SITE SPECIFIC SUPPLEMENTARY INFORMATION

1. Site Details

Site Name:	Low Seat	Site Address:	Low Seat Harwood Dale Scarborough North Yorkshire YO13 0LB
NGR:	E: 494375, N: 496225		
Site Ref Number:	ESN7028	Site Type: Macro	This site is critical to the Emergency Services Network programme

2. Pre Application Check List

Site Selection

Was an LPA mast register used to check for suitable sites by the operator or the LPA?		No
If no explain why: After a phone call to the LPA it was felt that the industry database was a more up to date source of information.		
Was the industry site database checked for suitable sites by the operator:	Yes	
If no explain why: N/A		

Pre-application consultation with LPA

Date of written offer of pre-application consultation:	25th October 2017	
Was there pre-application contact:		No
Date of pre-application contact:	N/A	
Name of contact:	The Director of Planning	
Summary of outcome/Main issues raised: At the time of preparing this submission no comments had been received in respect to the proposals from the LPA.		

Ten Commitments Consultation

Rating of Site under Traffic Light Model:			Amber	

Prior to the submission of this application the applicant initiate pre-consultation discussions with the local planning authority. This provides an opportunity for the LPA to discuss development proposals and identify site specific issues. The Local MP and Ward Councillors were also contacted prior to submission.
Summary of outcome/Main issues raised: Please see below the positive comments from the Local MP: Thank you very much indeed for sending me the notes surrounding the planning consultation for your mast in the Harwood Dale area. I am always keen to see better mobile communications installed in my constituency, not least because of the lifeline that it can be for agricultural, forestry or country sport workers who might befall an accident or illness and being able to summon help. I am sure that as this application is considered any local considerations will be taken into account and the views of my constituents will be taken seriously. Yours sincerely NYMNPA 13 NOV 2017 Robert Goodwill MP Scarborough and Whitby

School/College

Location of site in relation to school/college: There are no schools in close proximity to the site.
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?		No
Has the Civil Aviation Authority/Secretary of State for Defence/Aerodrome Operator been notified?		No
Details of response: N/A		

Developer's Notice

Copy of Developer's Notice enclosed?	Yes	
Date served:	9th November 2017	

3. Proposed Development

The proposed site:
The Home Office-led emergency services mobile communications programme provides a basis to develop a new 'blue-light' communications service known as the Emergency Services Network (ESN). EE Limited have been selected by the Home Office to provide the resilient national mobile network and appointed a number of agents including WHP Telecoms (WHP) to support site identification, acquisition and planning approval services to extend critical site coverage across some of the hard-to-reach areas of the UK. This site is critical to the Emergency Services Network programme. As stated throughout this supporting statement this installation is critical for the ESN (Emergency Services Network) programme. This installation is a site share for EE and ESN and has the potential for H3G LTE. The proposed site located at Low Seat, Harwood Dale, Scarborough, North Yorkshire YO13 0LB is meticulously located to provide coverage to the northern section of the target area (a long straight stretch of road through dense forestry). Additionally, the proposed site also sits in a position overlooking the southern section of the target area as well as ensuring coverage to the local residents and the wider locale. The proposal is for the installation of a new 15m Swann 703UP Slim Line Lattice Tower that will provide new coverage for EE and and critically ESN and has the potential for H3G LTE. The proposed new facility will require the installation of a limited number of equipment cabinet housing radio equipment at ground level and in close proximity to the base of the pole. Backhaul is vital will all these remote masts and the proposed site also achieves a clear line of sight (LOS) to the Ravenscar Police Mast (Orange site NYK0050) ensuring the proposed site can be linked into the existing network. This mast is both acquirable (from a property perspective) and does the vital job it is intended to in this location. The proposed site is located next to a group of mature trees helping to reduce the visual impact of the proposed mast. The applicant is well aware that the site is located within the North Yorkshire Moors National Park, therefore all efforts to progress with as discrete a design as possible have been progressed in this location.

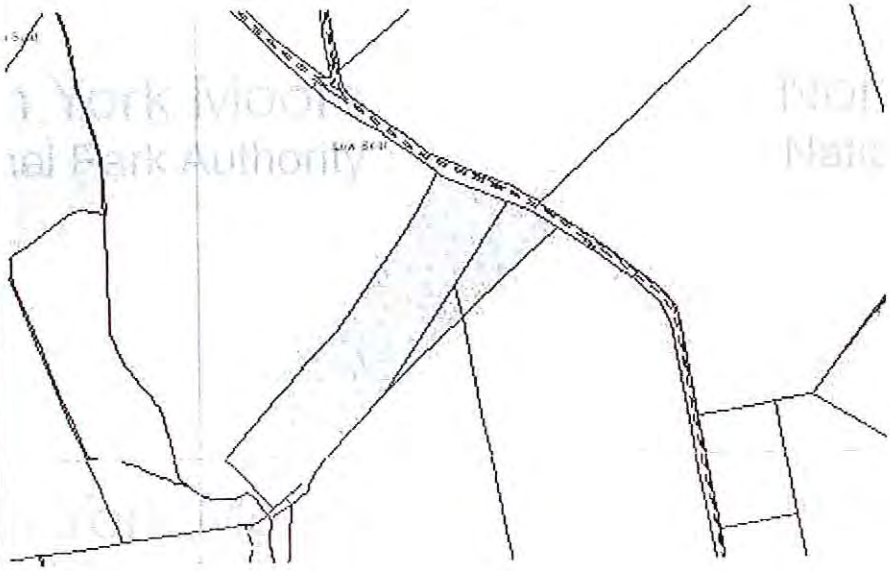
It is important to note that the aforementioned trees (whilst providing excellent screening) do not have an impact on the coverage provided or the line of sight. It is the required height of 15m which allows the mast to give the coverage over these trees. The mast cannot be reduced in height below 15m and allow this coverage or LOS to be achieved.

Site Ref	ESN7028	Site Address:	Low Seat, Harwood Dale, Scarborough, YO13 0LB

Local Planning Authority: North Yorkshire Moors NPA

Development Plan: North York Moors National Park Authority Local Development Framework Core Strategy and Development Policies (2008)

Fig1 – LP Extract (reference only)



Site and its surrounds

Policy Relevant to the Development Site:

The site is designated as being beyond the settlement boundary, with rural uses to the north, east, south and west. The site is in the North Yorkshire Moors National Park and the land designation is considered to be a material consideration.

North Yorkshire Moors NPA does have a specific telecoms policy. This, together with the NPPF is of relevance. The National Planning Policy section of this supporting statement goes into detailed analysis of why this site is in compliance with the NPPF.

Policy Analysis:

Policy 25 states:

The provision of infrastructure for telecommunications and information technology will be supported where it is of a scale and design appropriate to the National Park and helps meet the needs of local communities.

Proposals for the erection of telecommunications masts and equipment and any associated development will be permitted where:

There are no suitable alternative means of provision.
There is no unacceptable adverse visual impact upon the character of the locality and the wider landscape.
The siting of the installation makes use of the least environmentally intrusive option available.
The proposal is part of a co-ordinated, long term strategy for the provision of telecommunications technology.
Provision is made for the removal of the equipment when it is redundant

This scheme seeks to ensure that the scale and mass of the design is as sympathetic to its surrounds as possible. This scheme seeks to ensure that being as reduced in size and mass as technically possible that it preserve the character of the area, and the integrity of the National Park, yet delivers the level of service needed in this location. As such it is considered the proposed development would accord with the principles of the Development Plan policies. The proposal fully accords with the requirements of the NPPF.

The sharing of base stations between multiple operators is one of the key strategic policy principles contained within the NPPF. H3G and EE have a network sharing agreement and thus these installations are fully compliant with the NPPF.

Central Government attaches great importance to the design of the built environment and outlines this within Section 7 (para. 56) of the National Planning Policy Framework. It states:

"Good design is a key aspect of sustainable development, is indivisible from good planning, and should contribute positively to making places better for people".

RADIO PLANNING AND PROPAGATION

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

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

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

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

Clutter

Any physical object obstructing the propagation of radio signals causes a reduction in signal strength reaching a customer's device. A common term for these objects is 'clutter'. The more

obvious examples are buildings and geographical terrain such as hills and trees.

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

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

Tree Clutter

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

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

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

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

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

Propagation Models

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

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

Coverage Planning Tools

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

Network Changes

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

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

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

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

Site Height increases

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

Maintaining existing coverage

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

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

Clutter changes

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

ICNIRP Compliance

The addition of new technologies and mast sharing affects ICNIRP compliance – a higher minimum mast height is required in some cases.

Enclose map showing the cell centre and adjoining cells:

See radio coverage plots

Type of Structure

Description:

15m Swann 703UP Slimline Lattice Tower on concrete foundation.

1No. FURO Cabinet with lockable door
Dimensions: 770 x 770 x 1800 High
Material: Steel
Colour: Grey

1No. external Emerson M35 Power and Battery Cabinet
Dimensions: 708 x 709 x 1672 High
Material: Steel
Colour: Grey

1No. Viper Cabinet
Dimensions: 600 x 520 x 1405 High
Material; Steel
Colour: Grey

1No Meter Cabinet
Dimensions: 1290 x 415 x 1100 High
Material: Steel
Colour: Green

Proposed Works
New Site Build

1) Installation of new external equipment cabinets on Tower base and 15m Swann 703UP Slimline Lattice Tower.
2) Power supply by REC to new Meter Cabinet.
3) Concrete base for proposed permanent Generator.
4) Proposed site area to be stripped and battered to for new level area for new compound.
5) Proposed 3m wide and approximately 70m long access track to be constructed from NGR: E: 494424, N: 496225 to proposed site location via 4 x 4, RRV and ATV

Overall Height: 15.0m AGL	
Height of existing building	N/A
Equipment Housing:	
Length:	See drawings
Width:	See drawings
Height:	See drawings
Materials	
Tower/mast etc – type of material and external colour:	15m Swann 703UP Slimline Lattice Tower on concrete foundation.
Equipment housing – type of material and external colour:	1No. FURO Cabinet with lockable door, Dimensions: 770 x 770 x 1800 High, Material: Steel, Colour: Grey, 1No. external Emerson M35 Power and Battery Cabinet, Dimensions: 708 x 709 x 1672 High, Material: Steel, Colour: Grey, 1No. Viper Cabinet, Dimensions: 600 x 520 x 1405

	High, Material; Steel, Colour: Grey, 1No Meter Cabinet, Dimensions: 1290 x 415 x 1100 High, Material: Steel, Colour: Green

Reasons for choice of design:
Central Government attaches great importance to the design of the built environment and outlines this within Section 7 (para. 56) of the National Planning Policy Framework. It states "Good design is a key aspect of sustainable development, is indivisible from good planning, and should contribute positively to making places better for people". The proposed installation is an EE LTD Swann 703UP Slimline Lattice Tower which will house both Orange and T-Mobile (now called EE) and H3G LTE and ESN. The sharing of base stations between multiple operators is one of the key strategic policy principles contained within the NPPF

4. Technical Information

ICNIRP Declaration attached 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.	Yes	

Frequency:	This information can be emailed to the LPA on request
Modulation characteristics[1]	As above
Power output (expressed in EIRP in dBW per carrier) In order to minimise interference within its own network and with other radio networks, (EE LTD) 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 (EE LTD)'s network, the radio base station that is the subject of this application will be configured to operate in this way.	As above
Height of antenna (m above ground level)	15.0m

[1] The modulation method employed in GSM is GMSK (Gaussian Minimum Shift Keying) which is a form of Phase modulation
The modulation method employed in UMTS is QPSK (Quad Phase Shift Keying) which is another form of Phase Modulation

5. Technical Justification

Reason(s) why site required
The National Planning Policy Framework clearly states that authorities should not question the need for the service, nor seek to prevent competition between operators. Notwithstanding this fact, the Applicant considers it to be important to explain the technical justification for the site and how the facility fits into the overall network. Notwithstanding this fact, the Applicant considers it to be important to explain the technical justification for the site and how the facility fits into the overall network. The site is required to provide new 3G and 4G coverage for EE LTD and critically ESN in order to improve coverage in the YO13 area of Harwood Dale. The cell search areas for 3G are extremely constrained with a typical cell radius of approximately 250m meaning that it would not be feasible to site the column outside of this locale. Further detail regarding the general operation of the network can be found in the accompanying document entitled 'General Background Information on Radio Network Development for Planning Applications'. This information is provided to assist the local planning authority in understanding any technical constraints on the location of the proposed development.

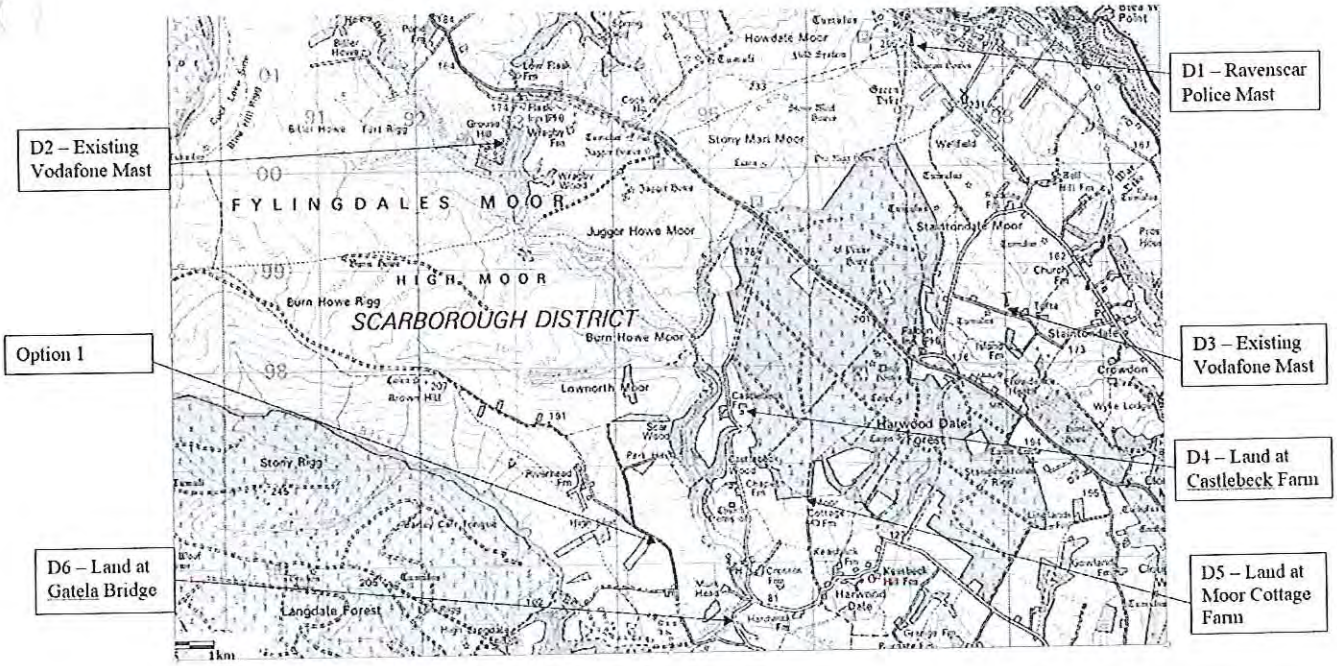
6. Site Selection Process – alternative sites considered and not chosen

Discounted Options
In accordance with the sequential approach outlined in the National Planning Policy Framework (NPPF) following search criteria have been utilised. Firstly consideration is always given to sharing any existing telecommunication structures in the area, secondly consideration is then given to utilising any suitable existing structures or buildings and thirdly sites for freestanding ground based installations are investigated. This sequential approach is outlined below: a) Mast and Site Sharing b) Existing Buildings Structures c) Ground Bases Installations In compliance with its licence and the sequential approach outlined in the NPPF all attempts to utilise any existing telecommunication structures where they represent the optimum environmental solution have been employed. The Ofcom Site Finder mast register is always examined prior to the submission of an application.

DISCOUNTED OPTIONS:

Site Name and Address	NGR	Reason for not choosing
Ravenscar Police Mast, Stoupe Brow, Ravenscar, North Yorkshire, YO13 0ES	E: 497000, N: 501200	Due to the topography of the coverage area and the dense forestry surrounding the north of the target coverage area, this mast fails to provide the required level of coverage to the target area.
Existing Vodafone Mast, Grouse Hill Farm, Whitby, North Yorkshire, YO22 4QH	E: 492960, N: 500428	Due to the existing tree coverage immediately around Grouse Hill Farm, the tree coverage surrounding the northern section of the target coverage area and the topography of the landscape, a site share with the existing Vodafone mast in this location will not provide coverage to the target area.
Existing Vodafone Mast, Kine Rigg Farm, Staintondale, Scarborough, North Yorkshire, YO12 0EB	E: 498032, N: 498547	Due to the dense Harwood Dale Forest, a mast in this location will not provide coverage to the target coverage age.
Land at Castlebeck Farm, Scarborough, North Yorkshire, YO13 0LB	E: 495278, N: 497493	Due to the dense forestry surrounding the northern section of the target coverage area and the curvature of the road and topography of the landscape to the southern section of the target coverage area, a site in this location would not provide an adequate level of coverage.
Land at Moor Farm, Scarborough, North Yorkshire, YO13 0DY	E: 495939, N: 496654	A site in this location will provide a good level of coverage to the southern section of the target area, however, would provide no coverage to the northern section of the target area.
Land at Gatela Bridge, Gatela Road, Scarborough, YO13 0LA	E: 495137, N: 495419	Due to the low elevation of this location, a mast in this location would not provide adequate coverage to the target coverage area.

DISCOUNTED OPTIONS MAP:



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

N/A

7. Additional Relevant Information

Background to the Proposal

This specific proposal forms part of an integral requirement for EE LTD / ESN to expand their respective 3G and 4G telecommunications network across Harwood Dale specifically in this instance to enhance 3G and 4G coverage levels and network capacity within the YO13 area.

This partnership has resulted in the development and production of an array of "dual user" structures and cabinets, which have the ability to accommodate both operator's antenna systems and radio equipment.

Mobile phone base stations operate on a low power and accordingly base stations therefore need to be located in the areas they are required to serve. Increasingly, people are also using their mobiles in their homes and this means we need to position base stations in, or close to, residential areas.

A further limiting factor is that the position has to be one that fits in with the existing network. Sites have to form a patchwork of coverage cells with each cell overlapping to a limited degree with the surrounding base stations to provide continuous network cover as users move from one cell to the other. However if this overlap is too great unacceptable interference is created between the two cells.

DEVELOPMENT PLAN POLICY.

Development plan considerations have a special significance in law. Section 54A of the Town and Country Planning Act 1990 (The Act), and re-iterated in Section 38 of the Planning and Compensation Act 2004, it is stated that:

"Where in making any determination under the Planning Acts regard is to be had to the Development Plan, determination shall be made in accordance with the Development Plan unless material considerations indicate otherwise."

NATIONAL PLANNING POLICY

PPG8 and PPS1 have been replaced by the National Planning Policy Framework (NPPF) (March 2012). This document condenses the advice outlined previously although the broad principles of promoting the expansion of electronic communication networks remain the same:

The Government remain committed to promoting telecommunications and place emphasis on the importance of telecommunications to the wider economy. The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these are expected to be applied at the Local level. It provides a framework within which local people and their accountable Councils can produce their own distinctive local and neighbourhood plans, which reflect the needs and priorities of their communities.

The purpose of the planning system is to contribute to the achievement of sustainable development. There are three dimensions of sustainable development, each of which give rise to the need for the planning systems to perform a number of roles including;

- Economic Role – contributing to building strong, responsive and competitive economy;
- Social Role – Supporting strong vibrant and healthy communities; and
- Environmental Role – Contributing to protecting and enhancing our natural, built and historic environment.

The NPPF contains at its core a presumption in favour of sustainable development which runs through both plan-making and decision-making processes.

Paragraph 19 states that "The Government is committed to ensuring that the planning system does everything it can to support sustainable economic growth. Planning should operate to encourage and not act as an impediment to sustainable growth. Therefore significant weight should be placed on the need to support economic growth through the planning system".

It continues in Paragraph 20 to confirm Central Government advice that "To help achieve economic growth, local planning authorities should plan proactively to meet the development needs of business and support an economy fit for the 21st century". The following paragraph states "Planning policies should recognise and seek to address potential barriers to investment, including a poor environment or any lack of infrastructure"

Section 4 of the NPPF (Paragraph 29) encourages the "smarter use of technologies" to reduce the need to travel and promote sustainable transport methods in accordance with the central sustainable development thread which travels through the Framework.

The most pertinent section of the NPPF to the proposed development is that contained within Section 5: Supporting High Quality Communications Infrastructure.

There is recognition from Central Government in Paragraph 42 that "Advanced, high quality communications infrastructure is essential for sustainable economic growth" which will in turn play a vital role in developing provisions within the local community of both facilities and services.

Paragraph 43 identifies the need to "keep the number of radio and telecommunications masts and the sites for such installations to a minimum consistent with the efficient operation of the network". In doing so, Central Government encourages the use of existing masts, buildings and other structures unless the need for a new site can be justified. Where such new sites are required, it is suggested that, where appropriate, equipment should be sympathetically designed and camouflaged.

Paragraph 45 defines the evidence that should be supplied to justify the proposed development. This should include:

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

Confirmation that Local planning authorities must determine applications on planning grounds is also contained in Paragraph 46. In determining applications, it is the contention of Central Government that LPAs 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 (ICNIRP) guidelines for public exposure.

Central Government attaches great importance to the design of the built environment and outlines this within Section 7 (para. 56). It states "Good design is a key aspect of sustainable development, is indivisible from good planning, and should contribute positively to making places better for people".

In respect to good design, decision making should aim to ensure that any proposal deemed appropriate would "function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development" and "respond to local character and history, and reflect the identity of local surroundings and materials, while not preventing or discouraging appropriate innovation".

In determining planning applications "great weight should be given to outstanding or innovative designs which help raise the standard of design more generally in the area". Paragraph 63.

It is the intention of the NPPF that "Local planning authorities should not refuse planning permission for buildings or infrastructure which promote high levels of sustainability because of concerns about incompatibility with an existing townscape, if those concerns have been mitigated by good design (unless the concern relates to a designated heritage asset and the impact would cause material harm to the asset or its setting which is not outweighed by the proposal's economic, social and environmental benefits)". Paragraph 65.

Paragraph 66 clarifies that "Applicants will be expected to work closely with those directly affected by their proposals to evolve designs that take account of the views of the community. Proposals that can demonstrate this in developing the design of the new development should be looked on more favourably".

Conclusion

We consider that the development is complaint with the council's policy and that in accordance with Section 38 (6) of the Planning and Compensation Act 2004 permission should be granted for the installation.

We consider the development complies with both central government and local planning policy guidance where the underlying aim is to provide an efficient and competitive telecommunication system for the benefit of the community while minimising visual impact.

Taking into account the factors of technical constraints, available sites and planning constraints we consider that this site and design clearly represents the optimum environmental solution.

On the basis of a recognised need to expand and promote telecommunications networks across the region, it is considered that the proposal fully accords with the requirements of the National Planning Policy Framework and the Council's Local Plan Policies.

Damian Hosker BA(Hons) MA MRTPI

Contact Details

Name: (Agent)	Damian Hosker BA(Hons) MA MRTPI	Telephone:
Operator:	EE LTD & ESN	Fax no:
Address:	WHP Ponderosa Scotland Lane Horsforth Leeds LS18 5SF	Email Address:

Signed:		Date:	9/11/2017
Position:	Planning Manager	Company:	WHP
		(on behalf of above operator)