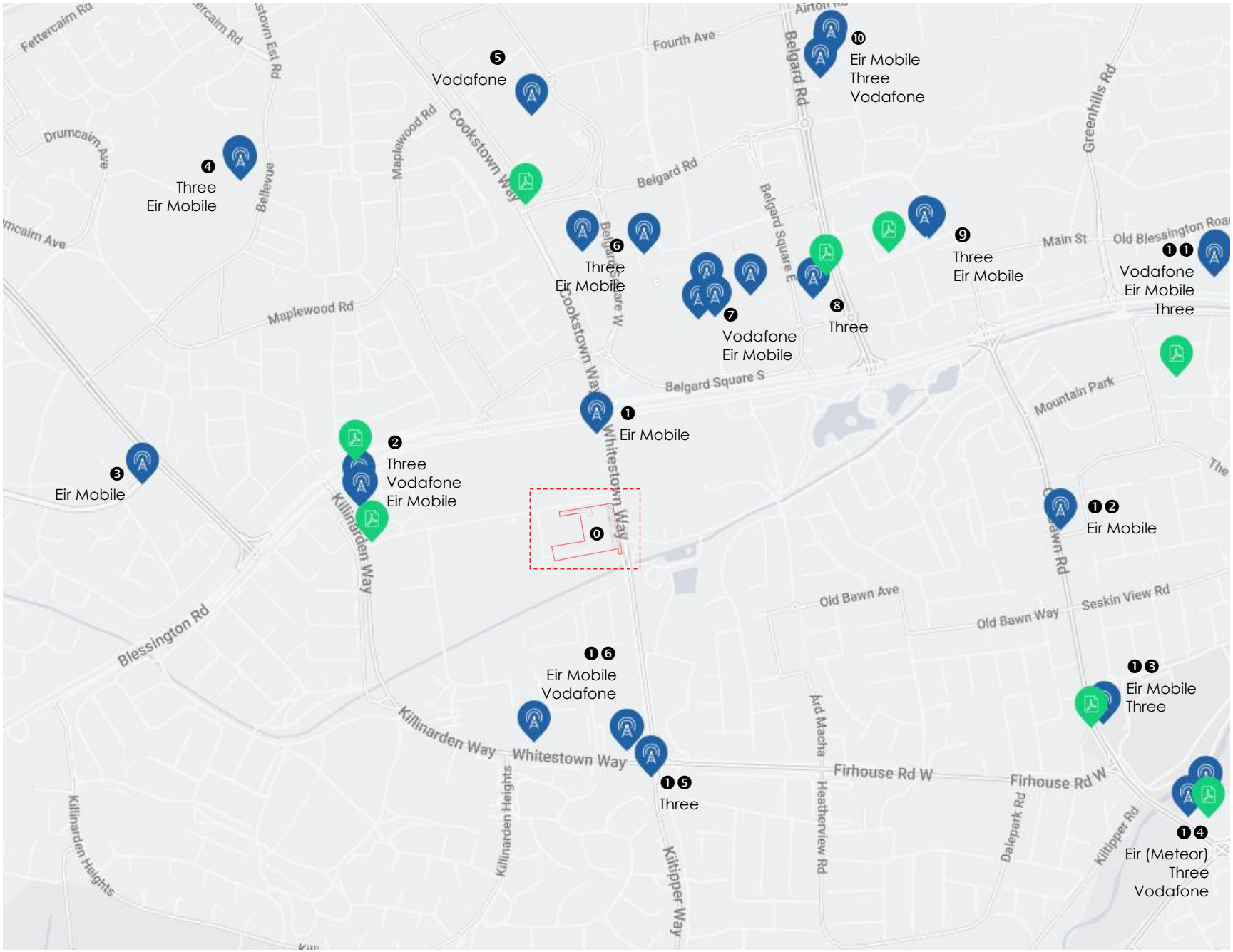
Lastly, please note that telecommunication networks are always evolving, and as such, these findings remain subject to change.

APPENDICES

Figure 5

Area Telecommunication Analysis

Source: Comreg



Note
All Dimensions to be checked on site
No Dimensions to be scaled from this Drawing
This drawing to be read with relevant Consultant Drawings

0 Proposed Development
1 Maldron Hotel
2 Killinarden ESB
3 Eir Street Furniture
4 St Marks GAA
5 Tallaght Hospital
6 Cross West
7 The Square
8 Tallaght Garda
9 St John's House
10 Eir Exchange Belgard Rd
11 Lidl HQ
12 Eir Street Furniture
13 Old Bawn ESB
14 Old Bawn S.C.
15 Three Street Furniture
16 South City Business Pk

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Client
ARP 4.2 Sustainable Communities (Ireland) Fund

Project
Whitestown Way

Option	1
Report Date	21/04/2026
File Name	Whitestown Way

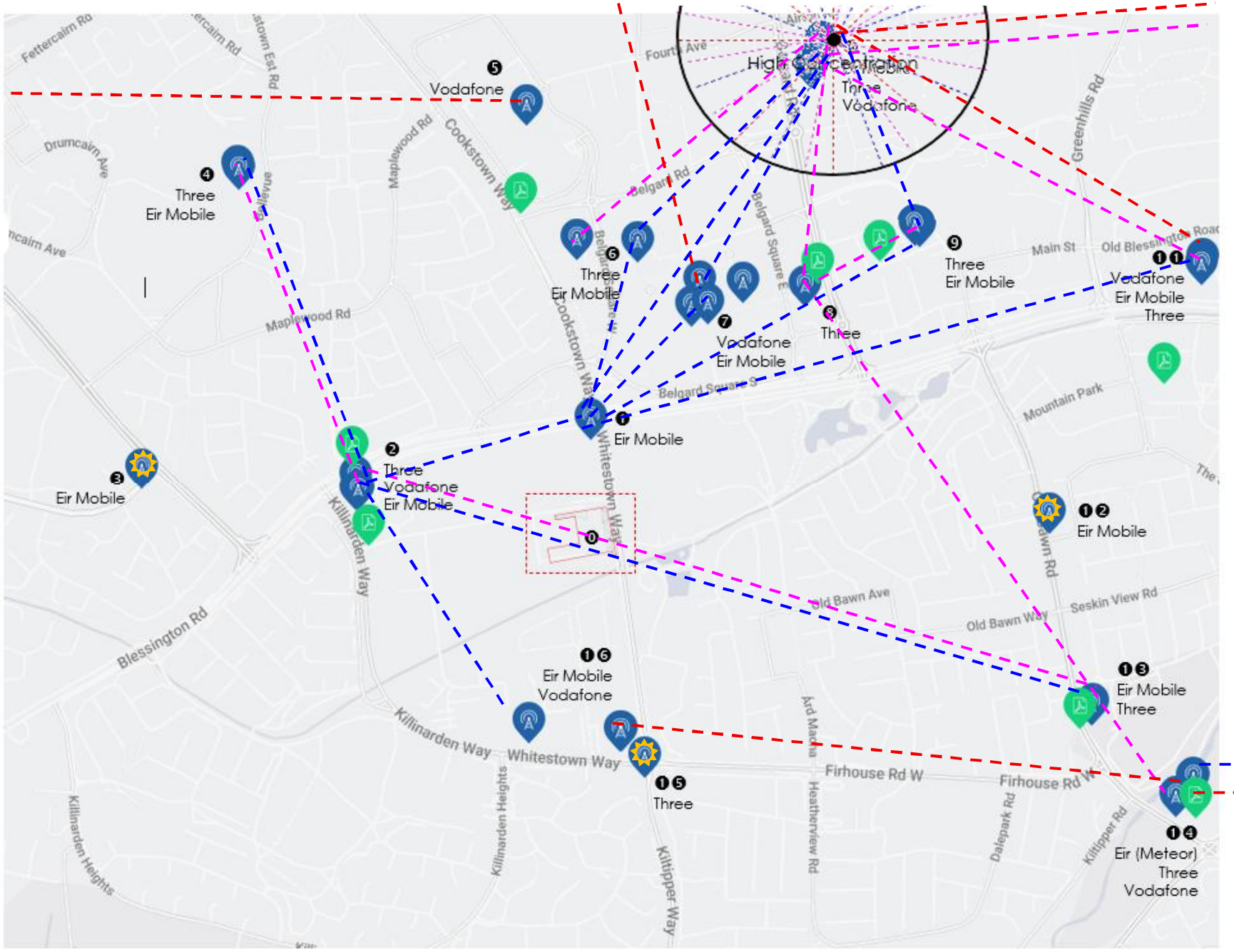
Drawing:
Area Site Analysis

Building	Drawing No.	Zone	Rev
SPN	D 2126		1

Figure 6

Microwave Link Analysis

Source: Comreg ISM Vodafone Three & Eir Mobile



Note
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This drawing to be read with relevant Consultant Drawings

Three Transmission Link
Vodafone Trans. Link
Eir Transmission Link
Fibre Transmission Link

High Concentration of telecommunication channels, in particular Microwave links. If noted as a High Concentration site means the site bears more than 6 dishes.

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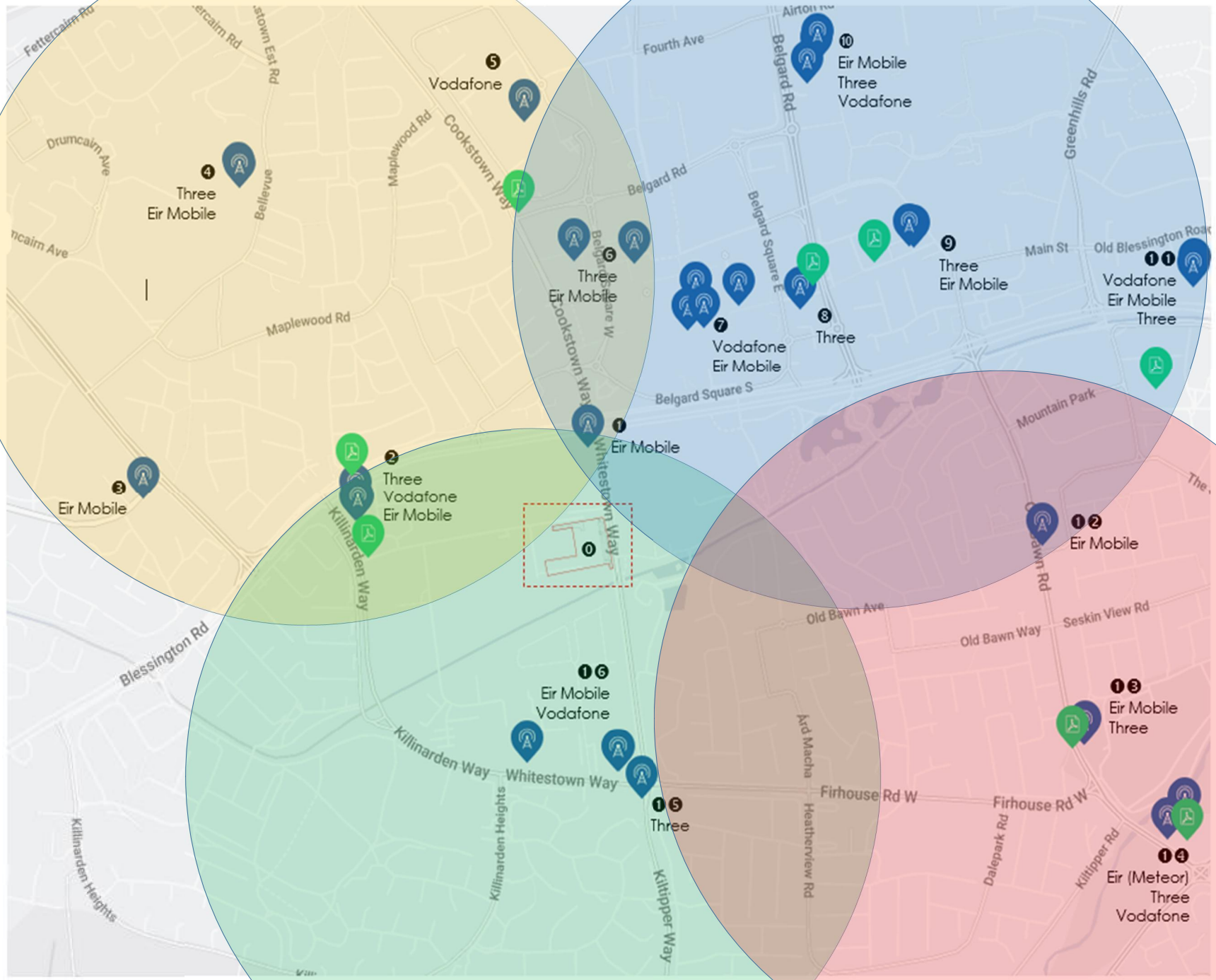
Drawing:
Link Analysis

Building	Drawing No.	Zone	Rev
SPN	D 2126		1

Figure 7

Drive Test Data

Source: Comreg, ISM



Note
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- Multiple Cell IDs
- ❶ Maldron Hotel
- ❻ Cross West
- ❼ The Square
- ❽ Tallaght Garda
- ❾ St John's House
- ❿ Eir Exchange Belgard Rd
- ❶❶ Lidl HQ
- ❶❷ Eir Street Furniture
- Multiple Cell IDs
- ❶ Maldron Hotel
- ❷ Killinarden ESB
- ❸ Eir Street Furniture
- ❹ St Marks GAA
- ❺ Tallaght Hospital
- ❻ Cross West
- Multiple Cell IDs
- ❶❺ Three Street Furniture
- ❶❻ South City Business Pk
- Multiple Cell IDs
- ❶❷ Eir Street Furniture
- ❶❸ Old Bawn ESB
- ❶❹ Old Bawn S.C.

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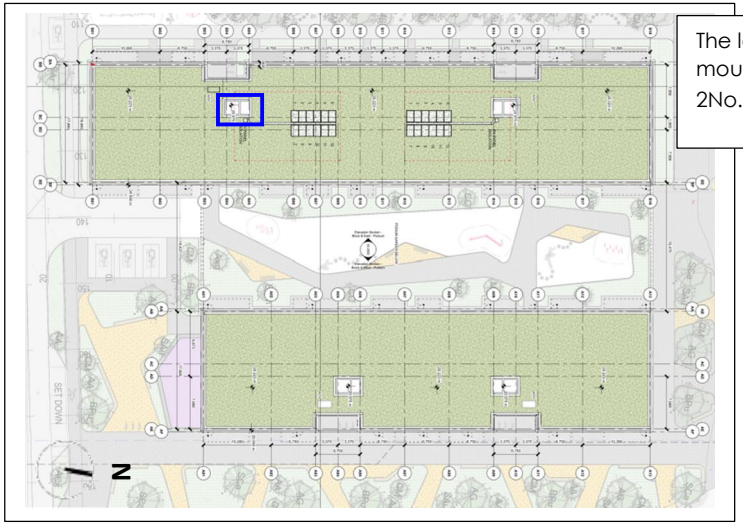
Drawing:
Cell Identification Analysis

Building	Drawing No.	Zone	Rev
SPN	D 2126		1

Figure 8

Mitigation Measure Design

Source: Comreg ISM



The location within the Roof Plan to mount 3No. steel support poles to hold 2No. Ø.3m dishes ea. **Location**

East Elevation

6No. Ø.3m Microwave link dishes mounted on 3No. steel support poles affixed to Lift Shaft Overrun

Note
All Dimensions to be checked on site
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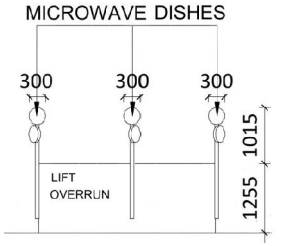
This drawing to be read with relevant Consultant Drawings

Typical Installation



Location of Steel support Poles

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