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
0.4 Kilometers
ESB Telecoms Ltd

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.

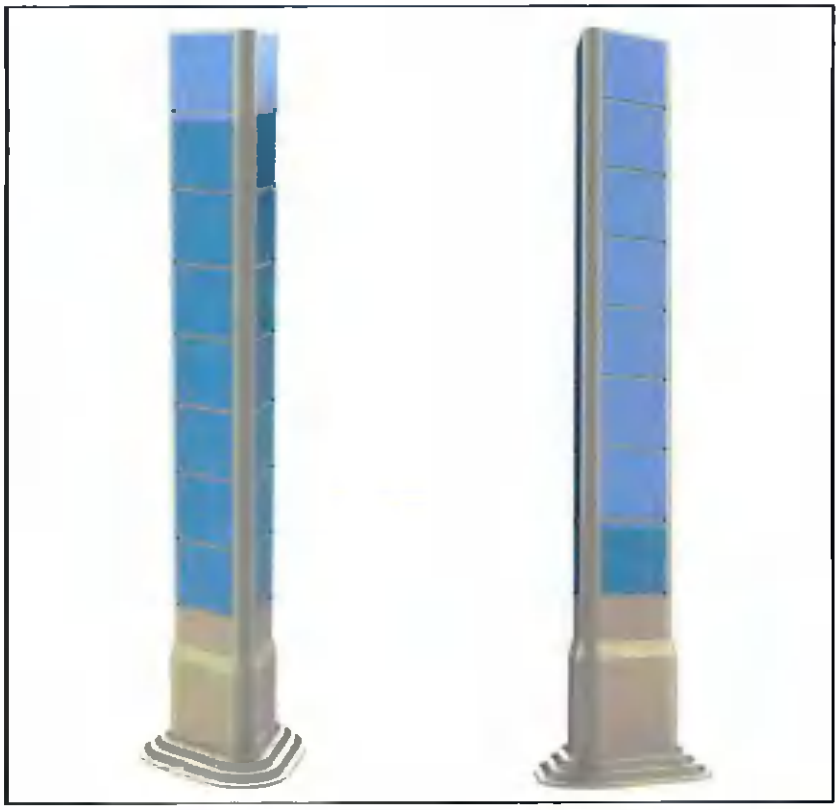

Illustration of a Simple Totem Illustration of a Simple TotemDesign

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.