SUPPLEMENTARY INFORMATION

1. Site Details

Site Name:	Generator Hostel	Site Address:	Generator Hostel, 37 Tavistock Place, London, WC1H 9SE
National Grid Reference:	E530187, N182488		
Site Ref Number:	147982_VF	Site Type:[1]	Macro

2. Pre Application Check List

Site Selection (for New Sites only)
(Would not generally apply to upgrades/alterations to existing sites)

Was an LPA mast register used to check for suitable sites by the operator or the LPA?	**Yes**	No
If no explain why:		
Was the industry site database checked for suitable sites by the operator:	**Yes**	No
If no explain why:		

Annual Area Wide Information to local planning authority

Date of information submission to local planning authority	13.10.15
Name of Contact:	Neil.storer@camden.gov.uk; gavin.polkinghorn@camden.gov.uk
Summary of any issues raised:	List of existing sites and general rollout at that time within the authority.

Pre-application consultation with local planning authority

Date of written offer of pre-application consultation:	20.10.15	
Was there pre-application contact:	**Yes**	No
Date of pre-application contact:	21.10.15	
Name of contact:	Seyi Enirayetan	
Summary of outcome/Main issues raised: A pre-application consultation email was sent to the LPA on the 20.10.15 which included site-specific draft drawings and outlined the need for the proposed telecommunications base station. To date no comments have been received. In an email dated 21.10.15 the LPA advised that there is a charge for providing pre-application advice. Therefore, it was considered that when balancing the fees of the LPA for informal advice, together with those incurred for a formal determination, the proposal subject to this application would be advanced. Although no LPA comments have been forthcoming, it was considered appropriate to progress this application and seek the LPA's formal determination.		

Ten Commitments Consultation

Rating of Site under Traffic Light Model:	Red	**Amber**	Green
Outline Consultation carried out: A pre-application consultation email was sent to the ward councillors, Hunter St Health Centre and Holborn and St Pancras Member of Parliament Keir Starmer on the 20.10.15 which included site-specific draft drawings and outlined the need for the proposed telecommunications base station.			

[1] Macro or Micro

Summary of outcome/Main issues raised: To date no comments have been received.

School/College

Location of site in relation to school/college *(include name of school/college):* Argyle Primary School - 246 metres
Outline of consultation carried out with school/college *(include evidence of consultation):* A pre-application consultation email was sent to the Head Teacher and Chair of Governors on the 20.11.15 detailing the site-specific proposal and attaching a copy of the draft plans.
Summary of outcome/Main issues raised: To date no comments have been received.

Civil Aviation Authority/Secretary of State for Defence/Aerodrome Operator consultation (only required for an application for prior approval)

Will the structure be within 3km of an aerodrome or airfield?	Yes	No
Has the Civil Aviation Authority/Secretary of State for Defence/Aerodrome Operator been notified?	Yes	No
Details of response: n/a Full Planning application		

Developer's Notice

Copy of Developer's Notice enclosed?	**Yes**	No
Date served:		14.12.15

3. Proposed Development

The proposed site:
This application relates to a proposed telecommunications installation. For reference please see below a photograph of the proposed location: -

Enclose map showing the cell centre and adjoining cells:
n/a

Type of Structure		
Description: The proposal entails the installation of 9no. antennas mounted off the plant room roof to be located behind GRP shrouding, which will be painted to match the existing brickwork, along with 3no. 300mm diameter transmission dishes and 3no. RRU's (Remote Radio Units). The scheme also includes the installation of 5no. equipment cabinets on the flat roof of the building on new steel grillage.		
Overall Height:		26.175 metres
Equipment Housing:		RBS 6102
Length:		1300 mm
Width:		700 mm
Height:		1450 mm
Equipment Housing:		ISC
Length:		600 mm
Width:		500 mm
Height:		1510 mm
Equipment Housing:		Outdoor Rack
Length:		750 mm
Width:		600 mm
Height:		2100 mm
Tower/mast etc – type of material and external colour:	Galvanised steel / untreated – behind GRP shrouding painted brick effect to match building	
Equipment housing – type of material and external colour:	Galvanised steel - painted grey (RAL 7035)	

Reasons for choice of design:

In this instance, the choice of design tabled in this application has been influenced by the buildings siting and appearance, the technologies it will support, most notably the added emphasis to cater for 4G coverage requirements.

The proposed antennas and their positions on the building offer a technically preferred solution, in which where possible the antennas will be titled and orientated so as to provide cell specific coverage to the demands of the target area. Taking into account the existing building and the character and appearance of the Conservation Area, the extent of development has been kept to a minimum. Taking into account the existing layout of stairwells, plant rooms etc on the roof, it is considered that the proposal will have a negligible visual impact on the streetscape and skyline.

Technological advances have enabled a mast share that breaks the barriers of conventional schemes which in the past have typically involved even taller heights due to the separation needed between each operators set of stacked antennas and or large exposed antenna head-frames. The height of the antennas will be 26.175 metres to top. The proposed height is necessary to provide both coverage and capacity for the existing networks. The overall height of the antennas at 26.175 metres to top has been kept to its technical minimum given the structure types which are available to the aforementioned operators. The proposed height of 26.175 metres is necessary so as not to compromise on the centre line of the antennas and to allow for adequate coverage to the target area. The proposed height and structure type will also cater for future 4G coverage demands which will enable network restructuring towards a single grid network that can serve both operators. Allowing for the proposed height and once this phase of rollout is complete it will allow existing base stations elsewhere in each respective network to be reviewed and decommissioned where technically feasible. In this regard the height and robust extent of development proposed will aid network consolidation and limit future infill requirements. It is highlighted that the antennas in this instance have dual user capabilities and would be concealed behind GRP shrouding. Furthermore the dimensions of the structure are the thinnest available so as to be able to support the technically preferred antennas and feeder cables.

The proposed antennas will be pole mounted onto the plant room and will be surrounded by a GRP shroud painted the same colour as the existing brickwork and so will be viewed as part of the existing plant room so as to preserve the silhouette of the host building and keep the skyline of the Conservation Area intact. It is considered that the proposed antennas camouflaged form will reduce their visibility on the exterior of the building. Coupled with their position at height, it is considered that their visual impact will be softened and their presence is likely to go unnoticed when seen in perspective from ground level.

It is of note that the proposed rooftop equipment cabinets are less than 2.5 cubic metres in volume and will be set back from the edge of the building. In this respect it is considered that the siting of the ancillary development makes best use of the existing facilities thus maintaining the appearance of the host building.

In light of the above it is considered that every effort has been made to limit the visual impact of the scheme. It is considered that reasonable steps have been taken to achieve this by limiting the extent of development and grouping antennas together and, utilising GRP shrouding painted the same colour as the existing brick work therefore the scheme will have a neutral impact on the host building. Accordingly, it is considered that the proposal when taking into account the siting and design of the existing rooftop base station would have a negligible visual impact on the Conservation Area, thus preserving its character and appearance.

Technical Information

International Commission on Non-Ionizing Radiation Protection Declaration attached International Commission on Non-Ionizing Radiation Protection public compliance is determined by mathematical calculation and implemented by careful location of antennas, access restrictions and/or barriers and signage as necessary. Members of the public cannot unknowingly enter areas close to the antennas where exposure may exceed the relevant guidelines. When determining compliance the emissions from all mobile phone network operators on or near to the site are taken into account. In order to minimise interference within its own network and with other radio networks, Vodafone Limited operates its network in such a way the radio frequency power outputs are kept to the lowest levels commensurate with effective service provision. As part of Vodafone Limited's network, the radio base station that is the subject of this application will be configured to operate in this way.	**Yes**	No

All operators of radio transmitters are under a legal obligation to operate those transmitters in accordance with the conditions of their licence. Operation of the transmitter in accordance with the conditions of the licence fulfils the legal obligations in respect of interference to other radio systems, other electrical equipment, instrumentation or air traffic systems. The conditions of the licence are mandated by Ofcom, an agency of national government, who are responsible for the regulation of the civilian radio spectrum. The remit of Ofcom also includes investigation and remedy of any reported significant interference. The telecommunications infrastructure the subject of this application accords with all relevant legislation and as such will not cause significant and irremediable interference with other electrical equipment, air traffic services or instrumentation operated in the national interest.		

4. Technical Justification

Enclose predictive coverage plots if appropriate, e.g. to show coverage improvement. Proposals to improve capacity will not generally require coverage plots.

Reason(s) why site required e.g. coverage, upgrade, capacity

It was announced in mid 2009 that the Vodafone Group were to form a strategic partnership with the Telefónica Group to share their telecommunication infrastructure assets across Europe. In the UK this project was called 'Cornerstone' as saw both Vodafone Ltd and Telefónica UK Ltd, commonly known as O2 working closely together to pool their resources and infrastructure making substantial improvements to their 2G and 3G networks. This initial agreement between the two aforementioned operators broke barriers in addressing the historical limitations encountered in conventional mast share schemes. It allowed both organisations to consolidate a number of base stations through, where appropriate, sharing each others sites and in turn significantly reducing the environmental impact of their network deployment. Although infrastructure development formed part of Cornerstone, Vodafone and Telefónica have continued to actively compete in the telecommunications market place to retain and win mobile phone customers and both operators differentiate themselves on the quality of their customer experience. Although Vodafone and Telefónica share their infrastructure, they operate entirely independently as businesses with their own separate strategies and networks. Accordingly the key focus as part of Cornerstone was to build new sites which had the capabilities to provide coverage for both operators.

In February 2013, the Office of Communications, commonly known as Ofcom, who are the independent regulator and competition authority for the UK's communications industries announced the winners of the 4G mobile spectrum auction. 4G is the fourth generation of mobile phone technology and follows on from 2G and 3G. 2G technologies is predominately used for making calls and sending text messages, whilst 3G enables access to internet services more effectively through a mobile device. 4G services are intended to improve mobile broadband services into the future, enabling greater capacities of data to be shared via mobile technologies with speeds likely to be nearer those currently experienced via home broadband. Both Vodafone and Telefónica were awarded 4G licenses, hence they have entered into a new agreement in which the two companies now plan to jointly operate and manage a single network grid across the UK. This initiative strengthens the network infrastructure partnership between the two companies, previously rolled out as part of Cornerstone. This next phase of consolidation will primarily involve upgrading existing base stations to accommodate 4G technology and will be facilitated by Cornerstone Telecommunications Infrastructure Limited (CTIL), a newly formed joint venture company owned equally by Vodafone and Telefónica. The single grid infrastructure will enable both organisations to pool and consolidate their respective networks yet further while running two, independent, nationwide networks.

The rollout of multiple technology networks to support the growth of mobile devices has had an impact on more conventional ways of communications. Latest figures from the regulator, Ofcom, show that consumers are spending less time using their landlines in the year to June 2014, a reduction of 12.7% in one year alone. In this respect it is thought that fixed line call volumes are declining as people are using mobiles speak to each other. Also the way people communicate on mobile devices is changing as they have instant access to video calls and may choose to utilise the in-built capabilities of various messenger and social media applications.

In December 2014, Ofcom published their finding on the status of electronic communications networks and services in the UK. The Infrastructure Report 2014 acknowledges that robust telecommunication networks present vital enablers towards supporting a vast amount of economic and social activity, by both general consumers and businesses. The report provides an overview of the state of telecommunications infrastructures in the UK in terms of its coverage, capacity and reliability. In Ofcom's Infrastructure Report 2014 it suggests that fixed broadband connections are now almost universally available throughout the UK, however internet and downloads speeds can

be patchy. However it is said that 18% of households do not have any home fixed line internet access at all and with about 16% of households already having no voice landline, it is apparent that mobile connectivity is a society choice that has importance.

According to Ofcom in November 2014, UK 4G speeds were more than twice as fast as 3G. However in a report of the same year compiled by OpenSignal, who studies mobile phone signal strengths, it was suggested that 4G speeds had almost halved in the past year as more people sign up to such services. In this respect, as well as providing coverage representation a base station will also provide much needed capacity to a network. Added capacity will create a reliable customers experience by reducing not-spots, call dropping and provide a more consistent mobile internet connectivity which people expect from their mobile devices whenever and wherever they are using them.

A retained base station site is required in this location in order to maintain existing network coverage and capacity, as well as catering for added multiple technologies, most notably 4G for both Vodafone and Telefónica, commonly known as O2.

Details regarding the general operation of the Vodafone and Telefónica networks can be found in the accompanying document entitled 'General Background Information for Telecommunications Development'. This information is provided to assist the Local Planning Authority in understanding any technical constraints on the location of the proposed development. Supporting information can also be found in the attached CTIL document called 'Radio Planning and Propagation', which discusses how radio networks are planned, the need for height and the limitations associated with the technology.

Furthermore the new Code of Best Practice on Mobile Phone Network Development published by the Mobile Operators Association (MOA) in July 2013 explains the special operational and technical considerations, which the telecommunications industry encounters. It also details the evolution of mobile networks and discusses the implications of mobile connectivity in the 21st Century. The new Code of Best Practice on Mobile Phone Network Development explains how mobile networks function and the challenges faced in providing sufficient signal, coverage and capacity to supporting customer experiences. It is also of note that the MOA has produced a new guidance document to clarify some of the technical aspects of network development entitled 'Mobile Networks: What They Are and How They Work', August 2013.

5. Site Selection Process

Alternative sites considered and not chosen (not generally required for **upgrades/alterations to existing sites** including redevelopment of an existing site to facilitate an upgrade or sharing with another operator)

Site Type	Site Name & Address	National Grid Reference	Reason for not choosing
Rooftop	Medway Court, Judd Street	E530193, N182566	Taller buildings nearby which would block the signal but this option is also on the edge of the search area and therefore would not provide the require coverage.
Rooftop	Hunter Health Care, 8 Hunter St, Camden	E530272, N182465	The Landlord is not interested in accommodating this type of development in this location.
Rooftop	Egmont House, 25-31 Tavistock Place, Camden	E530166, N182444	The Landlord has not responded to enquiries made.
Rooftop	Albany House, 41 Judd St, London	E530221, N182471	The Landlord is not interested in accommodating this type of development in this location.
Rooftop	Knollys House, 39 Tavistock Place, London	E530202, N182461	The Landlord is not interested in accommodating this type of development in this location.

If no alternative site options have been investigated, please explain why:
n/s

Land use planning designations:

The application site is set within an area characterised as predominantly mixed use. It is also noted that the application site is found with designated Article 2(3) land, notably being set within Bloomsbury Conservation Area.

In this regard the impact of the development, whether that be positive, negative or neutral on the site's land use designation will be considered in more detail in the Planning Assessment section of this Supplementary Information submission.

Additional relevant information (planning policy and material considerations):

Planning Policies

Local Planning Policy

It is acknowledged that the Council's approach to the plan-led system has evolved. Central Government now seek to streamline the process for the preparation and adoption of Development Plans, in which Local Planning Authorities are now required to adopt a new Development Plan in accordance with section 20 of the Planning and Compulsory Purchase Act 2004 (as amended) and the National Planning Policy Framework. The documents that provide local planning policies are referred to within the 'Local Plan', in which they describe the spatial strategy for the authority. The Core Strategy is the key document that forms the Local Plan and this is supported by various types of detailed information about the local and sub-regional matters. Once adopted decisions will be made in accordance with the Local Plan unless material considerations indicate otherwise.

In this regard, the Local Plan has now been adopted by the Council, in which there is no policy specific to telecommunications development.

National Planning Policy

National Planning Policy Framework (2012)

It is recognised that in seeking to adopt a new Local Plan and Core Strategy national guidance on the matter suggests that repetition, should be avoided thus the most up-to-date policy stance regarding telecommunication development should be taken from National Planning Policy Framework.

5 - Supporting high quality communications infrastructure

The National Planning Policy Framework (NPPF) set out Central Government's planning policies for England and how these are expected to be applied. It replaces a number of planning documents including Planning Policy Guidance 8 – Telecommunication. NPPF sets out the Central Government's requirements for the planning system only to the extent that it is relevant, proportionate and necessary to do so. It provides a framework within which local people and their accountable councils can produce their own distinctive local and neighbourhood plans, which reflect the needs and priorities of their communities.

Pertinent to telecommunications development section 5 of NPPF sets out the Governments general overview regarding supporting high quality communications infrastructure and is stated as follows: -

"42. Advanced, high quality communications infrastructure is essential for sustainable economic growth. The development of high speed broadband technology and other communications networks also plays a vital role in enhancing the provision of local community facilities and services.

43. In preparing Local Plans, local planning authorities should support the expansion of electronic communications networks, including telecommunications and high speed broadband. They should aim to keep the numbers of radio and telecommunications masts and the sites for such installations to a minimum consistent with the efficient operation of the network. Existing masts, buildings and other structures should be used, unless the need for a new site has been justified. Where new sites are required, equipment should be sympathetically designed and camouflaged where appropriate.

44. Local planning authorities should not impose a ban on new telecommunications development in certain areas, impose blanket Article 4 directions over a wide area or a wide range of telecommunications development or insist on minimum distances between new telecommunications development and existing development. They should ensure that:

- *they have evidence to demonstrate that telecommunications infrastructure will not cause significant and irremediable interference with other electrical equipment, air traffic services or instrumentation operated in the national interest; and*
- *they have considered the possibility of the construction of new buildings or other structures interfering with broadcast and telecommunications services.*

45. Applications for telecommunications development (including for prior approval under Part 24 of the General Permitted Development Order) should be supported by the necessary evidence to justify the proposed development. This should include:

- *the outcome of consultations with organisations with an interest in the proposed development, in particular with the relevant body where a mast is to be installed near a school or college or within a statutory safeguarding zone surrounding an aerodrome or technical site; and*
- *for an addition to an existing mast or base station, a statement that selfcertifies that the cumulative exposure, when operational, will not exceed International Commission on non-ionising radiation protection guidelines; or*
- *for a new mast or base station, evidence that the applicant has explored the possibility of erecting antennas on an existing building, mast or other structure and a statement that self certifies that, when operational, International Commission guidelines will be met.*

46. Local planning authorities must determine applications on planning grounds. They should not seek to prevent competition between different operators, question the need for the telecommunications system, or determine health safeguards if the proposal meets International Commission guidelines for public exposure."

Code of Best Practice on Mobile Phone Network Development (2013)

A new English Code of Best Practice on Mobile Network Development has replaced the original guidance document that was first published in 2002. Since the previous version, there have been significant changes in planning policy with NPPF replacing PPG8, as well as in technology and infrastructure rollout due to consolidation agreements. The planning process and tools in the new Code of Best Practice remains much the same as previous, in which the following is considered relevant in this particular case: -

The opening paragraphs of the new Code of Best Practice acknowledge the material weight that should be given to NPPF, in particular Section 5 - Supporting high quality communications infrastructure as noted above. It is noted in paragraph 3.2 that special operation and technical considerations should be taken into account in which it is stated that due to increased demands of mobile device users there will be *"the requirement to upgrade and improve networks through changes to existing sites and the development of new sites"*

It is highlighted in paragraph 7.5 and in Appendix A which sets out the operators Ten Commitments that there will always be an emphasis on site sharing. Operators will *"continue to work together to locate base stations on existing structures, and to share sites wherever viable in order to reduce the need to build new masts on which to locate their equipment and to minimise the number of base station sites in the UK."*

Appendix B discusses the general principles for telecommunications development. It is stated that "*The Government's general policy on telecommunications development is to facilitate the growth of efficient and effective telecommunication systems whilst keeping the environmental impact of such development to a minimum. The siting and design of telecommunications equipment, if undertaken with care and sensitivity, will be vital in achieving this policy aim. Good siting and design should not only be respected in environmentally sensitive areas but should also be applied to all telecommunications development. In all circumstances, the sensitivity to context of the proposed development should be considered.*

In particular, the following general design principles should be regarded as important considerations in respect of telecommunications development:

- *Proper assessment of the character of the area concerned*
- *Design should be holistic and three dimensional showing an appreciation of context;*
- *Analysis of the near and far views of the proposal and to what extent these will be experienced by the public and any residents;*
- *Proposals should respect views in relation to existing landmarks and distant vistas;*
- *Proposals should seek to consider the skyline and any roofscapes visible from streets and spaces;*
- *Choice of suitable designs, materials, finishes and colours to produce a harmonious development and to minimise contrast between equipment and its surroundings.*

The options for the design used by an operator will be affected by site conditions, technical constraints, landscape features and coverage and capacity requirements. The main options would include:

- *Mast and/or site sharing;*
- *Installation on existing buildings and structures;*
- *Camouflaging or disguising equipment where appropriate;*
- *Using small scale equipment;*
- *Erecting new ground based masts."*

Appendix B goes on and recognises that mast and site sharing is a longstanding Government policy objective. In this regard the Government encourages telecommunications operators, wherever viable, to share masts and sites as a means of minimising overall mast numbers. It is stated in Appendix B that *"If operators are able to share sites, and install more equipment on each site, this reduces the overall visual impact of network infrastructure, because even though shared sites will tend to be slightly bigger, it means that fewer sites are needed to improve coverage and capacity, infrastructure becomes more feasible, and is more cost-effective to deploy. In fact, sharing of sites is now the norm, and network operators now share much of their network infrastructure via joint venture commercial arrangements."*

Mobile Networks: What They Are And How They Work (2013)

It is highlighted that the new Code of Best Practice is supplemented by a document titled 'Mobile Networks: What They Are And How They Work'. It explains the main factors that affect radio signals such as shadowing, attenuation, diffraction and reflection. In this regard it should be appreciated that antennas need to be sited with the clearest possible view of the area for which they are intended to provide coverage. It is stated that *"there are various reasons that can lead to the need for new cell sites. Two main ones are the need for additional coverage and capacity. Other factors that can lead to the need for new sites include the introduction of new technologies and services; new property developments in an area requiring new coverage or additional capacity; or redevelopment of an area requiring existing sites to be replaced."*

London Plan (2015)

The London Plan sets out the Mayor's planning strategy for Greater London and contains strategic thematic policies, general crosscutting policies and more specific guidance for sub-areas within the Metropolitan Area. In Paragraphs 1.38-1.41 *'Ensuring the infrastructure to support growth'*, the London Plan recognises the strategic importance of providing the necessary infrastructure, including modern communications networks, that the city requires to secure its long-term growth. Such matters are further echoed by the Mayor's Offices long term strategy as documented in the London Infrastructure Plan 2050.

It is considered that the Vodafone and Telefónica networks are an integral element in securing the Mayor's vision for the delivery of modern communications networks across London. More specifically, the proposed development is entirely consistent with and will help to implement the strategic objectives contained in Policy 4.11 'Encouraging a Connected Economy' of the London Plan. Policy 4.11, and its written justification, is clearly supportive of the proposal and the role that it will perform in allowing Vodafone and Telefónica to provide additional 3G and 4G coverage to the surrounding area.

The aim of the Infrastructure Plan is to enable for fast, ubiquitous access to the internet from mobile and fixed devices. Chapter 16 of the Plan indicates how the London Mayor's Office shall support an economically viable mix of technologies including fibre broadband, mobile broadband and future methods of wireless internet delivery to address the capacity crunch in the short term as well as aiming to make London the first capital city in the world to deploy 5G in the 2020s. This document is supported by the report Raising London's High Speed Connectivity to World Class Level. As detailed within these Digital Connectivity is now considered the fourth utility. Internet access not only affects the productivity of businesses and proves essential to the future growth of many firms, it is also vital for many residents to take part in modern society as more services move online.

The Mayor's Office shall work with central government and London's local authorities to ensure that strategic communication networks are enabled rather than inhibited by the planning and other regulatory systems whilst ensuring the utility works themselves are properly managed.

The Vodafone and Telefónica networks are integral elements in securing the Mayor's vision for the delivery of modern communications networks across London. More specifically, the proposed development is entirely consistent with and shall help to implement the strategic objectives contained in the London Plan and London Infrastructure Plan.

Fixing the foundations: Creating a more prosperous nation

The Productivity Plan sets out the drivers of productivity, and sets out reforms to deliver a step change for higher productivity. This was released by the government post budget this year and emphasises the vital role modern telecoms service (and the infrastructure that provides it) amongst other thing will play in the continued economic growth of the UK. Pertinent to telecommunications development is Chapter 7 World-class digital infrastructure in every part of the UK and is stated as follows

7.1 Reliable and high quality fixed and mobile broadband connections support growth in productivity, efficiency and labour force participation across the whole economy. They enable new and more efficient business processes, access to new markets and support flexible working and working from home. Investment in high speed broadband will support long-term economic growth, with GVA increasing by £6.3 billion, causing a net increase of 20,000 jobs in the UK by 2024.1 Geographic coverage and take-up of superfast broadband in the UK is already the highest of the 5 largest EU economies.2 The government's superfast broadband programme is passing an additional 40,000 premises every week – superfast speeds of at least 24Mbps will be available to 95% of UK households by 2017.

7.2 By reducing regulatory red tape and barriers to investment, the government will support the market to deliver the internationally competitive fixed and mobile digital communications infrastructure the UK's businesses need to thrive and grow, and which will enable the UK to remain at the forefront of the digital economy. The government is working with business so that the market can play the lead role in delivering against the ambitions set out in the Digital Communications Infrastructure Strategy, published in March, of near-universal 4G and ultrafast broadband coverage.

7.3 **The government will take decisive action to make it easier for the market to roll out the fixed and mobile infrastructure that the UK needs:**

- the government proposes to **extend permitted development rights to taller mobile masts in both protected and non-protected areas in England**. A call for evidence on these proposals has been published today
- the government intends to **introduce legislation in the first session of this Parliament to reform the Electronic Communications Code**, which regulates the relationship between electronic communications network operators and site providers
- the government **will be consulting later this year on implementation of the EU Directive on measures to reduce the cost of deploying high-speed communications networks**
- the government is also **considering making the 2013 planning relaxations supporting fixed high speed broadband infrastructure rollout permanent.**

Planning Assessment

The area suffers from inadequate coverage, either as a result of no coverage at all leaving a gap in their networks or poor coverage from surrounding cells. As such, there is a need to improve the existing 2G and 3G network as the area suffers from poor coverage as a result of a weak signal strength, which in turn impacts on its capacity and the services that can be offered. A reduction in the strength of the radio signal increases the likelihood of lower quality or dropped calls and significantly reduced or no data rates for internet browsing, for example. In addition to improving the existing networks, 4G would also be provided. Therefore, a multiple technology network requires robust signal levels to provide the capacity and speeds needed to make calls, send texts and access the internet either on the move or static for all its users wherever they are in the country. However, none of this can happen without the necessary infrastructure network in place that delivers mobile communications service. However, priority has been given to improving 3G and establishing a new 4G service.

In taking a sequential approach to site selection, in accordance with Government guidance the starting point for consideration should always be with an operator's own existing masts and/or sites in the first instance and secondly using existing telecommunications structures belonging to another code system operator, i.e. mast sharing. The next appropriate steps are to consider co-location or site sharing alongside existing telecommunications development then installing antennas on existing buildings or tall structures before erecting a new ground based mast. If a new mast or base station is required, evidence that the applicant has explored the possibility of erecting antennas on an existing mast, building or other structure is necessary in accordance with paragraph 45 of NPPF.

To find a new site an assessment of possible alternative sites were considered which explored existing masts, buildings/structures and new sites for mast within the search area. The starting point was with the operator's own existing masts and/or sites, which were discounted as there aren't any. Also, the operators own surrounding base station sites cannot be upgraded to improve the signal and compensate for the inadequate coverage in the immediate area as they have been subject to their own upgrades to maximise their performance within the single

grid. Consequently, there are no existing telecommunications structures and sites belonging to another code system operator to share or site share, however, it was considered that the Generator Hostel building is a suitable building in which to accommodate this type of development.

Following a technical review of the cell area, it was concluded that there is no better site in balancing the technical requirements of the operators, whilst minimising environmental impact. Therefore, the site remains the operators technically preferred location as it firstly fulfils their primary coverage objectives for 2G, 3G and 4G technology within the cell area but also given that it has an established coverage footprint within the respective networks and therefore forms part of a cohesive network of cells for each operators network. The proximity of each base station is an influential factor from a radio perspective and this ensures that the installation has sufficient separation from existing and planned new cells within the shared network, preventing the base station from causing any technical interference between sites. Each cell site sends and receives signals within its intended area of coverage and as the user travels from one area to another, the base station where the call originated weakens and hands over the call to the neighbouring base station. If the distance between base station sites is too large a gap between cells will form resulting in a dropped call. Similarly should telecommunications sites be too close together, this creates technical interference between the two sites and within the wider network as sites compete with each other to become the dominant cell.

Furthermore, the reduction (or decay) in signal power is affected by a number of variables, in which the main factors are frequency, distance (from transmitter), terrain (such as hills), clutter (such as buildings, foliage, vehicles, and water) and atmospheric conditions (such as rain). Any physical object such as buildings and geographical terrain (hills and trees) together with changes to the landscape (new developments and tree growth) that obstructs the propagation of radio signals, causes a reduction in signal strength reaching a customer's device. A reduction in the strength of the radio signal increases the likelihood of lower quality or dropped calls and significantly reduced or no data rates for internet browsing, for example.

It must be appreciated that the way we use our mobile devices are changing. We are watching more videos, playing more games and are streaming, tweeting and browsing more than ever before. Furthermore mobile communications enable businesses and individuals to be more productive and offer new and innovative services. Demand for access to mobile communications on the move has increased significantly over the last 10 years with many people now seeing this as an everyday necessity. A high quality communications infrastructure with good mobile connectivity and the availability of mobile broadband play a vital role in economic growth, social inclusion, accessibility to services and sustainability. In this regard the rollout of 4G networks is seen as a major investment which will facilitate social and economic benefits through greater connectivity. Consumers and businesses should be confident that their mobile technology will work wherever they are in the country. However, none of this can happen without the necessary infrastructure network in place that delivers mobile communications service.

The proposal is in accordance with paragraph 42 of NPPF which states "Advanced, high quality communications infrastructure is essential for sustainable economic growth. The development of high speed broadband technology and other communications networks also plays a vital role in enhancing the provision of local community facilities and services". Furthermore, it is complies with paragraph 43 as it keeps the numbers of radio and telecommunications masts and the sites for such installations to a minimum consistent with the efficient operation of the network. Moreover, it is considered that an extensive and robust search has been undertaken. Indeed, such an approach to site selection conforms to paragraph 43 and 45 of NPPF.

As discussed previously with regards the choice of design when comparing the appearance of the existing building with the proposed scheme, it is considered that the development will not undermine the visual amenity of the area. The proposal has dual user capabilities whereby balanced against the other material planning matters as below, it is considered that the CTIL scheme is acceptable.

The application site is found within Bloomsbury Conservation Area and therefore in this respect the proposal has been designed sensitively to respect the historic environment. Furthermore the extent of telecommunication development in this case has been kept to a minimum and has been progressed proportionate to the asset's importance. In this regards it should be appreciated that the proposal seeks to mimic where best possible existing features of the building and is designed with no more development than is sufficiently needed to fulfil the technical requirements of this site.

The proposed telecommunications antennas placed on the roof will be discretely located mounted off the plant room behind GRP shrouding and will be seen as continuation of the existing plant room and would not form an incongruous features within the context of the host property. In this regard, it is the applicant's opinion that the telecommunication development will not appear untoward within the context of the Conservation Area. Subject to the appropriate colour treatment of the GRP shrouding it is considered that the installation would be barely

noticeable to the casual glace given it will appear a continuation of the existing stairwell and it is considered that their presence are likely to go unnoticed to the untrained eye. Therefore the applicant deems that the siting and appearance of the proposed new additions would preserve the character and appearance of the Conservation area.

In terms of siting the applicant has taken advantage of the building's tall height, whereby it is of note that the new antennas will not appear to break the silhouette of the building and undermine the character and appearance of the Conservation Area. Similarly it is considered that the rooftop base station will not appear overly pronounced within the context of host building nor the skyline. The proposed equipment cabinets will be set back from the edge of the building and so will not be readily viewed from ground level.

In conclusion it is considered that when balanced against all material factors of this case, the proposal's siting and appearance will not have a significance impact on this designated heritage asset. It is clear that the telecommunications development respects the historic qualities of the site and its surroundings, whereby it would not undermine those specific features as listed that warranted the site's designation.

Irrespective of a site designation, the public benefits of the telecommunication development in providing coverage and capacity should be seen as a material planning consideration. The use of mobile devices has become an essential part of everyday life for the vast majority of people in the UK. Indeed mobile technology is important for personal communications, but it is becoming more and more important for businesses, making a vital contribution to overall economic prosperity. In this respect the network infrastructure development progressed by the operators is largely determined by consumer demand. These customers wish to be able to use their devices wherever they are, in which in designated areas this coverage requirement is no different. Albeit Conservation Areas can present difficulties in terms of their built and natural character, it is considered that the technical needs have been addressed by taking a responsible and sensitive approach to the siting and appearance of this base station development. In this regard it is considered that the wider public benefit of providing multiple technologies for two operators is sufficient to outweigh any undue harm to the designated asset.

In light of the case presented above, the applicant considers that the upgrade proposal strikes a good balance between environmental impact and operational considerations.

Health & Safety

Court cases have confirmed that the public perception of health risks can be a material consideration within the planning system. That said the weight to be attached to this issue has to be determined accordingly in each case by the decision maker. However it has been generally upheld and widely established at planning appeal, that health concerns are not a sufficient basis alone for withholding planning permission providing it has been demonstrated that the proposed base station will comply with the International Commission on Non-Ionizing Radiation Protection guidelines.

It should be recognised that it has been long since established that it is Central Government's stance that the planning system is not the appropriate mechanism for determining health safeguards. It remains Central Government's responsibility to decide what measures are necessary to protect public health. Most notably it is Central Government's view that if a proposed development meets the ICNIRP guidelines for public exposure it should not be necessary for a Local Planning Authority, in processing and determining an application for planning permission or prior approval, to consider further the health aspects and concerns about them.

In this respect the operators believe that it is not necessary to consider health effects further. Vodafone and Telefónica as well established operators are committed to ensuring that all new and upgraded installations are ICNIRP compliant. In this regards there should be no basis for this case to be refused on health and safety grounds or for reasons relating to public concerns about health and safety. An ICNIRP compliance certificate is attached as part of this submission, as required by NPPF paragraph 45. As previously noted in this submission statement the ICNIRP declaration takes into account the cumulative effect of the emissions from the proposed upgrade installation and all radio base stations present, at or co-located near to the proposed installation. Albeit the upgrade proposal has dual user capabilities and seeks to provide multiple technologies the radio frequency emissions from the proposed development will be may times lower than the ICNIRP reference standard in all publicly accessible areas around the installation. In the light of the above information, it is clear that the weight

to be given to such health and safety concerns should not be so great as to warrant a refusal of the case on these grounds.

Contact Details

Name: (Agent)	Katherine Jessop	Telephone:	01789 206508
Operator:	Vodafone Ltd	Fax no:	
Address:	Mono Consultants Ltd 58 Cygnet Court Timothys Bridge Road Stratford Upon Avon Warwickshire CV37 9NW	Email:	Katherine.Jessop@monoconsultants.com
Signed:		Date:	14.12.15
Position:	Town Planner	Company:	Mono Consultants Ltd
		on behalf of CTIL & Vodafone Ltd	

DESIGN AND ACCESS STATEMENT

This Design and Access Statement is provided in conjunction with the Supplementary Information Template, drawings and supporting material that was submitted with this planning application.

In accordance with the Code of Best Practice on Mobile Phone Network Development and published Government guidance, this proposal was drawn up having regard to the need for good design.

In particular:

- Considerations of design and layout are informed by the context, having regard not just to any immediate neighbouring buildings but the townscape and landscape of the wider locality. The local pattern of streets and spaces, building traditions, materials and ecology all help to determine the character and identity of the development.
- The scale, massing and height of proposed development have been considered in relation to that of adjoining buildings; the topography, the general pattern of heights in the area; and views, vistas and landmarks.

The following general design principles have been taken into account in respect of this proposed telecommunications development:

- A proper assessment of the character of the area concerned.
- That the design shows an appreciation of context;

SITE CONDITIONS, TECHNICAL CONSTRAINTS, LANDSCAPE FEATURES AND CAPACITY REQUIREMENTS

Introduction

It needs to be borne in mind that the proposed development is for a mobile telecommunications installation. Hence, access is deliberately restricted, where appropriate, for the security of the installation.

Pre Application Discussions and Negotiations

A pre-application consultation email was sent to the LPA on the 20.10.15 which included site-specific draft drawings and outlined the need for the proposed telecommunications base station. To date no comments have been received.

In an email dated 21.10.15 the LPA advised that there is a charge for providing pre-application advice. Therefore, it was considered that when balancing the fees of the LPA for informal advice, together with those incurred for a formal determination, the proposal subject to this application would be advanced.

Although no LPA comments have been forthcoming, it was considered appropriate to progress this application and seek the LPA's formal determination.

Documentation Submitted with Application

- Drawings Ref. No's: 100, 200 and 300 with application site red edged;
- Site Specific Supplementary Information;
- General Background Information for Telecommunications Development;
- Health and Mobile Phone Base Stations document;
- ICNIRP declaration and clarification statement.

Design Component

<u>Use proposed</u>

- The proposed development will consist of a new base station that will provide coverage for both Vodafone Limited and Telefónica UK Ltd, commonly known as O2.
- The proposal will offer improved services and capabilities to the local community, creating better connections that will have social and economic benefits for the area.
- Commercially companies of all sizes, from sole traders to multi-nationals will benefit from improved business efficiency that mobile communications bring. The added security for travellers is a benefit many people will recognise and most families have come to rely on the convenience and reassurance of instant mobile communications.

Amount

- The installation of 9no. dual-user antennas;
- The installation of 3no. 300mm transmission dishes and 3no. RRUs;
- The installation of 5no. rooftop equipment cabinets;

Layout

- The proposal is confined to the useable areas of the roof of the building.

Scale

- The scale of the proposed development is relative to the height of the building, in which the antennas are mounted at 26.175 metres above ground level;

Landscaping

- The proposed development is found on the roof of an existing building, in which in this respect there is no landscaping proposed as part of this application.

Appearance

- The antennas will be mounted to the roof of the plant room and will be located behind GRP shrouding painted to matched the existing brickwork;
- The proposed antennas will be left in their manufactured form;

Access

Given the siting of the proposal on the roof of a tall building, the site will only be accessed by those personnel associated with the applicant. In light of the siting of the antennas on a building and the intended use to provide mobile phone coverage, the public should have no interest or need to access the base station. Therefore it should be recognised that access to the proposal is set well away from recognised public rights of way and is remote from recognised pedestrian and vehicular movements within the public realm.

The applicant will make use of on-site and existing internal routes during construction. It is likely that once built, the site will be visited infrequently for maintenance purposes only. Right of entry to the site will be primarily by foot in which the applicant will make use of on-site and internal access arrangements so as to gain access to the antennas and ancillary equipment. In the event of the antennas that form part of the scheme needing to be maintained this will be achieved by rooftop access or if feasible the siting of a ground based cherry picker with a hydraulic platform alongside the building.

Community Safety

The radio base station will be operated in accordance with the radio frequency or electromagnetic field exposure guidelines suggested by the European Union.

This recommendation is based on the International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines for limiting public exposure to electromagnetic fields. This means that in areas where the general public may spend time, exposure levels will be fully within guidelines which the UK Government and the European Union have recommended and has formal backing of the World Health Organisation.

A declaration of ICNIRP compliance is provided as part of this planning submission.

General Background Information for Telecommunications Development

This document is designed to provide general background information on the development of the Vodafone and Telefónica networks. It has been prepared for inclusion with planning applications and supports network development proposals with generic information.

1.0 INTRODUCTION

Over 25 years ago under the Telecommunications Act 1984, a licence was granted to Vodafone and Telefónica to provide wireless (or mobile) phone services utilising unused radio frequencies adjacent to those transmitted for over 50 years by the television industry. Initially, because this wireless technology was new and the number of potential customers unknown, a number of tall masts were used to provide basic radio coverage to the main populated areas. The design strategy used was similar to that used by local radio and television i.e. tall masts to cover large distances over all types of topography.

It is important to note that in recent years form has followed function and digital technology has resulted in the development of smaller equipment. In addition, smaller radio coverage areas have resulted in antenna/mast heights being generally reduced. The industry has also been able to develop low impact designs for use in sensitive planning areas such as in Conservation Areas, on Listed Buildings, and in National Parks etc. The wireless telegraph pole solution is just one example of a design, which has minimised impact on visual amenity of the local neighbourhood.

2.0 DIGITAL NETWORKS

The Vodafone and Telefónica 2G digital networks were developed in the early 1990s. This digital technology is often referred to as GSM (Global System for Mobile Communications) which is the common European operating standard enabling phones to inter-connect to other networks throughout Europe and Internationally.

In April 2000, Vodafone and Telefónica were successful in their bids for two of the five licences available to provide a 'Third Generation' mobile telecommunications service known as 3G or UMTS. In addition to voice services, this technology enables Vodafone and Telefónica to offer high resolution video and multi-media applications. Among other things this enables office services, virtual banking, e-retailing, video conferencing and high quality broadband internet access to be provided to users on the move. This is all made possible by higher rates of data transfer allowing wireless broadband access to the Internet for mobile phones and laptop computer data card users. The 3G radio base station is designed to provide a service via cells in a similar way as the GSM (2G) system but with a few differences. Due to the increased data transfer, the location of base station sites is even more critical. Base stations must be located where the local demand exists in order to provide the required levels of service, otherwise the network will not function.

In February 2013, Vodafone and Telefónica were successful in their bids for 4G spectrum. 4G (LTE - Long Term Evolution) is the next major enhancement to mobile radio communications networks and will allow customers to use ultra-fast speeds when browsing the internet, streaming videos or sending emails. It also enables faster downloads. To meet this demand and improve the quality of service, additional base stations or upgrades to the equipment at an existing base station may be needed.

Vodafone and Telefónica will ensure they comply with planning policy guidance by ensuring apparatus is installed on existing buildings and structures, including masts wherever possible. However, in spite of these efforts, there are likely to be instances where there is a need to install additional base stations to provide contiguous service. This is largely due to the characteristics of radio propagation at these frequencies, demands on the service and the high data transfer rates.

It is very important to note that mobiles can only work with a network of base stations in place where people want to use their phones or other wireless devices. Without base stations, the mobile phones we rely on simply won't work.

2.1 How the cellular radio network works

The building blocks of the mobile telecommunications network are called radio base stations, which transmit and receive calls to and from mobile phones using radio waves, similar to those used in domestic television and radio equipment. Radio base stations are often associated with free-standing masts, however they can be located on, or even inside, existing buildings and other structures. Vodafone and Telefónica use "radio frequencies" to transmit and receive calls at 900 MHz or 1800 MHz for 2G whilst 3G uses slightly higher frequencies within the 2100 MHz range. 4G will use frequencies within the 800 MHz and 2600 MHz ranges.

2.2 How radio signals are transmitted
The radio signals are transmitted from antennas, which are part of the radio base station and cover an area known as a “cell”, hence the term “cellular phone”. The size of the cell is dependent on a number of factors including the height at which the radio base station is positioned; the topography of the surrounding landscape; anticipated demand; and the population density in the area.

Radio signal transmission from a radio base station can be likened to water being distributed from a garden sprinkler. The area immediately adjacent to the sprinkler remains almost “dry”. However the grass gets progressively wetter moving, further away from the sprinkler, until a wettest point is reached. Then the further away from the centre, the ground becomes progressively drier. Radio base stations provide network services in a similar manner. The area immediately beneath the antennas receives limited or, occasionally, no signal. Moving further away, the signal steadily improves until it reaches an optimum level and then gets progressively weaker.

In order to use mobile phones whenever and wherever we are, a network of radio base stations is required to maintain a continuous signal or ‘network service’ across a geographical area. The network is designed so that the cells from each radio base station slightly overlap. Travelling even a short distance may take us through a number of cell areas. Mobile phones are designed to monitor the strength of signal from surrounding radio base stations and automatically select the clearest signal, which often comes from the nearest site. As you approach the edge of the cell area, the phone will automatically select the adjoining radio base station, to provide a continuous service. This process is known as ‘call handover’.

2.3 Factors affecting network services
The siting of a radio base station is largely dependent on the characteristics of the radio signals, which they transmit. Physical features such as buildings or landscape can obstruct the signals. In open rural areas, one base station can typically cover several kilometres in radius. However, in urban areas where surrounding buildings will obstruct the signal, this range can be reduced to as little as a few hundred metres.

2.4 Network Capacity
Radio base station sites can only receive and transmit a limited number of simultaneous calls to and from mobile phones. In areas where the use of phones is particularly high, such as major towns or cities, many sites will reach the maximum number of calls they can process. When a customer attempts to make a call in an area where the network has reached its full capacity, the ‘network busy’ message is displayed on their mobile phone. In order to continue to meet customer demand and improve the quality of services in these areas, there is a need to increase the capacity of the network to allow more calls to be made.

2.5 Technical Requirements
Vodafone and Telefónica radio engineers identify the need for a new radio base station where the existing signal strength is insufficient to support network requirements, or where demand on the system is such that we need to increase capacity. The location of each radio base station is determined by the following factors:-

- The proximity of adjacent radio base stations and the signal coverage from them.
- The terrain height of the area and surrounding topography.
- The height and density of the buildings and structures within the area.
- The potential customer demand within the area.
- The service type that is required.

3.0 SITE SELECTION PROCESS

The following site selection procedures apply to each new installation to identify and sequentially discount alternative site options:-

1. Following a technical review, which identifies need, Vodafone and Telefónica radio engineers undertake a desktop analysis to identify the best way of meeting the site requirement. This is completed by using computerised radio propagation modelling tools. These tools show every site on the existing networks and identifies those areas where insufficient signal level exists or where there is a need to increase capacity.
2. The desktop search also identifies other operators’ existing telecommunications installations. This interrogation of databases ensures any mast-sharing opportunities are maximised. Where available the LPA’s mast register is also reviewed.
3. The radio engineers define a search area, which is then issued to an acquisition agent who undertakes a detailed ground search with the radio engineer to identify suitable options.
4. The acquisition agent will obtain site-specific details to identify those sites that are viable options. The possible options are short-listed according to those that combine the following: location within or close to the search area, a willing landlord with acceptable commercial terms, adherence to planning and environmental policy,

and other site specific issues such as initial power and link availability. These options are then returned to the radio engineers for a computer modelling assessment, taking into account the ground height, potential available antenna height and surrounding obstructions.

5. Discussions are offered to the local planning authority to consider local policies and any protected areas and to agree additional public consultation if required. These discussions are used to identify a 'preferred' option.
6. A plan for local consultation is drawn up, and where appropriate, a consultation exercise is undertaken with the local community.
7. Finally, a site survey provides a full structural analysis of the site including confirming power routes and how the site will be linked into the network. Terms with the landlord are then finalised, detailed plans prepared and the application submitted.
8. Vodafone and Telefónica are committed to ensuring the number and visual impact of any additional sites is minimised.

4.0 PLANNING POLICY GUIDANCE ON TELECOMMUNICATIONS

The National Planning Policy Framework (NPPF) was published on 27th March 2012. The NPPF supports high quality communications infrastructure and recognises it as a strategic priority. At paragraph 42 it states that: *"Advanced, high quality communications infrastructure is essential for sustainable economic growth. The development of high speed broadband technology and other communications networks also plays a vital role in enhancing the provision of local community facilities and services."*

The NPPF goes on to state at paragraph 46 that: *"Local planning authorities must determine applications on planning grounds. They should not seek to prevent competition between different operators, question the need for the telecommunications system, or determine health safeguards if the proposal meets International Commission guidelines for public exposure."*

5.0 SITE / MAST SHARING

Vodafone and Telefónica actively encourage and support site sharing for both commercial and environmental reasons. All operators are required to explore site-sharing opportunities under the terms of their licences. Vodafone and Telefónica have implemented a number of measures to identify and maximise site-sharing opportunities.

6.0 COUNCILS

6.1 Moratoria

Local authorities should make suitable council owned property available to network operators for base station development. If suitable council sites are not made available, operators may have to look for alternative sites which the local community might find less acceptable.

Moratoria may also increase the number of new sites needed as council owned buildings are often better suited for base stations e.g. tall buildings. The operators believe it is preferable to deal with proposed developments on council property on a case by case basis.

6.2 Mast register

Guidance in the Code of Best Practice on Network Development recommends that local authorities develop a register of local base stations.

Local Planning Authorities should ensure that any mast register is kept up to date.

7.0 CONSULTATION WITH SCHOOLS

The operators fully comply with Government Guidance on pre application consultation with schools and colleges. They provide evidence to the local planning authority that they have consulted the relevant body of the school or college.

The Code of Best Practice on Mobile Network Development gives guidance on the factors operators should consider when determining whether consultation is required, as each development is different. These factors are equally applicable for Local Planning Authorities who carry out their own consultation once the application has been submitted.

A recent report stated that there is no scientific basis for siting base stations away from schools (NRPB report, January 2005)

8.0 LEGAL CASES

The following legal cases may be helpful;-

8.1 Harrogate case November 2004

The Court of Appeal gave a judgment that Government Planning Guidance in PPG8 (now replaced by the NPPF) is perfectly clear in relation to compliance with the health and safety standards for mobile phone base stations. The Court of Appeal and the High Court both upheld Government policy in response to a planning inspector's decision that departed from that policy and failed to give adequate reasons for doing so.

8.2 Winchester case November 2004

The Court of Appeal decision upheld an earlier decision by Mr Justice Sullivan that a mobile phone network operator should not use its compulsory acquisition powers as part of its day to day radio base station siting processes.

The Court of Appeal agreed with Mr Justice Sullivan that these far-reaching statutory powers were never intended for use in day to day planning situations and should be used by an operator only as a last resort when there is no other siting alternative. The House of Lords on 16 March 2005 refused leave to appeal the Court of Appeal ruling.

8.3 Bardsey case January 2005

The Court of Appeal confirmed that the permitted development regime for mobile phone base stations is compliant with the Human Rights Act.

This was a case in which a local planning authority failed to comply with its obligations to act within the 56 day period provided under the permitted development regulations.

9.0 FURTHER INFORMATION

We trust the above answers your main queries regarding our planned installation.

The enclosed site-specific details will identify any alternative discounted options and reasons why they were rejected and how the proposed site complies with national and local planning policies.

The Local Government Ombudsman's Special Report on Telecommunication Masts gives some positive recommendations and advice to Local Planning Authorities in determining Prior Approval applications. A copy of the report is available at http://www.lgo.org.uk/pdf/phone-masts-sr.pdf

RADIO PLANNING AND PROPAGATION
An introduction to how radio networks are planned and the limitations associated with the technology.

When planning cellular telecommunications networks it is important for engineers to predict, with a high degree of confidence, the behaviour of cellular transmissions. This then enables the operator to calculate how many cell sites are needed to provide the level of coverage required by the services they offer under the terms of their licence.

The strength of radio signals detected at a receiving device naturally reduces the further away it is from the transmitter. In general the reduction (or decay) in signal power is affected by a number of variables. The main factors are: -

- frequency,
- distance (from transmitter),
- terrain (such as hills),
- clutter (such as buildings, foliage, vehicles, and water)
- and atmospheric conditions (such as rain).

A reduction in the strength of the radio signal increases the likelihood of dropped calls and reduced data rates for internet browsing, for example.

Clutter

Any physical object obstructing the propagation of radio signals causes a reduction in signal strength reaching a customer's device. A common term for these objects is 'clutter'. The more obvious examples are buildings, trees and geographical terrain such as hills.

Buildings cause a varying amount of signal reduction depending on their height, construction, thickness of walls, amount of windows etc. Glass causes a lower reduction in signal than brick/concrete walls.

Customers will inadvertently be aware of this by finding that sometimes they need to go near windows, a higher floor of a building or even outside in order to achieve a stronger signal for their mobile devices.

Tree Clutter

The effects of trees on signal degradation should never be underestimated. Signal absorption and shadowing effects vary according to vegetation and density, and are caused by the main tree trunk, branches and leaves.

Cell sites located in or near trees will have signals significantly reduced. As a result a number of extra sites may need to be built locally in order to counter-effect this.

Signal variation throughout the seasons is also a practical concern. Leaves on trees in the spring and summer can cause shadowing and reduce radio voice quality and increase the number of dropped calls.

As a result the bottom of an antenna should be a) above the top level of the trees, b) allow greater height due to the antenna down-tilt at build or for future requirements and c) allow some room for future growth of the trees.

In the case where the cell site utilises point-to-point microwave backhaul transmission, the microwave dish should not be obscured at all.

Propagation Models

In essence these are mathematical formulae used to characterise radio wave propagation, in order to determine the received signal strength at a receiving device.

The most well-known propagation model used for mobile telecommunications is 'Okamura-Hata'. More specific studies have been performed to investigate specific clutter and terrain such as dense-urban and urban environments. Resulting from these are propagation models for specific clutter types.

Coverage Planning Tools

Radio planning engineers plan cellular networks using highly sophisticated computer programs that incorporate the above propagation models. Armed with data on cell site location, cell site configuration, maps, terrain etc they are used to predict areas of coverage deficiency (so called 'coverage holes'), new site requirements and configurations.

Network Changes

Over time the topography and clutter in an area is subject to change. For example, building developments, housing and tree growth can all change. As a consequence the signals received from local phone masts can degrade, as they are dependent on these factors. These reasons along with customer complaints, network consolidation (mast sharing) and new technologies (4G) require a re-evaluation of a network operator's telecommunications infrastructure.

Mast sharing can result in some masts no longer being needed. As a result they are decommissioned and physically removed.

Technical surveys undertaken for reasons above may highlight that antenna height increases are required – this is more likely for sites with low antenna heights around 15 metre above ground level, particularly street furniture sites. More details on these reasons are discussed below.

While thus far this document is generic to mobile telephony masts it should be noted that each mast has to be dealt with on a case-by-case basis.

Site Height increases

There are a number of reasons why an operator may request a height increase of existing structures. The main ones are described below.

Maintaining existing coverage
The antennas inside, for example, street furniture sites are generally of 2 physical build designs – 'Single Stack' and 'Dual Stack'. The former describes when the set of antennas are all at the same height. The latter describes a site with two sets of antennas positioned one above the other.

The 'Dual Stack' is by far the preferred option. This is due to a number of factors including greater flexibility and control for different technologies and providing optimum service performance to customers.

Network consolidation between Vodafone and Telefonica and new 4G technologies can facilitate a Single Stack structure being upgraded to a Dual Stack structure. In a straight swap scenario at equal height, the new lower antennas would be lower than they were originally resulting in significantly reduced coverage. To ensure existing coverage is maintained the whole structure needs to be increased in height.

Clutter changes
A more extreme example is when the local clutter or tree line have changed, or are such that the mobile signals are blocked, resulting in lower quality calls and downloads for mobile device users. To provide sufficient services to customers height increases of existing masts or additional new masts are required. The former is the preferred option in many cases.

ICNIRP Compliance
The addition of new technologies and mast sharing affects ICNIRP compliance, in which a higher minimum antenna height above ground level is required in some cases.

HEALTH AND MOBILE PHONE BASE STATIONS 2015

We recognise that the growth in mobile technology has led in some cases to public concern about perceived health effects of mobile technology and its deployment, in particular about siting masts close to local communities. Quite naturally, the public seeks reassurance that they are not in any way harmful or dangerous.

We take these public concerns seriously and are committed to providing the latest independent peer-reviewed research findings, information, advice and guidance from national and international agencies on radiofrequency (RF) electromagnetic fields.

Vodafone and Telefónica ensure that our radio base stations are designed and operated so that the public are not exposed to radio frequency fields above the guidelines set by the International Commission on Non-Ionizing Radiation Protection (ICNIRP). In fact, radio base stations operate at low power and emit low levels of radiofrequency fields, typically hundreds to thousands of times lower than the ICNIRP general public guidelines.

Research Reviews

There are about 1400 peer-reviewed publications on the biological and health effects of RF signals[2], which are used in mobile communication technology. The scientific community have collated, summarised and assessed these publications in research reviews, the most influential in the UK being the Mobile Phones and Health Report (also known as the Stewart Report) by the Independent Expert Group on Mobile Phones under the chairmanship of Professor Sir William Stewart. These research reviews are used by Governments to develop policy on exposure to radiofrequency signals.

Published in May 2000, the Stewart Report concluded that the balance of evidence did not suggest that exposures to radio frequency fields below international guidelines could cause adverse health effects, although it acknowledged that biological effects might occur below these values. The report stressed, however, that a biological effect does not necessarily mean a negative impact on health. Walking, drinking a glass of water or listening to music all produces biological effects.

Since 2000, over 30 further reviews have been carried out, carefully considering many hundreds of pieces of research. Most have made similar recommendations and have come to similar conclusions: that research should continue to address any gaps in the knowledge; and that overall, the possibility of adverse health effects from mobile communications remains unproven.

In June 2011 the World Health Organisation (WHO) noted that *"A large number of studies have been performed over the last two decades to assess whether mobile phones pose a potential health risk. To date, no adverse health effects have been established as being caused by mobile phone use"* WHO factsheet 193: Electromagnetic fields and public health: mobile telephones

In April 2012 the Health Protection Agency's independent Advisory Group on Non-ionising Radiation (AGNIR) published a report entitled "Health Effects from Radiofrequency Electromagnetic Fields". This report concluded that there is no convincing evidence that mobile phone technologies cause adverse effects on human health. In addition, AGNIR found that although a substantial amount of research has been conducted, there is no convincing evidence that RF field exposure below the internationally agreed guideline levels applied in the UK causes health effects in adults or children.

Research reviews are used by guideline setting bodies and Governments to develop advice and public policy on exposure to the signal used by mobile communications technology.

Compliance with International Exposure Guidelines

All Vodafone and Telefónica installations are designed constructed and operated in compliance with the precautionary ICNIRP public exposure guidelines as adopted in EU Council Recommendation of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz). These guidelines have been set following a thorough review of the science and take into consideration both thermal and non-thermal effects and are there to protect all members of the public 24 hours a day. In addition, precautionary measures have been taken into account when setting relevant guideline limits for the public (i.e. in the UK a safety factor of 50 times is applied to the public exposure guideline).

When measured, field strengths are typically hundreds to thousands of times lower than the precautionary ICNIRP general public guidelines.

[2] Source: MMF web site: http://www.mmfai.org/public/research-overview.cfm?lang=eng

An ICNIRP certificate is provided with every planning application and this certifies that the mobile phone base station, when operational, will meet the precautionary ICNIRP guidelines. We also provide further documentation to clarify that the ICNIRP certificate declares that emissions from all mobile phone network operators' equipment on the site are considered when determining compliance.

ICNIRP Guidelines
The radiofrequency public exposure limits for EMF fields were developed by the International Commission on Non-Ionizing Radiation Protection (ICNIRP) http://www.icnirp.org following reviews of all the peer-reviewed scientific literature, including thermal and non-thermal effects. ICNIRP is a non-governmental organisation formally recognised by WHO. Established biological and health effects have been used as the basis for the ICNIRP exposure restrictions. The ICNIRP guidelines have been adopted for use in the European Union and the UK.

In August 2009, ICNIRP published a review of the guidelines for limiting RF exposure and concluded that "*it is the opinion of ICNIRP that the scientific literature published since the 1998 guidelines has provided no evidence of any adverse effects below the basic restrictions and does not necessitate an immediate revision of its guidance on limiting exposure to high frequency electromagnetic fields.*"

Further Information:

World Health Organisation - http://www.who.int/peh-emf/en/
EMF Project

ICNIRP - http://www.icnirp.org/
International Commission on Non-Ionizing Radiation Protection

HPA - http://www.hpa.org.uk/HPA/Topics/Radiation/UnderstandingRadiation/1158934607698/

UK Mobile Telecommunications and Health Research - http://www.mthr.org.uk/

UK Mobile Operators Association - http://www.mobilemastinfo.com/

Or contact:
CTIL Community Consultation & EMF Enquiries, The Exchange, Building 1330, Arlington Business Park, Theale, Berkshire, RG7 4SA

Tel. 01753 564306
Email - emf.enquiries@cornerstonemobile.net

Our ref: 147982_VF

Head of Planning
Camden Council
Regeneration and Planning
6th Floor
Camden Town Hall Extension
Argyle Street
London
WC1H 8EQ

14.12.15

Dear Sir or Madam,

CLARIFICATION OF THE DECLARATION OF ICNIRP COMPLIANCE ISSUED AS PART OF THE PLANNING APPLICATION ATTACHED FOR THE SITE - CTIL 147982 / VF 80443 / TEF 72424 AT GENERATOR HOSTEL, 37 TAVISTOCK PLACE, LONDON, WC1H 9SE

I refer to the Declaration of Conformity with ICNIRP Public Exposure Guidelines ("ICNIRP Declaration"), sent with this application in relation to the proposed telecommunications installation as detailed above.

The "ICNIRP Declaration" certifies that the site is designed to be in full compliance with the requirements of the radio frequency (RF) guidelines of the International Commission on Non-Ionizing Radiation (ICNIRP) for public exposure as expressed in the EU Council recommendation of July 1999.

The ICNIRP declaration produced by Vodafone Ltd takes into account the cumulative effect of the emissions from the proposed installation and <u>all</u> radio base stations present at, or near, the proposed location.

The radio emission compliance calculation is based upon the maximum possible cumulative values.

All operators of radio transmitters are under a legal obligation to operate those transmitters in accordance with the conditions of their licence. Operation of the transmitter in accordance with the conditions of the licence fulfils the legal obligations in respect of interference to other radio systems, other electrical equipment, instrumentation or air traffic systems. The conditions of the licence are mandated by Ofcom, an agency of national government, who are responsible for the regulation of the civilian radio spectrum. The remit of Ofcom also includes investigation and remedy of any reported significant interference.

The telecommunications infrastructure the subject of this application accords with all relevant legislation and as such will not cause significant and irremediable interference with other electrical equipment, air traffic services or instrumentation operated in the national interest.

If you have any further enquiries concerning the "ICNIRP Declaration" certificate or anything else in this letter then please contact CTIL Community Consultation & EMF Enquiries on 01753 564306.

Yours faithfully,

PROJECT MANAGER
Mono Consultants Ltd

For and on behalf of Cornerstone Telecommunications Infrastructure Limited (CTIL) and Vodafone Limited as a duly authorised agent

Our ref: 147982_VF

Declaration of Conformity with International Commission of Non-Ionizing Radiation Public Exposure Guidelines

("ICNIRP Declaration")

Vodafone Ltd
Vodafone House
The Connection
Newbury
Berkshire
RG14 2FN

Declares that the proposed equipment and installation as detailed in the attached planning application at;

Generator Hostel
37 Tavistock Place
London
WC1H 9SE

(NGR E530187, N182488)

is designed to be in full compliance with the requirements of the radio frequency public exposure guidelines of the International Commission on Non-Ionizing Radiation as expressed in the EU Council Recommendation of 12 July 1999 * "on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz)".

* Reference: 1999/519/E

Date 14.12.15

Signed

Name Chelsey Swain

Position Project Manager