



**TELECOMMUNICATIONS
BASE STATION UPGRADE WORKS**

CTIL and Vodafone Limited

Existing Telecommunications Base Station at

**BY-DESIGN,
112 ELM GROVE,
HAYLING ISLAND,
HAMPSHIRE,
PO11 9ET**

**SUPPLEMENTARY
INFORMATION FORM**

and

**SUPPORTING STATEMENT
(incorporating DAS)**

July 2015

Daly International (UK) Ltd.

**Ref: (CS) 122117 (VF) 3032
BY-DESIGN**

SUPPLEMENTARY INFORMATION

1. Site Details

Site Name:	BY-DESIGN	Site Address:	By-Design, 112 Elm Grove, Hayling Island, Hampshire, PO11 9ET
NGR:	(E) 472232 (N) 099703		
Site Ref Number:	(CS) 122117 (VF) 3032	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:	08.06.2015	
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:		
Full consultation package including drawings of the proposal issued. As the proposal consists of a routine upgrade of an existing site, it was deemed acceptable to apply for permission without receipt of pre application feedback in this instance.		

¹ Macro or Micro

Ten Commitments Consultation

Rating of Site under Traffic Light Model:	Green	Amber	Red
Outline of consultation carried out:			
Pre-application consultation packages including drawings of the proposal were issued to:			
Cllr David Collins Cllr John Perry Cllr Leah Turner Childs Play Nursery School Mengham Infant School Mengham Junior School			
Summary of outcome/Main issues raised:			
To date no response received.			

School/College

Location of site in relation to school/college
Both Childs Play Nursery School, Mengham Infant School and Mengham Junior School were identified 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:	24.03.2015	

3. Proposed Development

The site:

Existing telecommunications mast at:

BY-DESIGN, 112 ELM GROVE, HAYLING ISLAND, HAMPSHIRE, PO11 9ET.
[NGR: (E) 472232 (N) 099703]

Type of Structure:

The current telecommunications site is comprised of a 17.3m tall mast (3 no. antennas), with 1 no. meter cabinet and 1 no. equipment cabin at ground level.

Proposal Description:

Replacement of existing 17.3m mast (3 no. antennas) with new 17.3m mast (3 no. antennas). Installation of 3 no. new 300mm dish antennas; plus ancillary works.

Overall Height:	17.3m
-----------------	-------

Height of existing mast:	17.3m
--------------------------	-------

Height of proposed dish antennas (CL)	13.75m & 14.75m
---------------------------------------	-----------------

Materials:

Antennas/Dish antennas – type of material and external colour:	Steel/plastic – Grey to match that the new proposed monopole
--	--

New mast	Steel – Grey to match that being removed.
----------	---

Reasons for choice of design:

The current installation provides 2G (calls) & 3G (internet) coverage to Vodafone, and (3G) coverage to Telefónica 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 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 new 17.3m mast is required due to changed radio coverage dynamics (new 2G & 4G 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 dish antennas are required to support the provision of additional frequencies and capacity of the site on the part of two operators, by linking the site to surrounding, upgraded cell sites.

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 mast 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, 1800 MHz 3G: 900 MHz, 2100 MHz 4G: 800 MHz	

Modulation characteristics ²	See below
Power output (expressed in EIRP in dBW per carrier)	Maximum 32 dBW
ICNIRP 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.	

5. Technical Justification

Reason(s) why site required e.g. coverage, upgrade, capacity:
The current installation provides 2G (calls) & 3G (internet) coverage to Vodafone, and (3G) coverage to Telefónica 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 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 new 17.3m mast is required due to changed radio coverage dynamics (new 2G & 4G 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 dish antennas are required to support the provision of additional frequencies and capacity of the site on the part of two operators, by linking the site to surrounding, upgraded cell sites. The new monopole 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

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

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.

6. 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 not included within any particular designations or land allocations that need to be taken into account in addition to planning policy relating to electronic communications.

Additional relevant information:

Please refer to Supporting Statement (below).

Contact Details

Name: (Agent)	<u>Ruminder Jutla</u>	Telephone:	<u>01189519930</u>
Operator:	<u>Vodafone Limited</u>	Fax no:	<u>01189519931</u>
Address:	<u>Daly International</u> <u>(UK) Ltd</u> <u>Dukesbridge</u> <u>Chambers</u> <u>Duke Street</u> <u>Reading RG1 4SA</u>	Email Address:	<u>ruminder.jutla@dalyinternational.com</u>
Signed:	<u><i>Ruminder Jutla</i></u>	Date:	<u>01.07.2015</u>
Position:	<u>Planning Consultant</u>	Company:	<u></u>
		(on behalf of CTIL and above operator)	

SUPPORTING STATEMENT INCORPORATING DAS

This statement forms part of an application on behalf of CTIL & Vodafone Ltd. It has been prepared in accordance with the requirements of Section 42 of the Planning and Compulsory Purchase Act 2004 which requires the submission of a Design and Access Statement to accompany planning applications.

To assist your determination this section also provides an assessment against relevant local and national (NPPF) planning policies and the *Code of Best Practice*.

Application for Planning Permission

This application for planning permission is submitted pursuant to Article 4C of the Town and Country Planning (General Development Procedure) Order 1995 (as amended).

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

The site is located at the rear of 112 Elm Grove, Hampshire. The site is placed approx. 30m east of Elm Grove. The surrounding area consists mainly of a range of commercial premises lining Elm Grove with some residential units upon the western side of the road. To the north eastern part of the site there is a bowling club and playing fields. The site is accessed via a private entrance of 112 Elm Grove.

The current telecommunications site is comprised of a 17.5m existing mast (3no. existing antennas), with 1 no. meter cabinet and equipment cabin at ground level.

The discreet location and presence of street furniture such as the approx. 8m street lights and associated properties upon Elm Road, provide a good level of screening/backdrop to the already existing equipment, which will also assist in lessening the visual impact of the proposed upgrade in the surrounding area; in particular the towards the surrounding houses and local streetscape.

Design and Appearance

The new slightly bulkier mast is required due to changed radio coverage dynamics (new 2G for Telefónica & 4G for two operators) associated with its new position providing new technologies at different frequencies for two operators in the overall upgraded network. The new dish antennas are required to support the provision of additional frequencies and capacity of the site on the part of two operators by linking the site cells to surrounding, upgraded cell sites.

The proposed monopole will not increase in height of the structure. The new mast will be of a similar design to the existing installation and will be finished in grey to match the existing mast; to mimic the existing installations general appearance.

While it is acknowledged that the proposed upgrade will adjust the appearance of the existing installation due to the new mast and 3 no. new dish antennas, the nature of the immediate surroundings of the site will provide a discrete siting for this installation to ensure it has 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 planning policy that must be considered is the Havant Borough Council Core Strategy 2011. The key policy are Policies CS16 and CS19:

Policy CS16 High Quality Design

Planning permission will be granted for development that is designed to a high standard, which helps to create places where people want to live, work and relax. All development should demonstrate that its design:

1. Responds to, draws inspiration from and respects local context and:

a) Identifies and responds positively to existing features of natural, historic or local character within or close to the proposed development site;

b) Integrates with existing local landscape features, promotes wildlife and biodiversity and/or applies characteristics of the local area into the design of a scheme wherever possible to create variety and interest;

c) Uses the characteristics of the locality to help inform the design of the new development including heights, massing, existing buildings lines, plot widths and depths, materials and proportions of windows and doors;

d) Is well connected to and integrates with the immediate local area and the wider area by linking to existing pedestrian and cycle routes and encouraging people to use public transport where possible; and

e) The development does not cause unacceptable harm to the amenity of neighbours through smell, the loss of privacy, outlook, noise and overlooking.

2. Produces a positive relationship between buildings, street and spaces both existing and proposed, where:

a) The layout of the development reduces opportunities for crime and antisocial behaviour; contributes to improving community safety; and makes provision

for the management and maintenance of the development;

b) New streets are not dominated by vehicular traffic;

c) The layout of the development is legible, meaning it is easy to orientate oneself and move through.

3. Contributes to the improvement of the public realm close to the development, particularly sites close to town, district and local centres and other priority regeneration areas by using high quality hard and soft landscape material and street furniture; and where development is of a significant scale or prominence makes provision for public art.

4. Is inclusive by considering the needs of those with disabilities, ensuring safe and convenient access for all; and integrating affordable and supported housing with market housing through tenure blind design to minimise social exclusion and promote social integration.

5. Maximises opportunities for mixed use developments, particularly in town and district centres; and encourage higher densities (50+ dwellings per hectare) where appropriate.

6. Mitigates negative environmental impacts through sustainable design and construction methods, resource efficiencies, particularly water and the provision of facilities for waste recycling.

7. Adapts to the changing needs

Policy CS19 Effective Provision of Infrastructure

Development will be permitted where:

1. It ensures that it makes the most effective use of existing infrastructure, including opportunities for co-location of facilities.

2. It ensures that if there is a proven need for additional infrastructure, a programme of delivery has been agreed with the relevant infrastructure provider that coordinates contributions from the development with other investment streams before development begins.

3. A programme of delivery of improved or new infrastructure needs to be agreed; the nature, scale and phasing of any infrastructure will be commensurate with the form of the development and its potential impact upon the surrounding area.

4. A programme of delivery of improved or new infrastructure is agreed so that the facilities being provided are accessible by a range of transport modes and meet the needs of the borough's community.

5. It promotes the creative multifunctional use of existing and proposed facilities.

6. It ensures that new infrastructure supports the local economy.

7. It ensures that decisions on the provision of infrastructure are taken on the basis of whole-life costing.

8. It safeguards the requirements of infrastructure providers, in particular relating to bus corridor enhancements, telecommunications equipment (particularly high speed broadband), electricity power lines, high pressure gas mains, educational facilities, particularly those due for improvement under Building Schools for the Future, health facilities at Oak Park, flood protection measures, aquifer protection areas, a winter storage reservoir at Havant Thicket*, additional water treatment infrastructure at Kingscroft Farm* and Bedhampton Springs* in Bedhampton and waste water treatment works at Budds Farm*.*

9. It does not result in the loss of flood protection, education, health, social and other publicly-provided community buildings, structures or services, except where it is part of a service provider's plans to provide improved local services in equally accessible locations.

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 site is not situated within a designated sensitive area such as Conservation Area or AONB and 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 Hampshire 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 2G/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 Havant Borough 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.

While Appendix B of the Code does not specifically address the re-development of existing greenfield sites, it will nonetheless be instructive to refer to the measures suggested to reduce the environmental and visual impacts of ground-based masts. With respect to the proposed scheme these include:

Placing a mast near to similar structures. For example, industrial and commercial premises, road signs, lamp posts;

Placing a mast within an existing group of trees (this may also include planting new trees to help integrate it into the landscape). This option is obviously more successfully implemented in or near wooded areas. However, care should be taken to avoid the unnecessary loss of existing trees. In addition, it should be borne in mind that the top of a mast placed in trees will need to be above the tree-line in order for the equipment to work and for the allowance of future tree growth

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.

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 By Design 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.