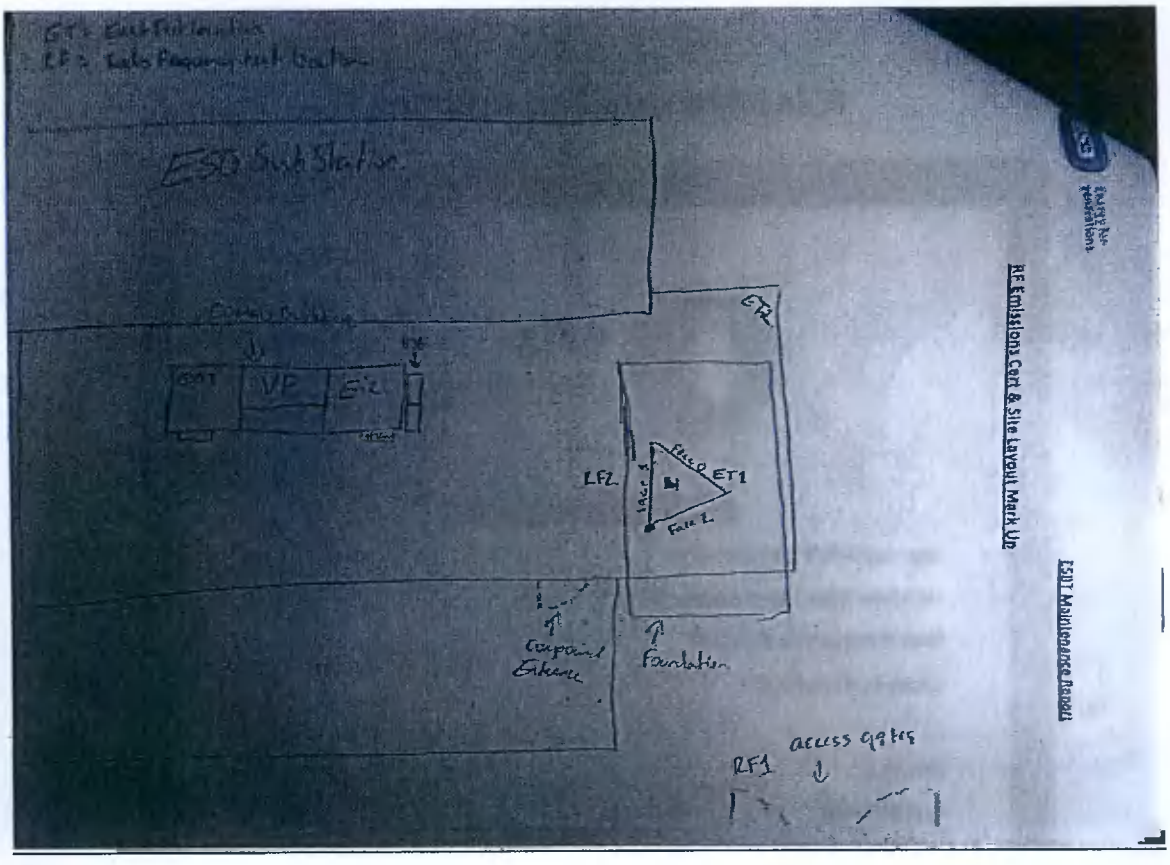
Site Layout Mark Up



13. RF Emissions Test

- Test Certificate c/w ESBT as-built mark up of test location
- Photographs

RF Emissions Cert & Site Layout Mark Up

GRA Networks

RF Emission Test

Site: Clondalkin 38Kv Radio Site

Structure Type: 25m 3 sided lattice

Date of Inspection: 21/10/19

Engineer: Robert Reid

Test No.1

Average Levels: 1.485 V/M

Location: Main Site Entrance

Test No. 2:

Average Levels: 0.876 V/M

Location: Compound

Signed on behalf of GRA Networks

Signature: _____ Position: PICW Rigger

Print Name: Robert Reid

ESB Telecoms RF Emission Test

KTL

Client: ESB Telecoms Ltd.

Site Name: Clondalkin 38kV

Site Address Ninth Lock Rd, Clondalkin,

Co Dublin

Test Date: 18/08/2017

Tested by: Ollie Qualter

Test Details: Provide an RF Reading over an average 6 minutes per test

Test No. 1 Entrance Gate

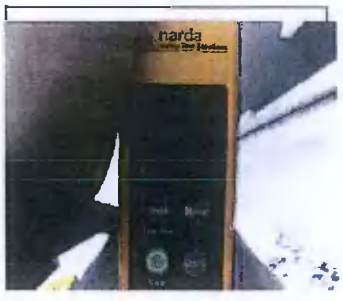
Average levels: 0.0061 W/M2

1.512 V/m

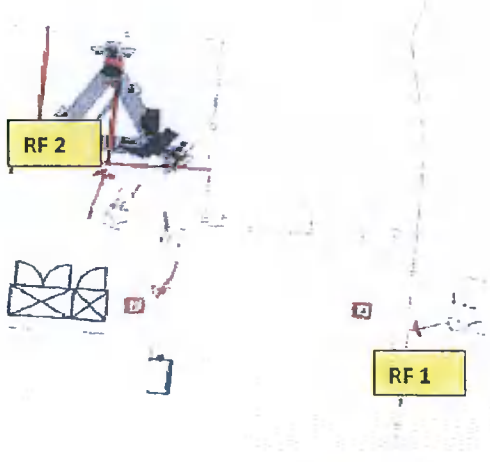
Test No. 2 Base of the structure

Average levels: 0.0031 W/M2

1.071 V/m



Area of Testing



SLANEY COMMUNICATIONS LTD T/A
COMSOL
7 Slaney Court, Rathcoffey Road, Maas, Co. Kildare Tel: 045 876 582 Fax: 045 881 943 Email: mclarb3@eircom.net

RF READING

CLIENT: **ESB Telecoms Ltd.**

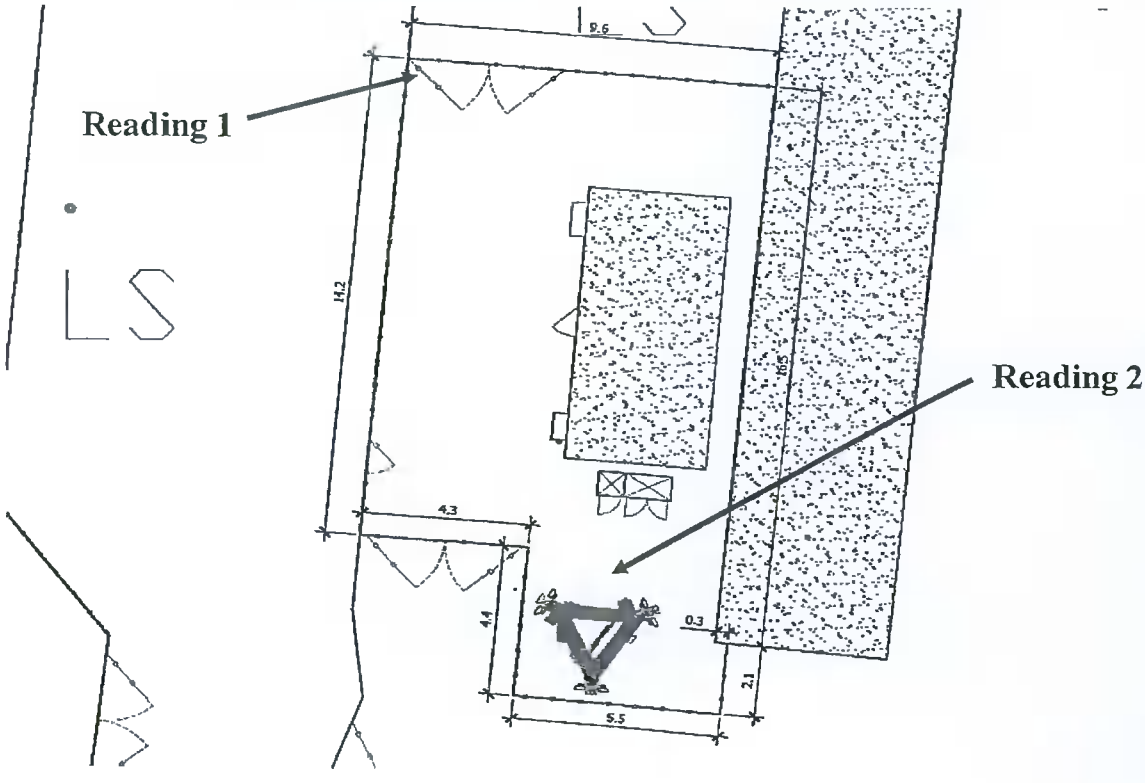
SITE LOCATION: Clondalkin 38kV

TEST DETAILS: Provide an RF Reading over an average 6 minutes per test.

TEST METER: Narda Broadband Field Meter (NBM-50)

RESULT OF READING POINT 1:	RESULT OF READING POINT 2:
Main ESB entrance from public road	ESB Telecoms structure
W/m2 0.0021	**W/m2 0.0018**

TESTER: **Michael Lamont – 18th August 2015**



Obelisk NETWORKS

Emission Tests

RF Emission Test 1 (Entrance)

RF Emission Test 2 (Structure)

ESB Telecoms

Obelisk NETWORKS

RF Emission Test

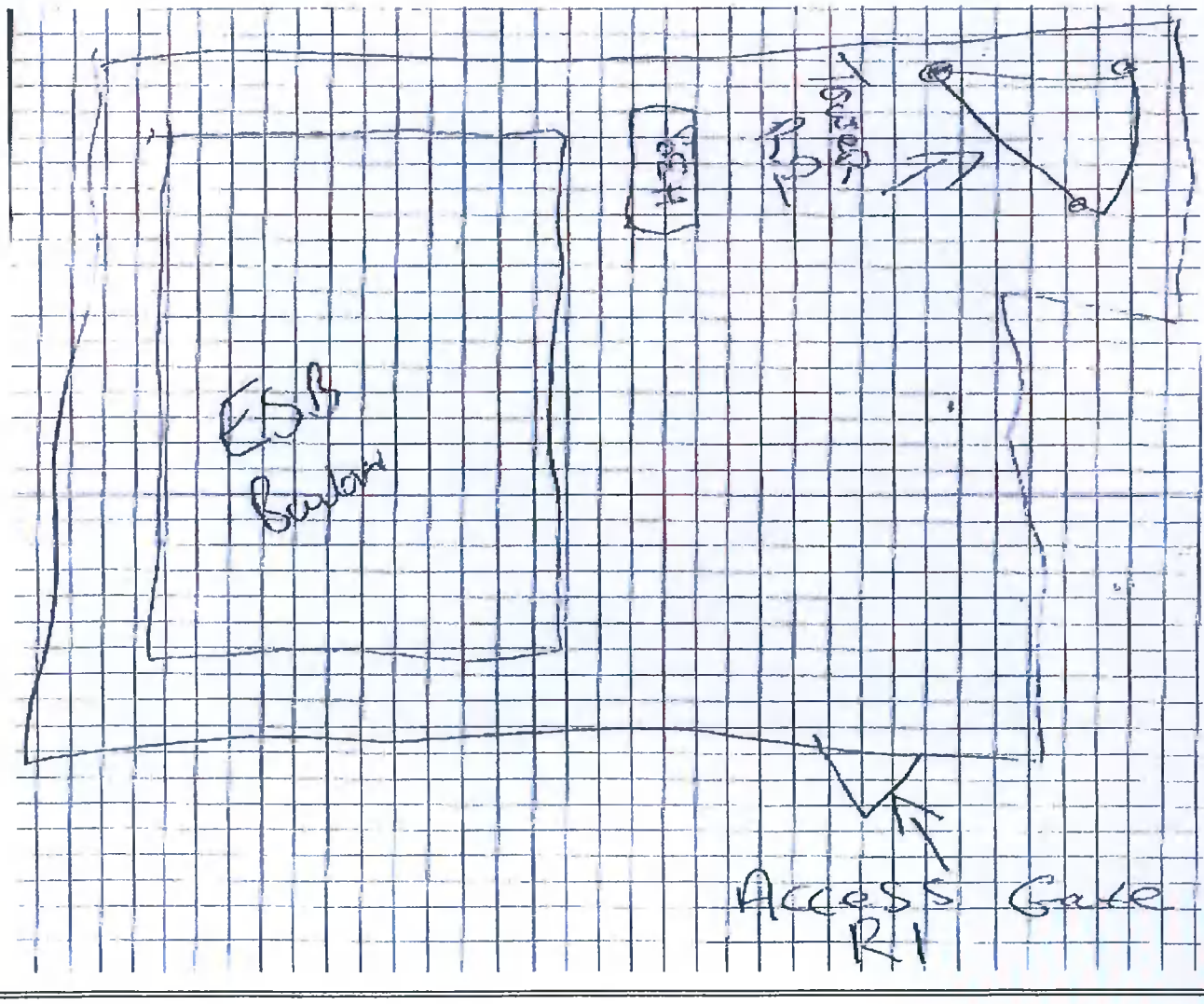
Site Name: Clondalkin 38kV

Test Date: 20-May-14 **Time:** 10:30

Tested By: Austin Smith

Test No. 1	**Location**	**Main Site Entrance**	
Average Levels	1.2000	**µW/cm²**	
Test No. 2	**Location**	**Compound**	
Average Levels	0.2000	**µW/cm²**	

Sketch



The report draws together existing scientific research in the field of Non-Ionising Radiation and compiles an informed report of the most up to date information available. The evidence contained within the report finds that "no adverse short or long term health effects have been shown to occur from exposure to the signals produced by mobile phones and base station transmitters." (Chapter 3, Question 1).

In terms of exposure to radiofrequencies from base stations, it is explained that the strength of the frequency is greatest at the source and demises quickly with distance. At or near ground level, in the vicinity of an average 25 metre high base station the level of radiofrequency exposure is much lower than that emitted from the mobile phone. (Chapter 4)

With respect to the general location of mobile base stations and in particular their location near places where children gather, the findings of the Steward Report and the precautionary principle are examined. In responding to this, the report finds that there is no data available to suggest that the use of mobile phones or exposure to mobile base stations has adverse health effects for children or adult, irrespective of the location of the phone mast. The report makes it clear that at the current time there is no evidence of adverse health effects, and states;

> "the exposure (levels) are so low as to make it immaterial where masts are located with respect to schools, playgrounds, health centres or other places where children gather"
>
> (Chapter 3, Question 4)

RADIO FREQUENCY EMISSION TEST RESULTS FOR ESBT'S SITE AT ESB'S CLONDALKIN 38KV SUBSTATION, NINTH LOCK ROAD, CLONDALKIN, DUBLIN

The Radio Frequency Emission Test Details for ESB Telecoms Site at ESB's Clondalkin 38kV Substation, Ninth Lock Road, Clondalkin, Dublin in May 2014, August 2015, August 2017, October 2019 and March 2021. The results shown on the following pages confirm that tests show that emissions were within prescribed parameters.

Appendix 2

Health and Safety

Introduction

With many developments of this nature, there may concerns from local residents about the perceived implications of the proposed development, primarily in relation to the adverse health effects of the installation. ESB regards the protection of the health, safety and welfare of its staff and the general public as a core company value in all its activities. It is ESB Telecoms Ltd policy to continually review and update standards in light of new developments and research findings.

International Guidelines

The International Commission for Non-Ionising Radiation Protection (ICNIRP) is an independent, scientific organisation which was established in 1992. It purpose is to advance Non-Ionising Radiation Protection for the benefit of people and the environment and in particular to provide guidance and recommendation on protection from Non-Ionising Radiation exposure.

ICNIRP is formally recognised as a non-governmental organisation and operates in co-operation with the Environmental Health Division of the World Health Organisation and the United Nations Environment Programme. In 1998 ICNIRP published "Guidelines for Limiting Exposure to Time-Varying Electric, Magnetic and Electromagnetic Fields", the main purpose of these guidelines is to limit electromagnetic field exposure in order to protect against unknown adverse health effects.

The ICNIRP guidelines limits have been adopted by a great many Countries across the world. In Ireland the Communication Regulator has adopted the 1998 guidelines outlined by ICNIRP.

Communications Regulator, Ireland

The Commission for Communications Regulation (ComReg) is the licensing authority for the use of the radio frequency in Ireland. As the licensing authority for radio communications in Ireland, ComReg is responsible for ensuring that communication operators comply with their licence condition relating to non-ionising radiation. In 2001 ComReg began the process of randomly testing communications site to ensure compliance with the adopted ICNIRP and ComReg Standards.

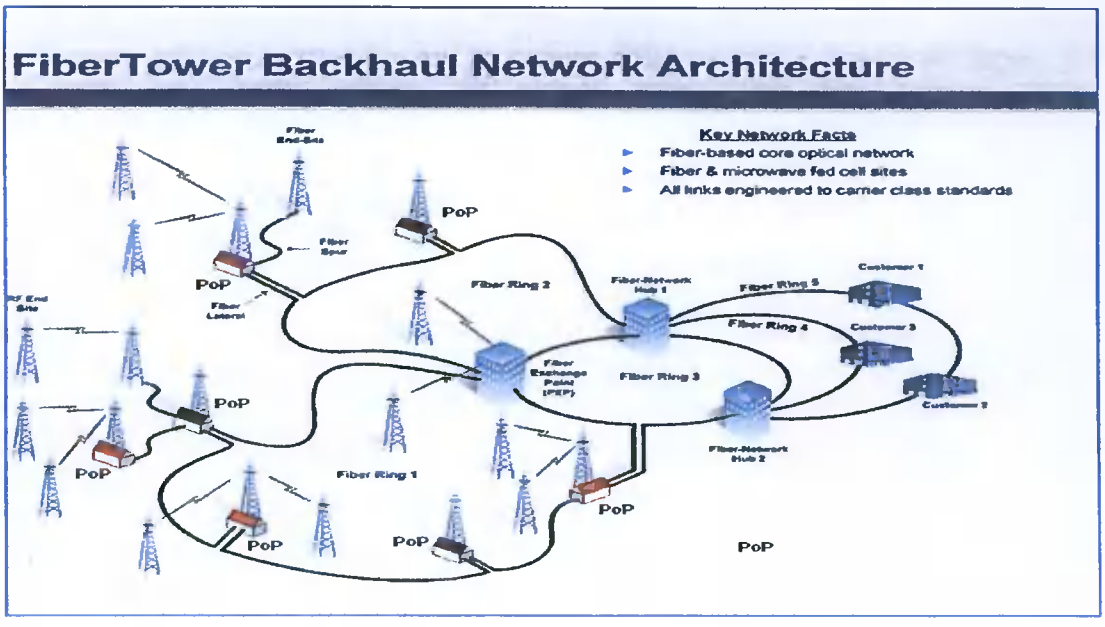
ComReg have continued its programme of randomly surveying site to establish the highest emission level associated with each site, including a number of sites by ESB Telecoms Ltd. The emission levels from all sites fall significantly below the ICNIRP general exposure levels. ComReg has to continued surveying sites through 2020.

Independent Research

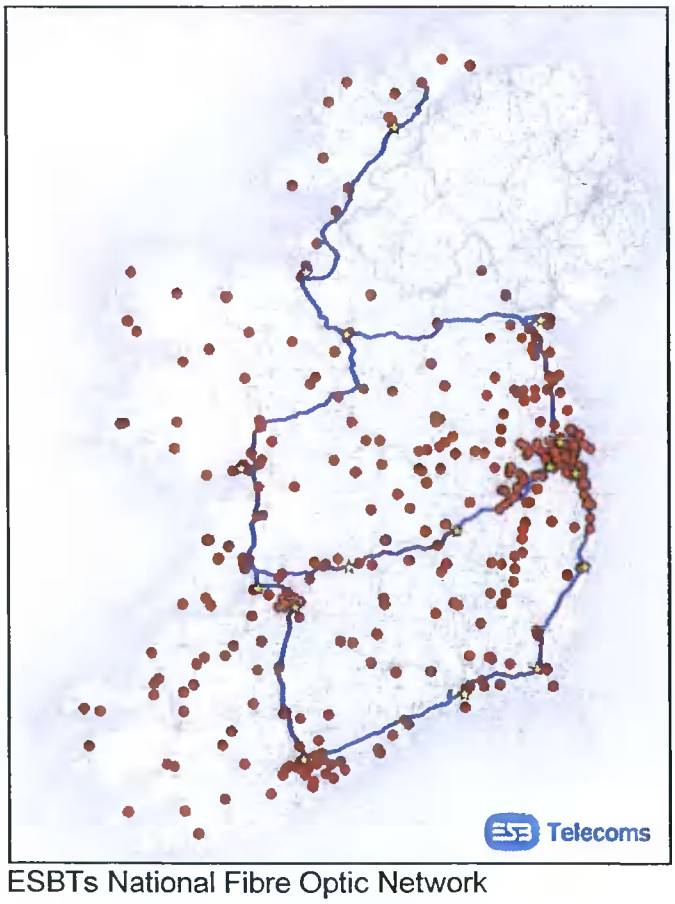
The Department of Communications Marine and Natural Resources established a group of experts to examine the issue of the "Health Effects of Electromagnetic Fields". The results of this research were published in March 2007.

3. HOW THE SITE WILL FITS INTO ESB TELECOMS LIMITED PORTFOLIO OF SITES

ESB Telecoms are a provider of telecommunications infrastructure to all market players in the telecommunications industry. We seek to build telecoms infrastructure where and when it is required by responding to market demand. In this instant application, ESBT would like to continue to operate from its compound within the ESB Clondalkin 38kV Substation by replacing the existing 25m high telecommunications lattice structure with a new 20m monopole capable of serving two mobile and broadband operators from this site. The Eir and Vodaphone. The need for the site will is explained further in the Planning Statement while **Appendix 3** of the Statement provides a technical justification for the site including existing coverage plots from the existing 25m high lattice, the change in coverage that would be achieved from the 20m high monopole and the loss of coverage and services to the residents, businesses and visitors to Clondalkin if the site itself were to be refused planning permission and was decommissioned.



The extent of NTFON is illustrated on the diagram below with the route of the NTFON shown as a 'blue' line. The 'red dots are towers. The proposed development would potentially enable mobile and broadband customers in the Clondalkin area to avail of the existing fibre network that currently broadly runs along overhead wires along the route of the Cand Canal to the north of the site, providing the opportunity to deliver an attractive bandwidth and high speed broadband penetration into the area to the benefit of the local community and businesses.



ESBTs National Fibre Optic Network

The frequency used by the UTMS system is 2100MHz. The two frequencies used by the GSM system are 1800 MHz and 900MHz. The higher the frequency of a radio system the shorter the distance it will propagate. As a rule of thumb an 1800MHz signal will only propagate half the distance of a 900MHz signal.

Cell sizes are also determined by the surrounding terrain and surrounding obstructions – for example the size of nearby buildings that might come between the subscriber and the cell site. Approximate typical cell radii for 4G networks would be:

- 150m to 250m for cells in urban areas
- 700m to 1000m for cells in suburban areas
- 2km to 5km for cells located in rural areas

As the radio frequencies of mobile cells increase to allow for increase download and upload speeds, the cell sizes tend to decrease in size, requiring additional sites. Furthermore, cells will shrink in size during busy periods when there are a lot of users on the system as the base stations can manage a limited amount of data at a given point in time. Allowance must be made for this so that coverage gaps do not appear during these busy times.

ESB Telecoms Limited

ESB Telecoms Ltd was established in early 2001 as a subsidiary company to ESB, Ireland's premier electricity supplier. Since that time ESB Telecoms has been a leading independent telecommunications infrastructure provider, delivering high quality, turnkey communication network solutions to all potential co-location customers at market rates.

ESB Telecoms Ltd now provides network solutions for a wide variety of network operators, wireless broadband providers, as well as transferring data for the ESB Supervisory Control and Data Acquisition (SCADA) system. In recent years we have grown a substantial external customer base, supporting a wide range of private and public sector business activities. ESB Telecoms built and owns a 1,300 kilometre National Fibre Optic Network (NTFON). The NTFON is constructed in a 'Figure of Eight' around Ireland and also includes a spur from Carrick-on-Shannon to Buncrana, now connected back to Dublin via BT (NI). The NTFON is used to provide fibre connections to ESB Telecoms tower portfolio, which in turn supports high capacity bandwidth connections to our radio tower customers. Our customers, who are the major mobile operators such as H3G, Vodaphone and Eir, along with smaller broadband operators such as Imagine require these high bandwidth connections to provide services such as internet access/voice and data services. Thus, enabling high speed data connections to urban and remote locations that may otherwise have been overlooked.

It is ESB Telecoms Ltd policy to design and construct our communication structures to the highest international standards. All sites developed by ESB Telecoms are made available to our customer base as points for co-location. Customers provide mobile broadband and wireless broadband coverage from these ESBT sites, using existing networks and future telegraphy technologies.

The diagram below illustrates the concept – fibre is used to connect to towers close to the fibre network, the towers also support microwave radio links to other sites.

APPENDIX 1

NETWORK DESIGN AND ESB TELECOMS LTD

1.0 INTRODUCTION

In the seventy years that followed Alexander Graham Bell's invention of the telephone half a billion fixed telephone lines were installed world-wide. Impressive as that statistic is it is dwarfed by the uptake of mobile phone technology, of one billion in use within ten years of its introduction and around two billion at present.

Ten years ago there were fewer than 400,000 mobile phones in use in Ireland, today the number of mobile phones in use stands over 5 million.

1.1 BACKGROUND TO MOBILE TECHNOLOGY

GSM mobile networks are also known as 2G or Second Generation networks. GSM is known as 2G because it was designed as a replacement for the earlier first generation analogue networks (for example the 088 network). The roll out of GSM in Ireland began around 1995 and a network was built by Vodafone, O2 and Meteor. GSM was primarily designed to carry voice calls with some very low speed data application such as fax transmission.

In recent years some developments were made to GSM to allow slightly faster data transmission. This is known as 2.5G and was a stepping stone to the launch of 3G networks. An example of an application enabled by 2.5G is picture messaging, which the new camera phones use.

The Universal Mobile Telephone System (UMTS) is also known as 3G. 3G is a broadband development of wireless networks. Its purpose is to allow a high speed connection between the network and a subscriber who is on the move. In addition to voice calls, some of the services that can be provided for over a 3G network include:

- Video calling- where the people communicating can see each other
- High speed internet access
- Video Messaging
- Streamed video and audio clips
- Location based services

3G technology was replaced over the course of 2013/14 with 4G technology, which allowed speeds fast enough to allow full internet connectivity on smartphones. At this point mobile networks are looking to upgrade their technology once more to allow for faster connection speeds and uploading speeds.

1.2 DIFFERENCE IN NETWORK DESIGN

3G and 4G networks are intended to provide different services, as a result of this, the constraints when placing the base stations are different. The main differences are described below.

Energy for generations

ESBT Maintenance Report

21/10/19

RF Emissions Reading No.1 Photograph
Compound Entrance

RF Emissions Reading No.2 Photograph
Tower

Telecoms

Obelisk

RF Emission Test

Site Name: ESB-187 ~ Clondalkin 38kV Clondalkin 38kV

Test Date and Time: 04/03/2021, 20:09:32

Tested By: Austin Smith

Test No. 1		**Location**	**Main Site Entrance**
Average Levels	**0.00**	**µW/cm2**	
Test No. 2		**Location**	**Compound**
Average Levels	**0.00**	**µW/cm2**	

Sketch:

10. RF Emissions Test

- Photographs
- Test Certificate c/w ESBT as-built mark up of test location

RF Emissions Cert & Site Layout Mark Up

RF Emissions Reading No.1 Photograph

RF Emissions Reading No.2 Photograph

APPENDIX 3

TECHNICAL JUSTIFICATION

Introduction

The lattice structure that has been on site (Site Ref DN_1242) since the late 1990s has provided an important point of co-location where a number of mobile and broadband operators have been able to use as base station in order to provide telecommunication services into this part of Clondalkin.

There are currently 2 operators located on site, Eir and Vodafone. Both operators are aware of the planning history pertaining to the site, particularly the previous applications that have been limited to temporary permissions, and also the most recent refusal of permission for the continued use of the site. Both operators are anxious to continue to have a presence at this site given the difficulties in securing alternative location in the area from which an appropriate level of mobile and broadband services can be secured to their customers including businesses, residents and visitors to Clondalkin.

Both Eir and Vodafone have issued statements in support of the current application. These along with supporting coverage maps are detailed below as follows:

Eir

Eir have stated that 'as part of Eir Ltd licensing requirements and the continuing rollout of their 3G and 4G networks they require a site in Clondalkin. '

Eir add that 'Without a site in this part of Clondalkin, parts of this area will suffer a severe degradation in mobile voice and data services which leads to poor mobile coverage and as a result there would be a large number of dropped / blocked calls and poor data sessions which will also possibly limit people's ability to work from home on the Eir network in this area if we are unable to maintain and upgrade Eir's coverage in the area.'

Areas which will be degraded by the loss of this site will include but not limited to a large stretch of the 9th Lock Road, The Mill Centre , Old Nangor Road , Thornfield Square ,Castle Drive ,Castle Grove and Clondalkin Main Street.

In support Eir have provided the following three coverage plots showing different indoor coverage levels from the site. Note there is no difference between the 'red and the 'blue ' colouring in terms of coverage levels, in so far as both colours represent good coverage levels. Image 1 first from DN_1242: Existing Coverage, shows the good level of indoor coverage currently provided from the lattice; Image 2 The second coverage map shows area of Lost Coverage i.e. isolating the blue area of good coverage that would be lost if the site were to be removed. Image 3 The third coverage map shows the Proposed Coverage is the mast were lost (i.e. more grey areas, a 'hole' in coverage with blue areas remaining being remaining areas of good coverage gained from other sites). The last coverage map clearly shows the amount of indoor coverage lost were the mast to be decommissioned.

Vodafone

Vodafone have indicated that id requested they' will move from the present 25m lattice tower to the new proposed 20m monopole' at the Substation adding that 'if we had to exit this site, we would lose mobile coverage in the Clondalkin area as we have no available site

replacement options.' Vodafone also state that they 'wish to retain a presence on this site even at a reduced height. At a lower level we will be able to provide at least a contiguous service albeit at a lower power receive level'.

In order to emphasise the above Vodaphone have supplied three coverage plots as follows:

The first plot Image 4 shows the present 3g coverage in the Clondalkin area, while the second plot Image 5 shows 3g coverage after the loss of the tower at the Clondalkin 38kV station.

The colour coding red is good coverage and yellow is a low-level coverage. When Clondalkin is removed the yellow level becomes the dominant level in the area.

With the reduced height option, the third plot Image 6, the coverage level drops but not to the extent which occurs with the full removal of the site.

Conclusions

The radio frequency coverage plotting showing indoor coverage levels clearly shows the importance of the Site for both the current operators. In particular the coverage maps show the extent to which the site provides levels of good coverage to the important part of Clondalkin, and the 'hole' in coverage levels if the Site were lost.

In addition, the Site also accommodates a number of radio dishes which facilitate point to point line of site for radio dishes to function by enabling the towers to interconnect with other base stations. This proposed reduction in height to 20m is a minimum for these point to point connections to be made. The importance of securing point to point connections is emphasised by the fact that the dishes proposed would be sited above any antennae, even though having the antennae at a lower height would result in a poorer area of coverage.


IMAGE 1
Ele: DN_1242_01
Existing
Coverage
DN_3679_02
DN_1237_07
DN_1242_01
DN_3890_01
DN_3328_02
DN_3339_02
DN_1286_01
Dundalk
200
400m


IMAGE 2
EIR: DN_1242_01
Lost Coverage
(shown in blue
Site was lost)
DN_3679_02
DN_1237_07
DN_1242_01
DN_3890_01
DN_3328_02
Clondalkin
DN_3339_02
DN_1286_01
200
400m

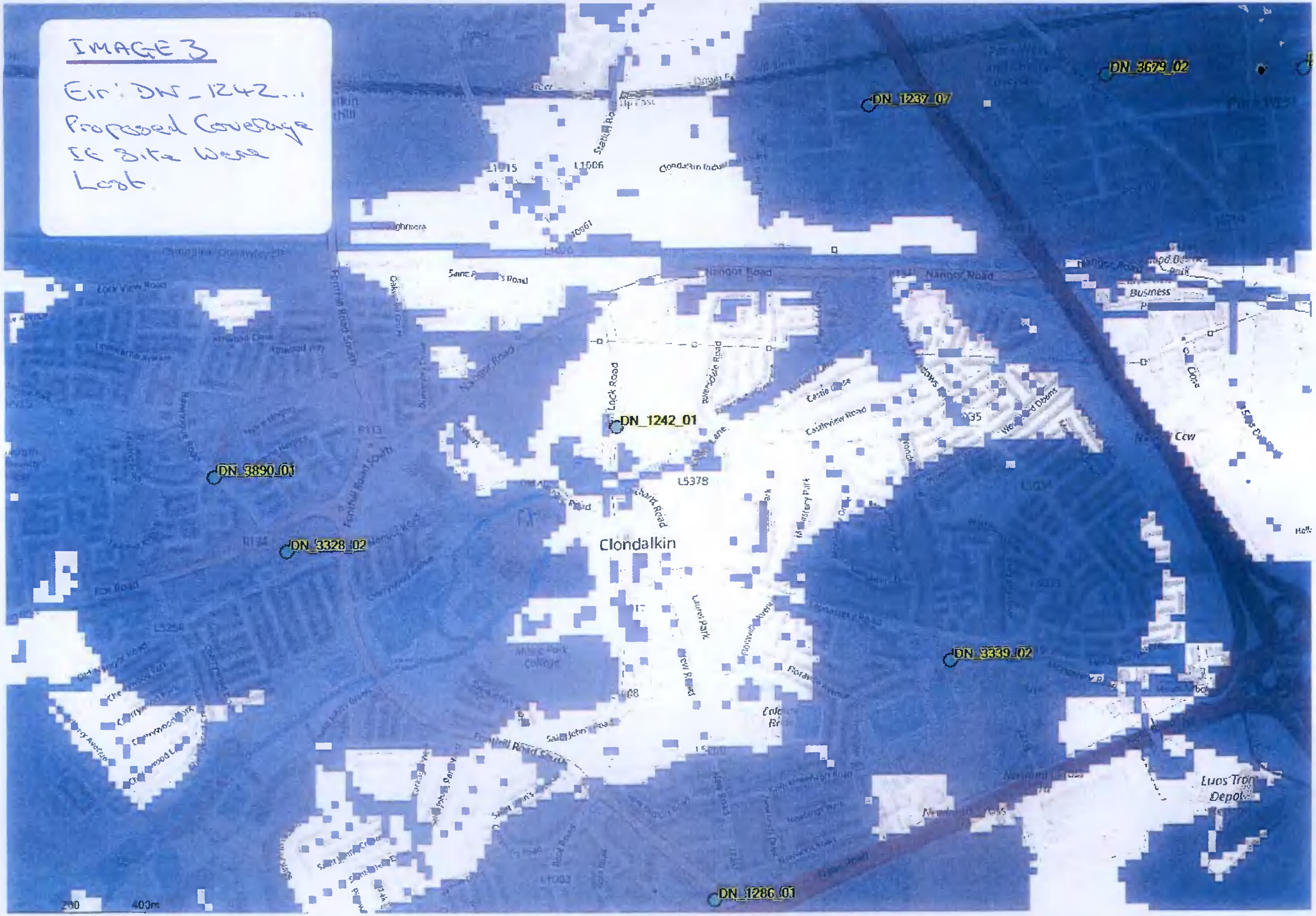


IMAGE 3
Eir: DN_1242...
Proposed Coverage
If Site Were
Lost
DN_3679_02
DN_1237_07
DN_1242_01
DN_3890_01
DN_3328_02
DN_3339_02
DN_1286_01
Clondalkin
Nangor Road
Lock Road
L5378
Business
200
400m

IMAGE 4

Vodafone 'As Is'

3G Coverage Prediction (As Is)

C1 General

IMAGE 5 Vodafone If DN396 is Lost

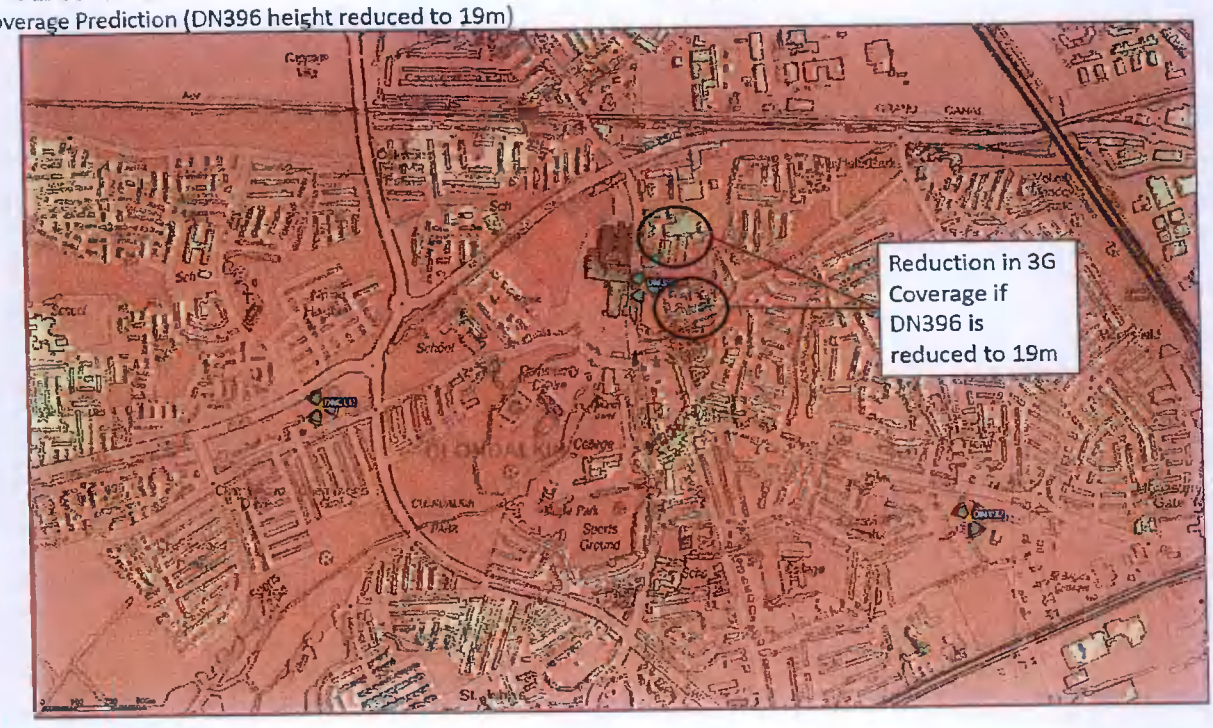
3G Coverage Prediction (DN396 dead)

C1 General

IMAGE 6

Vodafone Predicted Coverage at 19m

3G Coverage Prediction (DN396 height reduced to 19m)



CLGeneral

APPENDIX 4

ALTERNATIVE SITES AND DESIGNS

Introduction

The purpose of this Appendix is to provide further details of the alternative sites and designs that were investigated in the process of compiling this application. Ultimately on conclusion of this part of the process has led to choosing the proposed monopole design on the site of the existing 25m high lattice tower.

Alternative Sites

In light of the zoning of the existing communication structure ESB Telecoms (ESBT) investigated eight possible alternatives sites within the immediate area. Due to coverage requirements an alternative site is required within the immediate vicinity of the structure to maintain the existing level of communication service.

Alternative site 1: The Mill Shopping Centre

On 25th March 2016 Independent contractor KTL were commissioned by ESBT to carry out a line of sight survey at The Mill Shopping Centre which lies opposite the subject site. The proposed location is at ING Eastings 306795, Northings 231614 (ITM Eastings 706722, Northings 731640) with proposed structure heights of 20 metres and 30 metres. Both heights are suitable but at 20 metres surrounding vegetation would need to be monitored . The proposed site is located to the rear of the Mill Shopping Centre, 0.2 kilometres west of the existing ESBT site on land that is also zoned town centre. Having discussed the proposal with South Dublin County Council it was advised that other locations should be considered.

Alternative site 2: Corner of Nangor Road & Ninth Lock Road

Vacant development land located on the corner of Nangor Road & Ninth Lock Road was considered as a possible location for the relocation of the structure. The proposed site is located 0.3 kilometres north of the existing ESBT site and is also designated as Town Centre. BNP Paribas advised that this development land was sold to two

separate developers in 2016. The proposed relocation and structure details were submitted to the new purchasers via BNP Paribas. The new owners do not wish to pursue the proposal. The suitability of the location in terms of transmission has not been ascertained as access has not been provided to the site.

Alternative site 3: Service Station

There is a service station located 0.1 kilometres north of the ESBT site. There is a vacant portion of land fenced off to rear of the car wash area associated with the service station. The owner was contacted but is not interested in the relocation

proposal. The suitability of the location in terms of transmission has not been ascertained as the landowner does not wish to pursue the matter.

Alternative site 4: Mormon Church

The Mormon Church is located 0.3 kilometres north of the existing ESBT site. There is ample room for a corner compound in the rear carpark area. The Church considered the proposal but did not wish to pursue the relocation proposal. The suitability of the location in terms of transmission has not been ascertained as the landowner does not wish to pursue the matter.

Alternative site 5: Lidl

A Lidl supermarket is located 0.4km north east of the subject ESBT site. There is potential space within the wider car parking area to the rear of the site where relocation could be facilitated. A proposal was submitted to Lidl but they do not wish to pursue the relocation. The suitability of the location in terms of transmission has not been ascertained.


Alternative Site 5: Ltd
9.4 Kilometers

Alternative Site 6: Vacant Reserve Area

There is a vacant Council road reserve area with containing overhead lines on the southern side of Nagor Road approximatley 0.5 kilometres north east of the existing ESBT site. The site is too far from the existing basestation to meet transmission requirements.

Alternative site 7: Oakfield

Oakfield Trust industrial/retail units are situated to the rear of the ESB 38kV substation. Approximately 46 metres east of the existing structure there is a vacant area currently used as overflow car parking. Oakfield Management and SIAC were contacted with a proposal for the relocation. ESBT were advised that consent from the individual business units at Oakfield Trust would have to be obtained and due to the resultant reduction in car parking and ROW this consent was not obtained from the individual business operators. The suitability of the location in terms of transmission has not been ascertained as the landowner does not wish to pursue the matter.

Alternative site 8: Securispeed

Securispeed is location 0.3 kilometres north east of the subject ESBT compound. There is a small portion of vacant land on the Securispeed site so they were contacted with a relocation proposal. A line of sight survey was carried out by KTL on behalf of ESBT on 18 July 2016, the site was surveyed at 20metres and 30metres. Transmission requirements could not be met from this location. A clear line of sight could not be established to the Spa Hotel Lucan, a key back haul route at this location.

The alternative sites investigated by ESBT were not suitable for a variety of reasons. Several of the sites have been discounted due to the landowner not wishing to pursue

the proposal. The site investigated at The Mill Shopping Centre was found to meet the network requirements and have landowner interest, however discussions with SDCC have resulted in this location being disregarded due to development plans for the area.

Despite the extensive search carried out for the surrounding area, no alternative site has been identified to fulfil the coverage requirements for the area.

In addition to the sites investigated, ESBT is aware that there is a Garda communication base station in close proximity to the existing ESBT site. One of the commercial operators that was present on the existing ESBT mast has subsequently relocated to the Garda communication base station, however the structure now appears to be at capacity and not structurally capable of accommodating additional operators. Thus, the remaining two commercial operators could not be accommodated on the Garda base station. In any event it given the more central location of the Garda mast and its relative proximity to the historic core of Clondalkin and the Round Tower in particular it is considered that even if the Garda mast could be further utilised it is likely that a more robust mast would be required and be more visually intrusive in this sensitive location to the detriment of the area.

Alternative Designs

Given the location of the subject site within Clondalkin consideration was also given to a number of alternative designs. These are now briefly summarised as follows.

Other Lattice Designs

It is appreciated that the existing lattice structure is somewhat dated, and it may be possible to design a less bulky and visually intrusive frame. However, for the height and carrying capacity to accommodate the two operators and enable them to install an upgrade of equipment onto a new structure it is considered that any new lattice would only be marginally less intrusive than the existing structure. Furthermore, cabling can also become a prominent feature of the as it runs up the length of the lattice, which along with access ladder can add to the bulk of the lattice framework and detract from the appearance of the structure. While modest lattices can be effectively deployed in urban locations, it is considered that generally lattice type structure are best suited to more rural areas and when viewed from a distance.

Birdcage

The image below is of a 25m mini birdcage design. While the design provides quite a neat design option the reality is that it can give a bulky appearance to the head of the pole. This is particularly the case in this instance where the main antennae would be below the top of the monopole with only small dishes above to allowing for line of sight, rendering the extra structure of the birdcage and unnecessary feature at the highest point of the monopole.

Typical Birdcage Mast

Shrouded Designs

Shrouded designs can be a useful design solution in certain instances when operational requirements can allow. Typically, these solutions tend to be in circumstances where there is a single operator with limited antennae requirements and where a lower height is acceptable. In such instances a simple head shroud can work. ESBT are not averse to bespoke solution, for example the '5' lamps design at Marrowbone Lane in Dublin. However, on higher structures and where there is more than one operator the shroud solution becomes more difficult and a less attractive option particularly where numerous antennae and dishes are required, such as the case here.

In instances where a shroud could be an option it is considered that it would become somewhat top heavy and could appear particularly incongruous with the surrounding environment.

Totem Design

One solution that was investigated further was a simple totem type structure as detailed below. Again, in certain circumstances enclosing a tower structure within a plastic type membrane or high tensile material could be employed to effectively shroud the whole structure. However, such solutions in themselves can become visually intrusive and bulky in appearance given the width and shape of the elongated structure/covering. In addition, access to the internal antennae, dishes and equipment can become difficult to access for maintenance or future up grading.

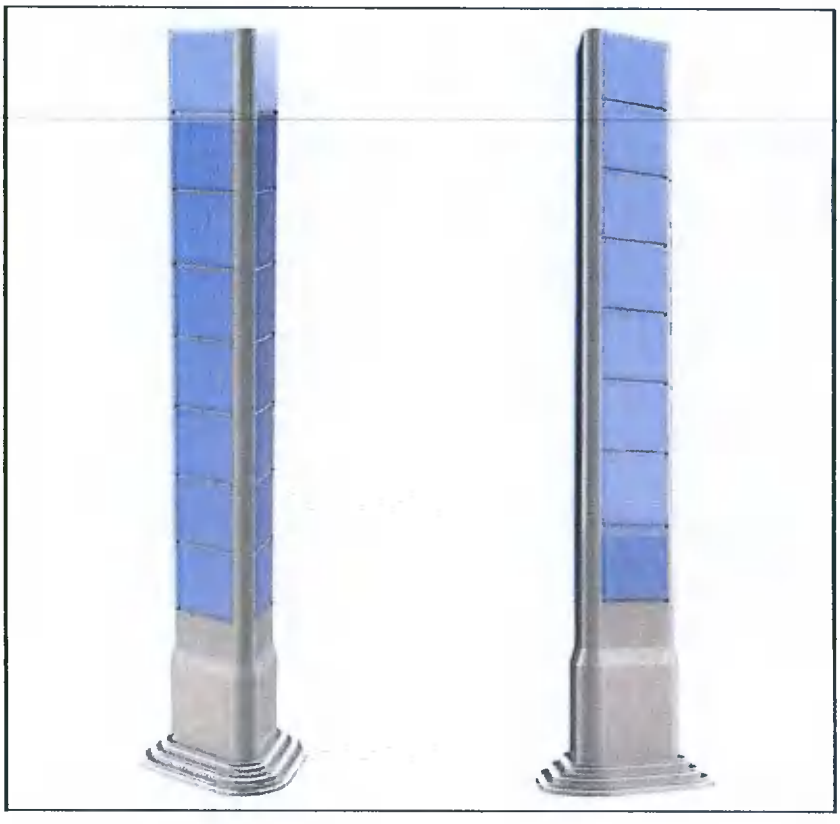


Illustration of a Simple Totem Illustration of a Simple TotemDesign

Illustration of a 25m High Totem Design at Clondalkin 38kV Substation, Ninth Lock Road, Clondalkin.

Conclusion

Having regard to the history of the application site and in particular concerns regarding its location generally within Clondalkin, the height and visual impact of the existing 25m lattice type mast a number of alternative locations and designs have been considered as part of the preparation of this application.

Firstly, a review of sites previously looked at was undertaken, as well as a further extensive walk around the area, review of recent planning applications and plans pertaining to the site. The requirements of the existing operators utilising the site was also assessed. However as demonstrated above, and elsewhere in this Statement, no alternative site has been found that would provide an equivalent level of service for the existing 2 operators located at the site to enable them to provide the same level of service to their existing and future customers.

Secondly, in addition to the above, the design of the existing lattice mast and possible alternative design solutions were also considered so see if a more suitable design solution could be found for the two remaining operators. Following this assessment, it is considered that at monopole design, with slight taper at an overall height of 20m would be the most preferable from a visual perspective while meeting the carrying requirements of the 2 operators to provide an acceptable level of service provision while allowing them to upgrade their equipment.

Viewpoint A

Looking in a southerly direction, along the L1026 Ninth Lock Road at a point immediately to the south of the Ninth Lock Road and its junction with the R132 Nangor Road.

The historic Round Tower can be seen in the centre of the photograph.

The top of the existing lattice mast is just visible above the corner of the 4 storey residential building known as Clondalkin Towers. On the south-eastern corner of this relatively modern building is a tower feature with a cone shaped roof. This cone along with the main body of the building serves to obscure views of the majority of 25m high Mast from the pedestrian footpath that runs along the eastern side of Ninth Lock Road. As one walks along the footpath heading south the mast disappears from view. On the road heading south, the Mast is in view for a short distance before it too disappears behind Clondalkin Towers and the parade of shops that line the east of Ninth Lock Road.

The Mast is a little more visible when walking south along the footpath that runs along the western edge of the Ninth Lock Road, however, were visible it largely seen to the side of the Clondalkin Towers Building.

It is considered that where the existing Mast is visible it is not in direct line of sight with the historic Round Tower, rather seen in the context of the Clondalkin Towers building. The proposed monopole, being lower in height will be even less visible, disappearing from view when heading in a southerly direction particularly when travelling along the eastern footpath and left-hand carriageway until one is much closer to the site itself.

Viewpoint B

Located further down the Ninth Lock Road the top of existing 25m Mast is visible, however is mainly obscured from view by the 4 storey Clondalkin Tower building with its 'tower' feature forming part of the buildings south western corner.

The upper section of the historic Round Tower can be seen in the distance beyond the Intreo Centre that also incorporates the Offices of South Dublin County Council Offices towards the southern end of the building.

The existing Mast is not considered to compete with or detract from the view of the historic Round Tower. The proposed monopole would be even less visible from this location, and approach into the centre of Clondalkin proper.

Viewpoint C

Heading south along the Ninth Lock Road when one gets to the entrance to the petrol filling station the existing Mast is not visible from the footpath.

The proposed monopole would not be visible from this point.

Viewpoint D

Taken from the bus stop on the western side of Ninth Lock Road, opposite the Filling Station the existing Mast is clearly visible. This is not surprising given the relative proximity to the structure. However, it is clearly evident that the Mast is set back from the Ninth Lock Road, and the established building line that is formed by the Clondalkin Towers building that dominates the view and the substantial Department of Social Protection Intreo Centre/SDCC Civic Office Building beyond the Mast, where the top of the historic Round Tower can just be seen above the roofline.

It is evident that the proposed monopole would be significantly lower than the existing Mast and of a slimmer design, albeit more solid in appearance. It is considered that the proposed monopole would not appear incongruous in this setting nor cause undue harm to the visual amenities of the street scene or wider area.

Viewpoint E

Taken from the southern exit to the filling station the existing Mast is not visible due to the proximity of the Clondalkin Towers building and the set back of the subject site from the footpath and carriageway of the Ninth Lock Road.

The top of the historic Round Tower can be seen above the roofline of the Intreo Government Building.

The proposed Monopole would not be visible from this point for the reasons given above.

Viewpoint F

Taken from the corner of south west corner of the Clondalkin Towers building at the junction of Oakfield and Ninth Lock Road the existing 25m high Mast is clearly visible.

The RoundTower is not visible, however to the right of the Mast, parallel to the structure the lattice mast at the Garda Station can be seen in the distance. The pole to the left of the Mast serves part of ESBs Scada communications network. This pole is located within the inner substation Compound, set back from Ninth Lock Road, broadly in line with the existing 25m high mast.

It is considered the proposed 20m high monopole will be less visually obtrusive than the existing Mast. At this location it is also considered that the proposed monopole will also be seen conjunction with the ESB Substation infrastructure, located to the left of the photograph (including 4 mini electricity pylons located just out of view), and as such not visually incongruous or harmful.

Viewpoint G

From a position opposite the ESB Clondalkin 38kV Substation the existing Mast is clearly visible. It is however set back from the entrance to the Substation.

It is considered that the proposed monopole, being lower and of a slimmer design will appear less intrusive against the skyline and streetscape. At ground level, set back from public footpath behind the substantial Substation outer boundary wall and railings the monopole would be seen in the context of the Substation, a long established utility site.

Viewpoint H

From a position south west of the ESB Clondalkin 38kV Substation the existing Mast is clearly visible. It is however set back from the entrance to the Substation and the established building line between Clondalkin Towers building and the Intreo Building.

It is considered that the proposed monopole, being lower and of a slimmer design will appear less intrusive against the skyline and streetscape, where the Intreo Building in the foreground and the Clondalkin Towers building are the dominant features. At ground level, set back from public footpath behind the substantial Substation outer boundary wall and railings the monopole would be seen in the context of the Substation, a long established utility site.

Viewpoint 1

From a position south west of the ESB Clondalkin 38kV Substation at the south eastern corner of The Mill Shopping Centre building the top of existing Mast is visible above the roofline of the Intreo Centre. It is however set back from the entrance to the Substation and the established building line between Clondalkin Towers building and the Intreo Building.

It is considered that the proposed monopole, being lower in height will be less visible from this location with only the very top protruding above the roofline. As such it is considered that the proposal would not be visually intrusive at street level from this section of Ninth Lock Road.

Viewpoint J

Taken from the road leading into Thornfield square and the car park associated with Steeple House offices , looking in a north westerly direction the existing 25m Mast is clearly visible.

The proposed monopole would also be visible from this location however the reduction in height and slimmer design will ensure the structure is less prominent against the skyline.

Viewpoint K

The existing mast is in the centre of the photograph taken from Thornfield Square to the rear of Steeple House, an office complex. The smaller mast in the foreground is the grounds of a dwelling.

The proposed monopole would be visible from this location, however with an overall height of 20m and exiting tree coverage it is considered that the monopole would not be harmful to the visual amenities of the area.

Viewpoint L

Taken from the vehicular entrance to Clondalkin Garda Station, looking across Orchard Road in a north westerly direction the existing 25m Mast can be barely seen above a bungalow chimney.

It is considered that from this location the proposed monopole at 20m in height would not be visible and in either direction along Orchard Road substantial tree coverage even in winter, effectively screens any views.

Viewpoint M

This view is taken from the junction of Orchard Road and the L1026 looking northwards. The paved area in front of the SDCC Offices forms part of Clondalkin Civic Plaza. From here the existing mast is not visible.

The proposed monopole would not be visible from this location or the wider Plaza area.

Viewpoint N

From the entrance to The Mill Shopping Centre looking in a northerly direction the top of the existing 25m mast is visible over the roofline of the Intreo Centre building. The photo also clearly shows the set back of the mast from the Ninth Lock Road.

The top of the proposed monopole would also be visible from this location however less so on account of the reduced height. From this location it is considered that the proposed monopole would not be unduly harmful to the visual amenities of the area.

Viewpoint O

From the foot of the historic Round Tower looking northwards along Tower Road the existing 25m Mast is not visible due to a combination of distance from the subject site and a mix of buildings and tree cover along Tower Road.

The proposed monopole at 20m in height would not be visible for the reasons given above.

Viewpoint P

Taken from the Old Nangor Road/ Tower Road junction the only the top of the existing 25m Mast is partially visible due to a combination of distance from the subject site, the SDDC office building and trees in the Civic Plaza Area.

The proposed monopole at 20m in height would be visible less due to the lower height. For most of the year the monopole the trees at the Civic Plaza would also effectively screen any view of the mast. It is therefore considered that the proposed monopole would not cause any undue harm to the visual amenities of the area.

Viewpoint Q

From outside of the McDonalds restaurant at The Mill Shopping Centre the upper portion of the existing 25m high mast can be seen above the roofline of the Centre building.

The top of proposed monopole would also be visible above the roofline however to a lesser extent due to its lower hight. It is considered the proposed monopole would not be harmful to the visual amenities of the area.

Viewpoint R

Taken from outside of the entrance to the Taxi Office the top of the existing 25m mast can be seen, in the centre of the photograph, above the roofline of The Mill Shopping Centre Building.

The top of proposed monopole would also be visible above the roofline however to a lesser extent due to its lower hight. It is considered the proposed monopole would not be harmful to the visual amenities of the area.

Viewpoint S

From across The Mill Shopping Centre Car Park the existing 25m Mast can be seen protruding above, and beyond, the roofline of Shopping Centre building.

The top of the proposed monopole would also be visible, however less so due to the reduction in height. Given the reduced height, distance of the subject site from the car park and urban environment it is considered that the proposed monopole would not visually incongruous or cause harm to the visual amenities of the area.

Viewpoint T

This photo is taken from the main entranc to Clondalkin Building Providers premises at Oakfield looking south west towards the subject site.

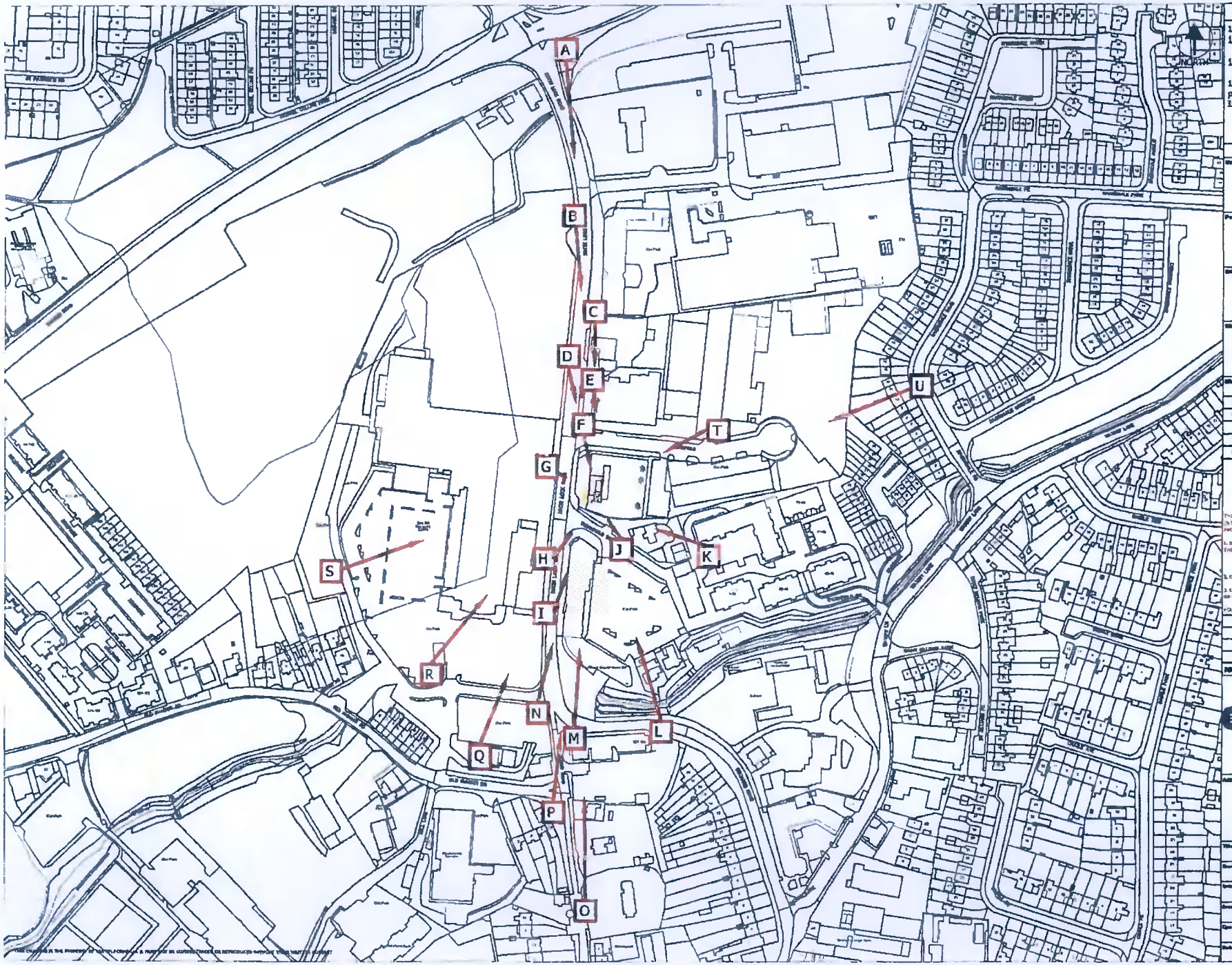
The existing Mast is clearly visible to the rear of 4 mini electricity pylons located within the ESB 38kV Substation site. The Mill Shopping Centre building can be seen in the background. Landscaping exists to the rear of the substation and trees along the entrance to Oakfield providing some screening to the Substation itself as well as contributing to softening of the general appearance of the area. The Building Providers, associated yard and small business units characterise the area, and notwithstanding the Clondalkin Towers residential development (just out of shot to the right of the photograph the Oakfield cul-de-sac) provides a light industrial/commercial feel to this mixed use area.

The proposed monopole with an overall height of 20m would be visible from this location however a combination of this height and design would significantly reduce the visual impact and in any event the proposed monopole would not appear visually incongruous from this Viewpoint.

Viewpoint U

Looking south westwards between Nos. 10 & 11 Riverdale Road the existing mast is visible between the houses. However, any views between houses along the western side of Riverdale Road will similarly be fleeting. Elsewhere in Riverdale the existing mast is not visible.

The reduced height of the proposed monopole structure will further lessen any views, particularly when seen from the upper rear windows of dwellings fronting onto the western sided of Riverdale Road. It is concluded that the proposed monopole will not be visually intrusive when seen from the limited locations and properties along Riverdale Road.



Notes

1.0 Do not scale
1.1 All dimensions are in metres unless specified
1.2 Assume all site details are existing unless stated
1.3 All mapping reproduced with permission of the Ordinance Survey of Ireland. Licence number EN 0023719-24

Height:- 20 m
Type:- Monopole
Colour:- TBA

Power Taken From ESB Building.

Development Area:- 159 m² (outlined in red)

Via access gates on Ninth Lock Road

Irish National Grid	
Co-ordinate EASTING	306994
Co-ordinate NORTHING	231676
Irish Transverse Mercator Grid	
Co-ordinate EASTING	706921
Co-ordinate NORTHING	731702

Warning

THIS PAPER INDICATES THE APPROXIMATE LOCATION OF MAIN ESB CABLES IN THE GENERAL AREA OF THE PROPOSED EXCAVATION. THE FOLLOWING PRECAUTIONS/CONDITIONS MUST BE STRICTLY ADHERED TO:

1. BEFORE ANY EXCAVATION BY MECHANICAL MEANS IS UNDERTAKEN, THE EXACT LOCATION OF THE CABLES MUST BE ESTABLISHED BY
(a) NON-CABLE LOCATION EQUIPMENT
(b) MANUALLY EXCAVATED TRIAL HOLES
2. CABLE DEPTHS CANNOT BE ASSURED.
3. ESB MUST BE INDEMNIFIED AGAINST ALL CLAIMS ARISING FROM INJURIES OR DAMAGES HOWSOEVER ARISING.
4. OTHER SERVICES (GAS, WATER, ETC.) MAY ALSO BE AFFECTED.

No.	Date	Description	Chk	App

ESB Telecoms Ltd.
27 Lwr. Fitzwilliam St.
Dublin 2
Ph: 01-7027051

Clondalkin 38kV,
Ninth Lock Road,
Clondalkin,
Dublin 22.

Visual Impact Assessment

Clondalkin 38kV_Ph_

December 2021

N. Fitzpatrick

N. Fitzpatrick

1:2500

332604

Appendix 5

Visual Impact Study

Introduction

In order to provide a full assessment of the visual impact the proposed mast would have on its receiving environment a Visual Impact Study (VIS)was undertaken. From the outset it was decided to undertake a VIS rather than a photomontage given the existing 25m high lattice mast with antennae attached to be replaced is on site. The existing mast is more visible than the proposed lower monopole structure would be, and the existing mast provides a useful reference point to view the site, particularly from a distance. Note, Drawing No. -109 submitted as part of the planning application provides an elevational drawing of the 25m lattice and the monopole to enable a comparison between the two structures.

In total 21 Viewpoints were selected, the location of which are shown on the Map attached. with the arrow pointing towards the application site. The criteria for choosing particular viewpoints are discussed further below. The Study then includes a photograph taken from each Viewpoint, with an individual commentary describing the View, its context and an assessment of the likely impact the proposed monopole would have in the immediate area. Where appropriate a 'red' coloured line has been superimposed across the lattice at a 20m point to demonstrate the height of the proposed monopole.

To provide a fair assessment of the impact the photographs were undertaken on the morning of 13th December 2021, a typical Winters day when conditions were dry and clear. At this time of year many trees had shed their leaves and thus making the site more visually apparent from some locations than would be the case during other seasons.

Criterial for Selecting the 21 Viewpoints

Viewpoints were selected to provide a fair and balanced basis upon which to undertake the VIS. Primarily the locations chosen fall into the following 3 categories:

(i) Points along the main north to south axis through this part of Clondalkin, following broadly following the route of the Ninth Lock Road, heading southwards from the Nangor Road, past the application site, and southwards, through the Village Centre, along Tower Road towards, and from, the Clondalkin Round Tower (Viewpoints A, B, C, D, E, F, G, H, I, M, N, P & O refer).

(ii) Other viewpoints, in the immediate vicinity of the site (Viewpoints J, K & T refer).

(iii) Other viewpoints of the application site from the wider area i.e. across The Mill Shopping Centre and its associated car park (Viewpoints Q, R & S refer), the approach to the Village Centre from Orchard Road (Viewpoint L); and from Riversdale Road (Viewpoint U).

Importantly, when selecting the Viewpoints regard was had to any views where the proposed monopole would impact on views towards the ACA, the Round Tower and its setting, including the neighbouring St. Johns Church, or from the Round Tower or from the Village Plaza Area in front of the SDCC Offices.

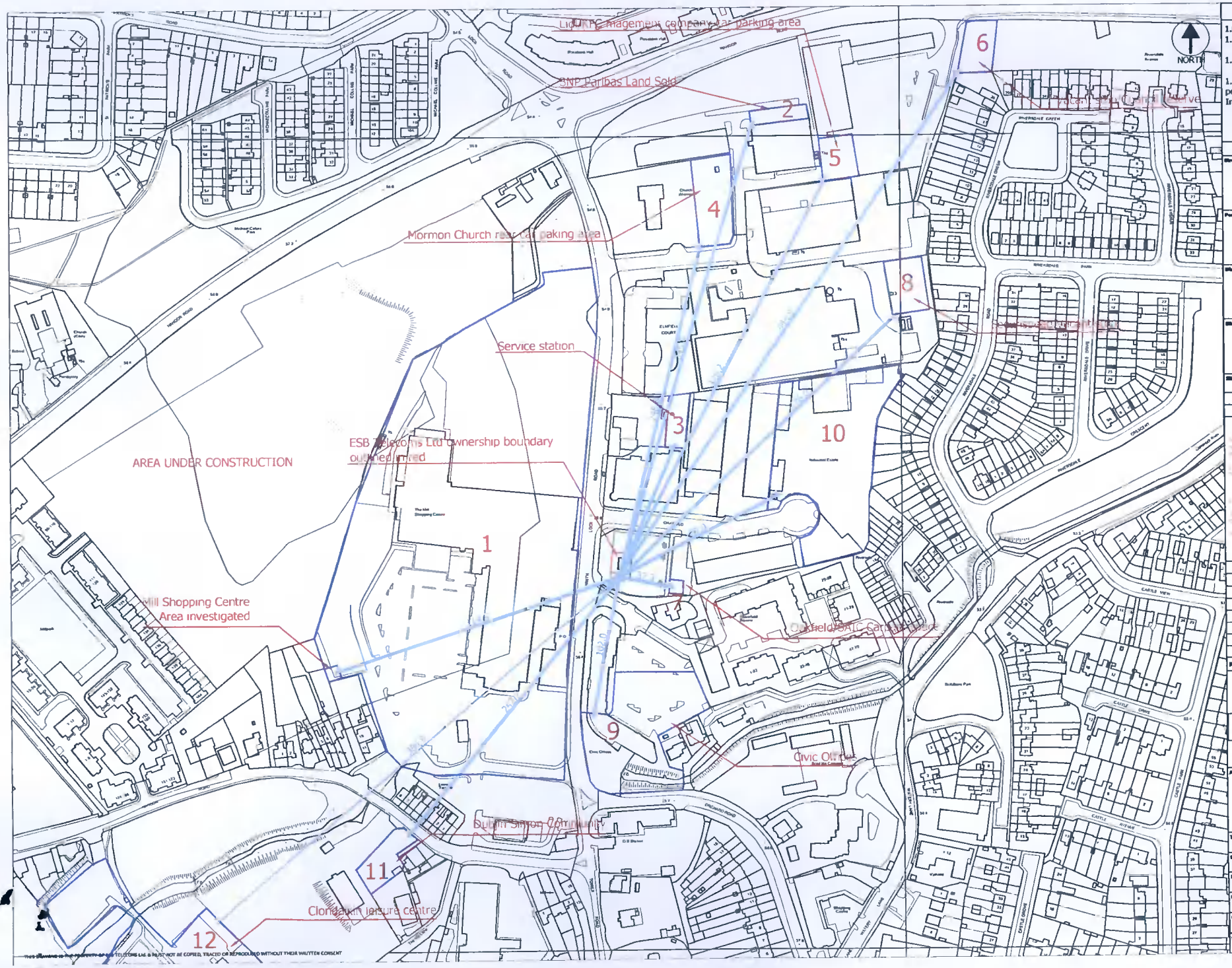
Finally, other viewpoints were considered, particularly from along the Nangor Road, looking due south, south east and south west; along the Old Nangor Road looking in a broadly north-easterly and easterly direction; and from Watery Lane looking in a broadly westerly direction. However, these were dismissed due to the presence of trees, or the case of the Nangor Road construction site hording along the southern side of the road from the junction with Ninth Lock Road westwards where views of the site were either non-existent, fleeting, or too distant to be readily discernible to the naked eye.

Conclusions

Having considered each of the selected Viewpoints it is considered that while the proposed structure will be visible in the immediate proximity of the site, it would not look incongruous in the urban street scene, within the grounds of the long established electricity Substation. Away from the immediate proximity of the site, due to its modest height and set back from the Ninth Lock Road in particular the proposed monopole would not be unduly visible in the middle or wider area. Importantly the proposed monopole would not impinge on views into or from the historic core of Clondalkin Village or views of the Round Towe or its setting, and as such would not be harmful to the visual amenities of the area.

Attachment 3

Map Showing Location of Alternative Sites Considered.



Notes

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Structure Details: Height:- 25 m
Type:- Lattice Tower
Colour:- Grey

Power Supply: Power Taken From ESB Building.

Site Details: Development Area:- 159 m² (outlined in red)

Site Access: Via access gates on Ninth Lock Road

Site Co-ordinates: Irish National Grid

Co-ordinate EASTING	306994
Co-ordinate NORTHING	231676

Warning

REV.	DATE	DESCRIPTION	CHK	APP

ESB Telecoms Ltd.
27 Lwr. Fitzwilliam St.
Dublin 2

Ph: 01-7026103
Fax: 01-6388218

Address: Clondalkin 38kV,
Ninth Lock Road,
Clondalkin,
Dublin 22.

Title: Alternative sites for Clondalkin

Drawing No: Distance from ESBT site

Issue Date: Jan 2019

Drawn By: H. Shaughnessy

Chd App By: B. Fegan

Scale: 1:2500 OS Map No: 332604