



**TELECOMMUNICATIONS
BASE STATION UPGRADE WORKS**

CTIL and Vodafone Limited

Existing Telecommunications Base Station at

**THE DEPOSITORY
CANADA GROVE
BOGNOR REGIS
WEST SUSSEX
PO21 1DW**

**SUPPLEMENTARY
INFORMATION FORM**

and

SUPPORTING STATEMENT

September 2015

Daly International (UK) Ltd.

**Ref: (CS) 120717 - (VF) 95164
- The Depository**

DALY INTERNATIONAL (UK) Ltd • Site Acquisition • Town Planners • Designers • Construction • Project Managers
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SUPPLEMENTARY INFORMATION

1. Site Details

Site Name:	The Depository	Site Address:	The Depository, Canada Grove, Bognor Regis, West Sussex PO21 1DW
NGR:	((E) 493380 (N) 99320		
Site Ref Number:	(CS)120717 - (VF)95164	Site Type: ¹	Macro

2. Pre Application Check List

Site Selection

Was a LPA mast register available to check for suitable sites by the operator or the LPA?	Yes	No
If no explain why: The proposal is an upgrade of an existing site. The use of existing sites as a framework for the expansion or development of new networks is in accordance with local and national (NPPF) planning policies.		
Were industry site databases checked for suitable sites by the operator:	Yes	No
If no explain why: The proposal is an upgrade of an existing site. The use of existing sites as a framework for the expansion or development of new networks is in accordance with local and national (NPPF) planning policies. Appendix B of the <i>Code of Best Practice</i> (first published November 2002, revised July 2013) echoes the NPPF's emphasis on the re-development or sharing of existing telecoms sites as a means of reducing the number of such sites to the minimum consistent with the efficient operation of the network.		

Annual Area-Wide Information to LPA

Date of information submission to local planning authority	October 2014
Name of Contact:	
Summary of any issues raised:	An annual update plan was provided to the LPA by CTIL in October 2014 listing cell sites identified for planned upgrade works in 2015.

Pre-application consultation with LPA

Date of written offer of pre-application consultation:	01.09.2015	
Was there pre-application contact:	Yes	No
Date of pre-application contact:	n/a	
Name of contact:	n/a	
Summary of outcome/Main issues raised:		
No response forthcoming from the LPA.		

Ten Commitments Consultation

Rating of Site under Traffic Light Model:	Green	Amber	Red
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¹ Macro or Micro

Outline of consultation carried out: Pre-application consultation packages including drawings of the proposal were issued to: Cllr Jim Brooks Cllr Dougal Maconachie Bognor Regis Town Council
Summary of outcome/Main issues raised: No pre-app responses from the consultees.

School/College

Location of site in relation to school/college No local schools were identified as 'near' the proposal or to be candidates for pre-application consultation, when measured against the criteria listed in Appendix D of the Code of Best Practice (2013), p.44.
Outline of consultation carried out with school/college N/A
Summary of outcome/Main issues raised: N/A

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		

Developer's Notice

Copy of Developer's Notice enclosed?	Yes	No
Date served:	14.09.2015	

3. Proposed Development

The site: Existing telecommunications mast at: THE DEPOSITORY, CANADA GROVE, BOGNOR REGIS, WEST SUSSEX PO21 1DW [NGR: (E) 493380 (N) 99320]
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Type of Structure:	
The current telecommunications site is a rooftop installation comprising 6no. antennas mounted on a Delta headframe at a total height of 22.2m; 5no. equipment cabinets; plus minor ancillary apparatus.	
Proposal Description:	
Replacement of 6 no. existing antennas with 9 no. proposed antennas, Replacement of 5 no. equipment cabinets with 6 no. proposed cabinets within cabin; plus minor ancillary apparatus.	
Overall Height:	22.2m
Height of existing mast:	22.2m
Equipment housing:	
Equipment housing dimensions:	
Height of proposed dish antennas (CL)	n/a
Materials:	
Antennas – type of material and external colour:	Steel – grey
Cabinets	Steel - grey

Reasons for choice of design:
The current installation provides 2G and 3G only coverage to Vodafone customers in the area. As part of Vodafone's continued network improvement program, there is a specific requirement for a radio base station upgrade at this location to provide new 4G (Fast data) service, plus enhanced, integrated 2G & 3G & 4G for both Vodafone and Telefónica to improve overall capacity. The site, following the proposed upgrade, will be 'future proof' meaning it will also be capable of accommodating new, more advanced technologies when they come on stream. The replacement antenna complement is required due to changed radio coverage dynamics (new 2G and 3G for Telefónica & new 4G for both operators) associated with its new position providing new technologies at different frequencies for two operators within the overall upgraded, integrated network. Development of this site provides an opportunity to improve the existing local telecommunications network and show compliance with national and local planning policies which both encourage the usage of existing structures and sharing of telecommunications facilities. The upgraded installation will provide service to the customers of two operators, adhering to national (NPPF) and local telecommunications policies with regard to mast sharing.

4. Technical Information

ICNIRP Declaration attached	Yes	No
Frequency:	2G: 900 MHz, 3G: 900 MHz, 2100MHz 4G: 800 MHz	
Modulation characteristics ²	See below	
Power output (expressed in EIRP in dBW per carrier)	Maximum 32 dBW	

²The modulation method employed in 2G (GSM) is GMSK (Gaussian Minimum Shift Keying) which is a form of Phase modulation
The modulation method employed in 3G (UMTS) is QPSK (Quad Phase Shift Keying) which is another form of Phase Modulation
The modulation method employed in 4G (LTE) is 64 QAM (Quadrature Amplitude Modulation) which is another form of Phase Modulation

ONIRP 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 the site are taken into account. In order to minimise interference within its own network and with other radio networks, Vodafone 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's network, the radio base station that is the subject of this application will be configured to operate in this way. 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.	
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5. Technical Justification

Reason(s) why site required e.g. coverage, upgrade, capacity:
The current installation provides 2G and 3G coverage to Vodafone customers in the area. As part of Vodafone's continued network improvement program, there is a specific requirement for a radio base station upgrade at this location to provide new 4G (Fast data) service, plus enhanced, integrated 2G & 3G & 4G for both Vodafone and Telefónica to improve overall capacity. The site, following the proposed upgrade, will be 'future proof' meaning it will also be capable of accommodating new, more advanced technologies when they come on stream. The replacement antenna compliment is required due to changed radio coverage dynamics (new 2G & 3G for Telefónica & new 4G for both operators) associated with its new position providing new technologies at different frequencies for two operators within the overall upgraded, integrated network. The new replacement antennas will administer the aforementioned services to the customers of both Vodafone and Telefónica, adhering to national (NPPF) and local telecommunications policies with regard to mast sharing. The upgrade of this mast provides a suitable juncture to improve the existing local telecommunications network and demonstrate conformity with national and local planning policies which both promote the usage of existing structures and sharing of telecommunications installations. Further detail regarding the general operation of the network 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.

Site Selection Process

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

The proposal is an upgrade of an existing site. The use of existing sites as a framework for the expansion or development of new networks is in accordance with local and national (NPPF) planning policies.

Appendix B of the *Code of Best Practice* (first published November 2002, revised July 2013) echoes the NPPF's emphasis on the re-development or sharing of existing telecoms sites as a means of reducing the number of such sites to the minimum consistent with the efficient operation of the network.

Land use planning designations:

The site is within the Bognor Regis Railway Station Conservation Area and so relevant policies have been considered - the proposal has been produced in compliance with the Local Plan policy relating to telecommunications development and national planning policy.

Additional relevant information:

Please refer to Supporting Statement (below).

Contact Details

Name: (Agent)	James Cain	Telephone:	
Operator:	Vodafone Limited	Fax no:	
Address:	Daly International (UK) Ltd Theale House (Building B 1st Floor), Brunel Road, Theale, RG7 4AQ	Email Address:	jim@jnpc.co.uk

Signed:	<u>James Cain</u>	Date:	16.09.2015
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Position:	Planning Consultant	Company:	
		(on behalf of CTIL and above operator)	

SUPPORTING STATEMENT

This statement forms part of an application on behalf of CTIL & Vodafone Ltd. To assist your determination this section provides a description of the process adopted in the design of the proposal and an assessment of its merits against relevant local and national (NPPF) planning policy.

Application for Prior Approval

As an electronic communications network operator, Vodafone Limited has the benefit of permitted development rights under Part 16 of Schedule 2 to the Town and Country Planning (General Permitted Development) (England) Order 2015.

This is an application for a determination as to whether the prior approval of the Authority will be required to the siting and appearance of the development.

Introductory Note

Vodafone Limited has entered into an agreement with Telefónica UK Limited pursuant to which the two companies plan to jointly operate and manage a single network grid across the UK. These arrangements will be overseen by *Cornerstone Telecommunications Infrastructure Ltd* (CTIL) which is a joint venture company owned by Vodafone Limited and Telefónica UK Limited. This agreement allows both organisations to:

- pool their basic network infrastructure, while running two, independent, nationwide networks
- maximise opportunities to consolidate the number of base stations
- significantly reduce the environmental impact of network development

This application is submitted for and on behalf of CTIL and Vodafone Limited. As part of Vodafone's continued network improvement program, there is a specific requirement for a radio base station upgrade at this location to provide new 4G coverage and enhanced, upgraded and integrated 2G & 3G coverage on the part of two operators. The site will become 'future proof', meaning capable of accommodating new, more advanced technologies when they come on stream.

Site

This is an existing rooftop installation comprising of 6no. antennas mounted on a Delta headframe and 5no. equipment cabinets on top of the 4 storey building on Canada Grove known as The Depository. The site is centrally located within Bognor Regis town centre, approximately 20 metres south of the railway station.

The Depository is situated at the junction of Canada Grove and Station Road which also contains the attractive cinema building to the west. The existing installation has been sensitively designed so as not to be prominent within the street scene – the existing headframe is centrally located on the rooftop and only fleeting glimpses of the existing 6no. antennas are possible from the street level below. The existing antennas are coloured grey so the visual impact is lessened when viewed against the backdrop of the sky. None of the other rooftop equipment is visible from street level.

This is a commercial area with a number of shops and businesses being located along Station Road – Canada Grove itself is more residential in nature.

Design and Appearance

The replacement antennas are required due to changed radio coverage dynamics (new 4G for Vodafone and new 2G, 3G and 4G for Telefónica customers) associated with its new position providing new technologies at different frequencies for two operators in the overall upgraded network.

The proposal will look little different from the existing structure being of the same height but with 6no. existing antennas being replaced by 9no. antennas. The installation will continue to be coloured grey in order reduced the visual impact of the proposal when viewed against the sky.

While it is acknowledged that the proposed upgrade will adjust the appearance of the existing installation, it will cause only a minimal impact on the integrity of the local visual environment.

The above has demonstrated that the proposed upgrade will only slightly adjust the appearance of the existing installation. The immediate surrounding landscape will provide a discrete siting for this installation, helping ensure that any effect on the virtue of the local ocular backdrop will be minimal in nature.

Possible Electrical Interference

We can advise on behalf of our client that the proposed installation should not cause any undue electrical interference for nearby residents. Vodafone and Telefónica operate within radio frequency bands which are licensed and specific to them and this is regulated in the UK by the Office of Communications (Ofcom).

Health and Mobile Phone Base Stations

The Mobile Phones and Health Report (2000), by the *Independent Expert Group on Mobile Phones* under the chairmanship of Professor Sir William Stewart (the *Stewart Report*) concluded that "the balance of evidence indicates that there is no general risk to the health of people living near to base stations on the basis that exposures are expected to be small fractions of the guidelines".

The Stewart Report recommended that, as a precautionary approach, the *International Commission on Non-ionizing Radiation Protection* (ICNIRP) guidelines for public exposure be adopted in the UK. In response to the report, Government has stated that emissions from base stations should meet the ICNIRP guidelines and that if they do then local authorities need take no further action.

One of the recommendations of the Stewart Report was to establish a research programme to address uncertainties regarding mobile phone base stations and health. This programme was called the Mobile Telecommunications and Health Research (MTHR) Programme. The final report from this programme was published in February 2014. The report noted that the research conducted found no evidence of biological or adverse health effects from the radio waves produced by mobile phones or their base stations.

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.

All Vodafone and Telefónica installations are designed, constructed and operated in compliance with the precautionary ICNIRP public exposure guidelines. An ICNIRP certificate is provided as part of this application.

For further detail on these topics, please refer to the accompanying document entitled 'Health and Mobile Phone Base Stations'.

Noise

There will be no noise issues related to this site.

Planning Policy Framework

Local Planning Policy

The relevant plan that must be considered is the Arun Local Plan (adopted 2003). As this site is located within a conservation area, Local Plan Policy Area2 must be taken into consideration as set out below:-

POLICY AREA2 Conservation Areas

Planning permission will be granted for development which preserves or enhances the character or appearance of a Conservation Area or its setting.

This policy is the same as the statutory test for all development within conservation areas – the requirement to preserve or enhance the character or appearance of the conservation area or its setting. As this is an existing installation the additional visual impact of replacing the 6no. existing antennas with 9no. proposed antennas is the only possible impact upon the character or appearance of the conservation area (the replacement equipment cabinets are not visible from the public domain). It is considered that this is a negligible impact that will continue to preserve the character or appearance of the conservation area. The antennas will continue to be coloured grey so as to minimise the visual impact of them when seen against the backdrop of the sky.

Policy Dev41 of the Local Plan concerns telecommunications development and is set out below:-

POLICY DEV41 Telecommunications

Planning permission will be granted for telecommunications development provided that it is demonstrated that careful consideration has been given to possible sharing of sites or use of existing buildings or structures, and that there are no satisfactory alternative sites available, and the following criteria are met:

- (i) Development will not be permitted within the Area of Outstanding Natural Beauty, Sites of Special Scientific Interest or Conservation Areas unless the developer is able to demonstrate a sequential approach has been taken and that there are no suitable alternative locations. Under such circumstances considerable weight will be placed on good design and landscaping to minimise visual intrusion. Elsewhere, proposals should not harm local amenity.
- (ii) The use of conditions or planning agreements will be considered to secure landscaping, as well as restoration of the site once operations have ceased.

Where prior notification is required, the Council will require developers to demonstrate what attempts have been made to minimise impact through appropriate siting and design.

This is a rooftop installation so satisfies the sequential test of utilising existing structures and site sharing in the first instance. This proposal will avoid the need to find another, possibly ground-based, telecommunications installation in the search area. The negligible additional visual impact (which it is considered will continue to preserve the character or appearance of the conservation area) should be considered against the social and economic benefits that this proposal will bring to residents and businesses in this busy commercial area in the planning judgement.

National Planning Policy

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:

"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."

Paragraph 43 advises:

"where new sites are required, equipment should be sympathetically designed and camouflaged where appropriate."

Paragraph 44 states:

"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".

In paragraph 45 it is confirmed that applications must include evidence to justify the proposal. This should include information relating to pre-application consultation with nearby schools or colleges, information relating to alternative sites investigated and a certificate of ICNIRP compliance.

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."

Evaluation in Light of National and Local Policy

The national policy documentation highlights the government's positive stance regarding telecommunications development while highlighting the environmental and social benefits telecommunications can provide if employed correctly.

It is suggested that the proposed development adheres to each of the criteria as set out in this policy. Firstly, the proposal is to upgrade an existing structure to ensure no further masts are erected within the local area limiting any potential impact upon on local amenity. Due to network integration requirements the installation has to be located in a specific geographic location and it was considered that this was the best site in the locality that would allow the equipment to provide the service required while causing the least amount damage to amenity. As outlined above, the design solution put forward for this site has been carefully considered to ensure that it is of the minimum size that will allow for the provision of the coverage required and of a design that will ensure it can be readily accommodated within the local landscape.

It has clearly been demonstrated in the siting and design section that great care and consideration has been afforded to the problem posed by delivering an adequate telecommunications network to this area of Bognor Regis which would have a minimal impact on the amenities of the local area, and that the solution put forward is the optimum from a technical and planning perspective. The installation will meet the 3G coverage currently provided by the existing installation which is to be decommissioned while will also provide the most up to date technology (4G) thus negating the need for a further installation in this locality to provide this much coveted service.

Taking all of this into consideration it is our opinion that the proposal meets all the local policy stipulated by Arun District Council and national policy within the NPPF.

Code of Best Practice on Mobile Network Development

The *Code of Best Practice* (first published November 2002, revised July 2013) is produced jointly by a wide body of industry stakeholders, counting amongst them Mobile Phone Operators and representatives of Central and Local Government. It provides clear and practical advice to ensure the delivery of significantly better and more effective communication and consultation between operators, local authorities and local residents.

Though the Code is a non-statutory document, as it was prepared jointly by representatives of central and local government and the mobile phone industry, it is considered to be a material consideration in this case.

General siting and design principles for all telecommunications installations are provided in Appendix B of the Code. The principles exist subject to the following variables:

"...site conditions, technical constraints, landscape features and coverage and capacity requirements".

Appendix B echoes the NPPF's emphasis on the re-development or sharing of existing telecoms sites as a means of reducing the number of such sites to the minimum consistent with the efficient operation of the network.

Using simple and unfussy designs. Masts which have complex designs are more likely to dominate and be in discord with the landscape and have adverse visual impacts;

appropriate colouring. Masts seen against the sky, for example, are best left in their galvanised state or painted pale grey. Against a wooded backdrop a matt green or brown colour scheme would be more applicable.

In summary, the planning application submitted herewith fully embraces both the voluntary and compulsory good practice principles contained within the Code.

Conclusions

After taking into account all relevant factors in this area it is considered that the Depository telecommunication base station upgrade is optimal in terms of required coverage, reduction of negative impact upon local amenity/adverse effects on the surrounding landscape, and compliance with local and national policy.

For the reasons set out above, we consider that this application should be approved.

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/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 (sometimes called 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 / 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 / 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.

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 para. 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 Para. 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>