OPERATIONAL BACKGROUND

As a result of the rapid growth in the mobile telecommunications industry and our society's ever increasing dependence upon the various services associated with mobile communications comes the need for additional infrastructure.

However, in an attempt to reduce the cumulative impact of base station development the Telefónica Group (O2) and the Vodafone Group (Vodafone) have formed a strategic partnership to share mobile assets in the UK and across Europe. Please note that within the UK this project is called "Cornerstone" which means that O2 and Vodafone will be working closely to pool their resources whilst making substantial improvements to their Second Generation (2G) and Third Generation (3G) networks. In this regard their key focus will be on the joint build of newly required sites, as is the case with the subject proposal, and the consolidation of existing sites.

Mobile Networks

Mobile networks are put together through a joining of a series of cell areas within which a base station site must be deployed. A good analogy of how a network operates is to compare it to a patchwork quilt with each cell area being a single patch within this. For blanket coverage to be provided each cell's solution must allow for coverage to join seamlessly together avoiding any gaps. In this regard the base station solution for each cell area must take into account the topography of the area and any clutter that might impede signal transmission, such as high buildings of mature trees. Base stations must also be positioned far enough from each other to prevent competition and interference between sites.

3G and the localised network requirements

Whilst each operator already has a basic 3G network in place at present with a degree of coverage to the local area being provided by their established base station sites within the wider area, as more people want to use their phones and mobile devices within their homes and on the move, the operators are obliged by their licence agreements to improve their network coverage in order to provide a high quality indoor and outdoor coverage.

Please also note that the geographical area covered by each base station expands and decreases depending upon how many handsets are attempting to connect to that particular site. Furthermore, each base station has an operational capacity, meaning that only a certain number of handsets can connect to it at any one time. The popularity of smart phones and 3G enabled devices has placed so much demand upon the existing O2 and Vodafone networks that they are unable to provide the level of coverage that their customers have come to expect.

In a contrast to the well-established 2G networks, which could provide significant geographical areas with of coverage often from peripheral locations, 3G equipment operates at a very low power capacity and requires that each base station development be located within the target coverage area for which it is to serve. As such, 3G cell areas are physically and geographically smaller than 2G cell areas. We would also take this opportunity to highlight that for an efficient level of service to be provided, 3G cell solutions are required to be located within an approximate distance of 500-1000m of each other within urban/suburban areas, depending upon localised issues such as topography and clutter, as noted above. As you will appreciate, this will require the deployment of significant number of new sites in order to bring the operators' nationwide networks up to the required standard for efficient 3G service and, on this basis, development within sensitive planning policy areas, proximity of historic sites or within a context of residential properties will often be unavoidable; all that can be done is to ensure that the potential impact of any new development is limited to a minimum operational size and amount.

The subject proposal is required as part of O2 and Vodafone's plans to provide **Barnsley** with the aforementioned efficiency of 3G coverage and access to the many benefits associated with it, including wireless internet access, email, data download, video calls and picture messaging, at anytime and anywhere within the local area.

Other information

Please refer to the following attachments for further details on the operational nature of 3G technology:-

- Mobile Operators Association (MOA) fact sheet on 3G
- O2/Vodafone EMF Fact Sheet: How it works

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O2 & VODAFONE RESPONSE TO POTENTIAL COMMUNITY CONCERNS

The operators are committed to an open and honest consultation process and to providing local communities with their full assistance at any stage in the planning process. Whilst it is hoped that this document will address the majority of concerns that tend to be frequently raised by local communities in response to telecommunications proposals, a detailed response will be provided to any interested party on any additional issues that may be brought to our attention.

1) Health and Safety

Whilst we appreciate that telecommunications proposals may cause a degree of health and safety concern, the operators are doing their utmost to ensure that the public is provided with access to all relevant, credible and independent information on this matter.

The operators have always managed their network within the stringent international guidelines, laid down by the following bodies:-

- The International Commission on Non-Ionising Radiation Protection (ICNIRP), recognised by the World Health Organisation.
- The Health Protection Agency, which is responsible for advising the British Government on health and safety issues relating to the commercial use of radio waves.

These guidelines are designed to protect people of all ages and states of health including the frail, infants and young children, and people taking medicine that compromises thermal tolerances. The guidelines are based on the same considerable body of scientific research into both thermal and non-thermal effects of radio emissions and incorporate a significant extra precautionary factor which takes account of variations within the population.

We would also stress that before a new telecommunications installation is proposed the cumulative impacts of all base station installations within the area are taken into account and this cumulative impact must also comply with the ICNIRP guidelines. Please note that the average 3G base station operates at much less than 1% of the accepted ICNIRP parameters for permissible exposure levels. Certification in this regard is provided with all planning submissions and as such this matter cannot be considered to be a material planning consideration.

Should any resident/interested party wish to undertake any further investigation into this matter the following credible online resources should prove to be useful:-

- Code of Best Practice on Mobile Phone Network Development www.mobilemastinfo.com
- World Health Organisation – Electromagnetic Fields www.who.int/peh-emf/en
- International Commission on Non Ionising Radiation Protection www.icnirp.de
- Vodafone Ltd www.vodafone.co.uk
- 02 www.02.com

2) Power output

All base station apparatus and mobile handsets are designed to operate at optimum efficiency. Therefore the power levels for both antennas and handsets respond to the ease with which a communications link is made. In general, the closer a mobile device is to the base station, the lower the power that is required by both handset and base station to make a connection.

3) What feasibility study has been undertaken for this development?

Prior to undertaking any site search, the operators will issue their acquisition and planning agent with a Designated Search Area (DSA) within which a solution must be found to provide an efficient level of coverage

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and to allow any proposal to fit in with their existing / planned network for the area. In the case of new 3G sites such as that proposed, the DSA tends to have an approximate radius of 300m from the ideal location and central point. However, this does not take into account topographical undulation or surrounding clutter that may limit coverage potential; hence the need for a physical survey of an area during which all operational, planning and acquisition matters are considered.

A report detailing all potential options and design solutions is then prepared and put forward to the operators for final evaluation after which a preferred option, which is hoped will strike the best balance between all relevant operational and planning considerations, is nominated.

Once the preferred site has been chosen a site visit is arranged at which the operators' planning, acquisition, power, design, and radio planning representatives will discuss a finalised design solution.

4) What alternative sites have been considered?

Please note that full details in this regard will be submitted to the Council as part of any formal pre-application consultation and/or planning application. This information is entitled "Discounted Site Information and Map" and will provide you a full and detailed background as to what alternative site options have been considered as part of the operators' feasibility study and why each has been considered to be less appropriate than the final solution. Should you wish to view this information, it will be available for public viewing at the Local Planning Authority's offices and in the majority of cases will be uploaded to their website once an application has been registered with a formal planning reference.

Please note that the operators will gratefully receive and investigate any alternative site suggestions that any member of the public or indeed the Council wish to put forward.

5) What other development sites are proposed within the local area?

This information will be detailed on the coverage plots that are submitted as part of any formal planning application. These will provide clear evidence of the need for the proposed development and give an idea as to how the proposal will fit into the planned network for the local area. Again this information will be available for public viewing at the Local Planning Authority's offices and in the majority of cases will be uploaded to their website once an application has been registered with a formal planning reference.

Should anyone wish to find out further information in relation to the location of all existing base station developments within the wider area we would suggest that they refer to Ofcom's online Mobile Phone Base Stations Database which can be found at: www.sitefinder.co.uk

6) How is public feedback taken into account prior to any planning application?

Any feedback that we as agent may receive in response to our pre-application consultation on behalf of the operators is passed directly to the O2/Vodafone Community Liaison Team for their consideration and response. For meaningful consultation to have been undertaken, the operators ensure that all reasonable questions, concerns and suggestions that are received are discussed internally amongst all relevant parties and at the appropriate levels within the operators' various departments, including community liaison team, design engineers, radio planning team, acquisition and planning specialists, etc., prior to issuing any response.

Whilst a 14-day consultation period has been considered to be an appropriate basis for such consultation to take place, this is often extended where considered appropriate with further information being provided to any interested party at any stage in the planning process, as required.

7) Why has a Public Meeting not been held?

Any initial consultation process is tailored to each individual site specific development and can be amended according to the level of feedback received. Whilst the operators are happy to meet with community

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stakeholders, Public Meetings are not standard practice. We would also point out that base station proposals are considered to be both a "minor" and "local" developments. Should the Local Planning Authority suggest that the level of consultation being undertaken at a pre-application stage needs to be amended or expanded the operators will be happy to increase or tailor this accordingly.

Should the level of community interest in this proposal increase at a formal planning stage then the operators will certainly consider the merits of face-to-face public consultation. If required, we would suggest that a public drop-in session rather than a public meeting format would be the most appropriate means of doing so. In such cases a local venue which would be sought that would offer an open plan set-up within which the operators could display all relevant information with an appropriate time session being arranged, (usually between late afternoon and early evening), to allow more flexibility in terms of community attendance. Such a format offers all interested parties the opportunity to speak privately, on a one-to-one basis or in small groups with the relevant parties involved in the operators' development process.

8) Will there be any noise emitted from the proposed development?

Please note that telecommunications masts and antennas do not make any noise. Whilst the associated equipment cabinets will have a built-in air conditioning system in order to keep the internal equipment ventilated, this operates on a sporadic basis. The following measurements clarify the highest average noise level emission of each of the 3No. cabinets that are used within the Cornerstone design portfolio when measured at temperatures of 38°C:-

- Spitfire cabinet: 55.2dBA
- Harrier cabinet: 61.6dBA
- Vulcan cabinet: 32.4dBA

The highest measurements occur at a distance of 1m away from the cabinets with this further decreasing with distance form the cabinet.

It is highly unlikely that equipment cabinets will cause any undue noise disturbance and this has never before been an issue with any telecommunications base station within the Cornerstone operators' portfolio, many sites of which are deployed within residential areas. However, if any member of the public has a concern in this regard, any issues should be raised with the Council's Environmental Health Department for investigation. In the unlikely event that the any equipment does not adhere to the suggested restrictions the Council will be able to take appropriate action to resolve this.

9) Will there be any interference with electrical or medical devices?

All base station development by both O2 and Vodafone is in full compliance with the European Commission's directives governing all forms of electronic equipment. As licensed code system operators O2 and Vodafone have their own 'slice' of the radio spectrum that prevents any interference with other radio services, such as TV and radio. This matter is regulated by the Office of Communications (OFCOM) who have the power to investigate any such concerns. Further information on this matter is readily available form the statutory body directly.

The Ofcom Contact Centre details are as follows:-

Telephone:	0845 456 3000
Fax:	0845 456 3333
E-mail:	contact@ofcom.org.uk
Website:	www.ofcom.gov.uk

In terms of interference with medical devices, there are no known instances of base station sites causing such interference. Furthermore, all O2 and Vodafone developments comply with EU recommendations which are based on the guidelines suggested by the International Commission on Non-Ionizing Radiation Protection (ICNIRP). Whilst there is some potential for mobile phone handsets to interfere with certain implanted

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devices this can be minimised by maintaining a distance of a least 15cm between the phone and the embedded device. For example, it is advisable to avoid keeping a mobile in a pocket over the site of the implanted device and to use the ear that is further from it when speaking on the phone.

For further information on this matter please contact the Medical Devices Agency:-

Telephone: 0207 972 8271
Website: www.mhra.gov.uk

10) Why is this site required when there already is 3G service within the area?

Each operator has a basic 3G network in place at present which does indeed provide a degree of coverage to the local area. However, the existing O2 and Vodafone networks are under excessive demand due to the popularity of smart phones and 3G enabled devices and as such are unable to provide the level of coverage that is required by their licence agreement to allow their customers to make full and efficient use of the relevant benefits and services offered by 3G communications

There are now more than 81 million active mobile connections in the UK as a whole and around 4.8 million people now access mobile broadband via a laptop and dongle. Over a quarter of adults and almost half of teenagers own a smartphone, with 28% of people now using their mobile phones for Internet access (source: Ofcom Communications Market Report 2011). These numbers are increasing every day, fuelled by the uptake of smartphones and tablet computers.

We now need to recognise that mobile communication is a key part of sustainable development with the phone having evolved from being merely a convenience item to a vital tool in day to day life. Connecting to the internet with a mobile device allows people to access a wide range of essential services including researching for school projects, applying to university or for employment, managing finances, shopping, and arranging medical appointments.

In addition, most local authorities' services are now available online and the NHS also benefits from good mobile connectivity. The advantages of being able to summon the emergency services with a mobile phone are obvious but simply sending text messages to patients is resulting in fewer missed appointments, saving the NHS time and money.

The Government's Broadband Strategy, as set out in 'Britain's Superfast Broadband Future', also sets out a vision for Britain to have the best superfast broadband network in Europe by 2015. Investment in mobile infrastructure is an essential component in the delivery of the Government's strategy for next generation of broadband networks. In this regard the Culture Secretary, Jeremy Hunt MP, has recently identified development of the next generation of mobile services as a fundamental part of the Government's broadband strategy.

11) Proximity to residential / educational properties

Please note there are no legal or planning obligations requiring that any new base station development be located a certain distance from any type of property, including dwellings, educational establishments and medical practices. 3G equipment operates at a very low power capacity requiring base station development to be located within the target area it is to serve.

As a result of the above it is often impossible to avoid development within a context of residential properties and various restrictive planning policy areas.

12) Developments upon adopted highways land

It may be a concern that development upon adopted highways land, such as pavements or roadside verges, which is available for use by telecommunications operators under the New Roads and Street Works Act 1991 without any rental agreement, is preferred to the use of a private land for commercial reasons. However, this

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is not the case. In progressing any new site the operators are committed to ensuring that any development represents the best balance between operational and all relevant planning considerations, regardless of landownership. More often than not, the use of street furniture development upon adopted highways land is the result of the local area being densely residential with no existing base station sites present for sharing purposes, or with any other structures, buildings or private land being available upon which an operationally viable or better planning solution could be deployed.

13) Impact upon property values

Property valuation and purchasing decisions are based upon a wide range of criteria with the issue of rising and falling property values being a complicated matter and not one that can be attributed to any single factor, including base station development. What could dissuade one buyer may attract another. There is no documented evidence to suggest that a base station site has any impact on a property value, either favourably or unfavourably. As you will also appreciate an increasing number of people are using their mobile phones as their sole contact number and good reception is a therefore of a matter of importance.

Furthermore, with our ever increasing dependence upon mobile communications we would consider that telecommunications infrastructure has now become an accepted feature within today's urban and suburban environment, especially with the adoption of 3G technology and an increasing demand for data services connected with smart phone handsets and mobile internet access.

The planning system is in place to ensure that all proposals by all manner of developers are dealt with in a fair and unbiased manner. As such, the material question is not whether a particular development would cause financial or other loss to owners and occupiers of a neighbouring property, but whether the proposal would have a detrimental effect on the locality generally and upon amenities that ought, in the public interest, to be protected. The same principles must also be applied to the operators' infrastructural requirements, which will neither receive any special allowance or treatment, nor be subject to any specific bias either in favour or against their proposals which must be determined on planning grounds alone.

14) Access, maintenance and road safety issues

Please note that all of the operators' base station developments are designed so as to avoid any detrimental impact upon the vehicular visibility splays associated with any road junctions within the locale.

Once built, the proposed site will be maintained 1-2 times per year and accessed by an engineer travelling by foot/standard sized vehicle. When accessing any site the operators' engineers must abide by standard traffic laws, parking restrictions, and the operator's own health and safety regulations. As such, they are instructed to park any maintenance vehicles legally, safely, and with common sense, and to act sensitively to both pedestrian and vehicular safety. Should any engineer fail to do so they will be subject to legal prosecution and to internal investigations into any such offence.

The only time any large vehicle would be required to be parked close proximity to a site for any length of time would be at construction and decommissioning stages, or in the very rare case of emergency maintenance, all of which would be undertaken with the full cooperation and agreement with the Council's Highways Department. We would also take this opportunity to confirm that where necessary, the appropriate precautions and procedures, such as temporary lane closure or traffic management schemes and off peak working hours, would be implemented to the satisfaction of the Council.

Please note that in all cases of development upon adopted highways land and upon or next to a pavement the operators' ensure that a clear passageway of 1.4m is maintained for safe pedestrian access. This standard measurement has been accepted by Local Authorities throughout the UK.

15) Antisocial behaviour and vandalism

Mobile phone base stations are employed across all manner environments and social scales within the UK and, generally, we do not find they attract this type of attention. Although the actual equipment itself is fully

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vandal-proofed we do accept that in certain instances the problem of graffiti may arise. In such cases we can confirm to the local community that the operators will endeavour to maintain this facility as best they can.

Should the matter of anti-social behaviour already be a local concern we would respectfully suggest that it would be more appropriately dealt with by the local police department or any community watch initiatives that may be in operation.