

General Background Information on Radio Network Development for Planning Applications

The Vodafone Group has formed a strategic partnership with the Telefónica Group to share mobile assets here in the UK and across Europe. In the UK this means Vodafone will be working closely together with O2. In essence this agreement allows both organisations to:

- Consolidate the number of base stations required through sharing which is in accordance with Government Policy
- Significantly reduce the environmental impact of network development

Vodafone and O2 will continue to compete in the telecoms market to retain and win customers and both will continue to differentiate themselves on the quality of the customer experience. Although they're sharing infrastructure, they'll operate entirely independently as businesses with separate network strategies. Accordingly the key focus will be on the joint build of new sites and consolidation of existing 2G and 3G sites

This document is designed to provide general background information on the development of the joint Vodafone and O2 network. It has been prepared for inclusion with planning applications and supports network development proposal with generic information regarding:-

1. Introduction
2. Digital networks
3. Site selection process
4. Planning policy guidance PPG8
5. Site or mast sharing
6. Councils
7. Consultation with schools
8. Legal cases
9. Further information

Note - All references in this document refers to England only,

1.0 INTRODUCTION

Nearly 25 years ago under the Telecommunications Act 1984, a licence was granted to Vodafone and O2 to provide a wireless (or mobile) phone service 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, Listed Buildings, and 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 – "2G/3G" OR SECOND/THIRD GENERATION

The Vodafone and O2 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 O2 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 O2 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 3G 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.

CAPE Planning Manual

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- The service type that is required.

3.0 SITE SELECTION PROCESS

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

1. Following a technical review which identifies need, Vodafone / O2's radio engineers undertake a desktop analysis to identify the best way of meeting the site requirement. This is completed by using Vodafone / O2's computerised radio propagation modelling tool. This tool shows every site on both 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, adherence to planning and environmental policy, and sensitivity. 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. The issues associated with the proposal are discussed to obtain their views on the options under consideration. After this review the final preferred option is selected.
7. Finally a site survey provides a full structural analysis of site including identifying 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 O2 are committed to ensuring the number and visual impact of any additional sites is minimised. Vodafone and O2 will continue to develop and utilise sympathetic and innovative design solutions.

4.0 PLANNING POLICY GUIDANCE ON TELECOMMUNICATIONS (PPG 8)

PPG 8 seeks to facilitate the growth of new and existing telecommunications systems whilst keeping the environmental impact to a minimum. It encourages local planning authorities to respond positively to telecommunications development proposals, whilst taking into account other planning policy.

PPG 8 states that fast, reliable and cost-effective communications can attract business to an area. PPG 8 states that good communications can enrich life at home and offer new choices in education, entertainment, shopping and banking.

4.1 Need for development

PPG 8 advises that operators are required to provide a high quality service, which includes the need to meet customer demand. It states that systems are demand-led, therefore operators are continually expanding their networks to accommodate customer requirements of service and quality.

PPG 8 advises that local planning authorities should have regard to any technical constraints on the location and proposed development. Material considerations include the significance of the proposed development as part of a national network.

4.2 Siting and design

PPG8 identifies that "protection from visual intrusion and the implications for subsequent network development will be important considerations in determining applications. Masts and antennas often require a particular operating height, which allows signals to clear trees and urban clutter. Telecommunications development may therefore need particular locations in order to work effectively." (Paragraph 64 – Appendix).

PPG 8 states "Siting and design concerns may centre particularly on the type of mast and its impact... Its height, ancillary development and the scope for landscaping and screening will also be important considerations. But many of the antennas have special siting needs because they have a limited range or require line-of-sight. Authorities should take account of these needs." (Paragraph 74, Appendix)

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 the 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>