

## Discussion Paper

# Improving the Mobile Phone Coverage in and around Chedworth post MIP

### Introduction

Chedworth suffers from very poor mobile phone signal and coverage, a fact which meant that it was identified as an area which the Mobile Infrastructure Programme should address. The poor signal and total lack of coverage in many areas is a major concern and irritation to many in the community and the majority of residents have expressed a strong desire for the coverage to be improved.

The collapse of MIP, prior to Chedworth finalising an acceptable site, is a major disappointment for many residents and visitors to Chedworth. Whilst the initial proposed site was highly contentious, an alternative site was being progressed. The response to the first proposed site should not be taken to mean that the community in Chedworth or those that expressed concern about it, do not wish to have better mobile phone coverage. Little could be further from the truth. What Chedworth desperately needs and wants is improved coverage delivered in an acceptable way.

The imminent and much welcomed roll out of fibre optic broadband into the village opens up new opportunities in respect to mobile phone coverage and this paper seeks to outline the suggested actions which all should now work towards to create an improved mobile phone coverage in their lives in and around Chedworth. This requires both individual 'self-help' actions by residents as well as considerable lobbying of the mobile phone companies by local residents and all influencing parties from local councillors, MPs to ministers.

### Mobile Signal at Home

One of the benefits of the imminent fibre broadband is that the devices which transmit a mobile phone signal in people's homes and gardens (femtocells) should work very well. Given the thick Cotswold stone walls, use of foil backed plasterboards and other factors it is highly advisable that residents that have not currently got one of these devices (Vodafone SureSignal, EE Signal Box or O2 BoostBox) seek to purchase one and those that do have one should be aware that it may require a deregistration and reboot to benefit from the fast fibre once connected.

Once fibre is connected through the village from around March 2106 there is no reason why everyone who has subscribed to Gigaclear should not be able to enjoy a strong clear mobile phone signal from their provider at home through one of these devices.

#### *Actions/Questions:*

*Is there a need to encourage and provide information to residents to obtain devices if they have not currently got one?*

*Can a group of volunteers be established to provide advice and support on the set up of new devices and re-registration of existing ones?*

## Mobile Phone Signal Out and About

It would be tempting to think that the use of femtocells in everyone's homes on the fibre network would solve the issue of mobile phone signal but this misses the considerable need in the community to have a good mobile phone signal from all the telecoms providers outside of the home. Whether it is a farmer in the middle of a field with an urgent need to speak with a vet, a delivery driver trying to find the right house or a tradesman needing to order materials, the need for outside mobile phone signal still exists frequently on a daily basis.

There are two existing masts around Chedworth (Fosse Cross and Hangman's Stone). Local experience would suggest that the Fosse Cross mast is failing to provide substantive mobile phone signal with notable issues of lack of signal being experienced in businesses in close proximity to the mast and lack of signal in areas with a direct line of sight to the mast. The current 4G roll out means that the mobile phone providers are currently undertaking upgrades on many of the existing masts. The use of 4G should be beneficial for a rural community such as Chedworth as unlike its 3G predecessor, 4G operates at a low frequency which is better at penetrating further. It would therefore seem that the 4G roll out is an ideal opportunity to gain improvement of the existing mast(s). Recent experience surrounding a local mast near Colesbourne suggests that once planning permission for upgrades have been applied for it is too late to lobby the mobile phone operators to undertake improvements at the same time as the 4G upgrade. There would therefore seem some logic to lobby the mobile phone operators now to both undertake a 4G upgrade and also improve the mobile phone signal output (through use of more, high specification and/or better positioned antenna).

### *Actions/Questions:*

*Should the Parish Council and H&V Digital to lobby local councillors and mobile phone operators to both upgrade and improve existing masts?*

*Can all residents lobby their mobile phone companies to undertake such upgrade and improvement, a draft letter template could be provided to do this?*

If the lobbying for a 4G upgrade and improvement is successful there will still remain significant 'not spots' in the depths of the valley and adjoining valleys served by the Fossebridge Exchange, namely Yanworth and the Upper Coln Valley. In these locations, the issue of poor mobile phone signal will remain unresolved. To provide a full and complete solution additional transmission is needed. This mobile phone transmission needs to be in (a) position(s) that provide(s) coverage into the depths of the valley and therefore it needs to be on the rim of or within the valley itself. One of the most significant challenges of the previous MIP proposals was the need to connect any mast back into the mobile phone network. The standard way of achieving this in has been to have 'microwave backhaul' where a round dish located toward the top of the mast has had to have a stable line of sight to a base mast often long distances away (Kilkenny or Cleeve Hill mast for example). The other back haul method is to use fibre-optic transmission. Therefore with the arrival of fast fibre into the village the range of solutions and locations for transmission is opened up. Gigaclear have advised that they are able to provide uncontested or 'dark-fibre' connection which is needed for the mobile phone operators and claim that their provision of this offers a cost effective alternative to microwave backhaul.

The use of fibre can be considered as a 'game changer' for the transmission and back haul of mobile phone signals from the valley areas and there are a number of options this opens up.

There appears to be some early indications from mobile phone companies that the use of smaller cell solutions in such areas could be a viable model for them, especially when coupled with fibre backhaul.

If a more macro mast site(s) is considered then the MIP advisers have suggested that without the need for microwave back-haul, the mast would only need to be 10m tall (rather than the previous 20m+ required). This would start to open the options of having less intrusive structures (such as a single pole) as opposed to a strong lattice mast. The range of possible locations for the transmission also opens up significantly.

The question therefore exists as what needs to be done to encourage the mobile phone operators to invest in providing small cell(s) or small mast(s) in this, or a similar, location to serve the Chedworth and nearby valleys. It is likely to require a determined and coordinated campaign. This should involve the following elements:

- Using local and national political representatives to try to open up lines of communication (excuse the pun!) with the mobile phone companies on a technical level so that the community can work up an economically and technically viable solution for them and remove a number of investment risks locally.
- Consultation with the community to seek to obtain broad-based support for locations for masts/cells
- Discussions with the ANOB and CDC planning to seek their views on the proposals
- Confirmation from Gigaclear around the specification of fibre connection that they can provide to such locations
- Agreements from the land owner(s) for proposed masts/cells
- Lobbying of the mobile phone operators to encourage them to invest in the site
- Seeking funding from a broad variety of sources to invest in initially the design and planning costs of the site(s) and then the power and fibre infrastructure to make any investment by the mobile phone operators much more viable.

The first step should be to communicate with the community to gain and carefully listen to their specific views (especially around acceptable locations and structures) and proceed with their broad backing. In parallel to this approaches could be made to various stakeholders (MP, councillors, ANOB, planners, Gigaclear etc.) to ensure that there is viability in the approach.

#### **MF 31/10/15**

##### *Organisational Note:*

*Chedworth Parish Council and Hill and Valley Digital are separate organisations with overlapping and different remits and membership. The Parish Council serves its parishioners whereas Hill and Valley Digital covers the wider area served by the Fossebridge Telephone Exchange. Current overlap members are Adrian Bell, Iain Robertson and Matt Fulford. While not councillors, Mark Aveline and John Scott are PC-appointed Broadband Champions.*