SITE SPECIFIC SUPPLEMENTARY INFORMATION

1. Site Details

Site Name:	Alexandra Road	Site Address:	Alexandra Road 19 Alexandra Road London NW8 0DR
NGR:	E: 526482, N: 183998		
Site Ref Number:	79901	Site Type: Macro	SW Site

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:	27th July 2018
Was there pre-application contact:	Numerous
Date of pre-application contact:	N/A
Name of contact:	Sofie Fieldsend Planning Officer Regeneration and Planning & Charles Thuaire Senior Planner
Summary of outcome/Main issues raised: Detailed correspondence was undertaken between the LPA and WHP during the previous application. As captured in this supporting statement further design changes have been employed to address the comments off the LPA during the previous submission (2017/5572/P)	

Ten Commitments Consultation

Rating of Site under Traffic Light Model:	Green		

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.
Summary of outcome/Main issues raised: See above

School/College

Location of site in relation to school/college: Ready Steady Go Nursery School in close proximity to the site.
Outline of consultation carried out with school/college: Ready Steady Go Nursery School has been notified prior to submission.
Summary of outcome/Main issues raised: There has been no response from the School at the time of submission.

Civil Aviation Authority/Secretary of State for Defence/Aerodrome Operator consultation

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:	29th August 2018		

3. Proposed Development

The proposed site:
PLEASE NOTE THAT THIS IS A RESUBMISSION OF 2017/6163/P WHICH WAS WITHDRAWN BY WHP FOLLOWING A DIALOGUE WITH THE LPA ON 29/11/2017. WHP HAVE SINCE THEN FULLY SEARCHED THE CELL AGAIN AND THERE ARE NO OTHER ALTERNATIVE SOLUTIONS THAT WILL GIVE EE AND ESN THE VITAL RAILWAY COVERAGE THEY REQUIRE. THIS NEWLY RESUBMITTED SCHEME LOWERS THE MONOPOLE FROM 15M DOWN TO 12.5M AND THE DESIGN HAS BEEN CHANGED FROM

A STANDARD SW POLE TO A REPLICA TELEGRAPH POLE TO YET FURTHER REDUCE ITS VISUAL IMPACT.

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 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 is situated on a wide area of pavement off Alexandra Road.

The DSA (Designated Search Area) covers the West entrances and exits of the South Hampstead Tunnels, a busy stretch of railway utilised by the West Coast Main Line, National Rail, as well as London Overground. The tunnels under consideration are situated between Primrose Hill and South Hampstead and measure approximately 1300m in length - as can be seen Network Rail opted for a GSM-R site at both sides to provide their coverage. We understand that when HS2 is built this will also be passing through the Chalk Farm and South Hampstead areas, but that trains will run in a new tunnel beginning at Mornington Crescent.

Site Ref:	79901	Site Address:	Alexandra Road 19 Alexandra Road London NW8 0DR

Local Planning Authority: LB Camden

Development Plan: LB Camden LDF Core Strategy DPD / LB Camden LDF Development Policies DPD

Site and its surrounds

Policy Relevant to the Development Site:

The site is designated as being in the settlement boundary, with urban uses to the north, east, south and west. The site is located in an area not deemed to be a material consideration.

LB Camden does not have a specific telecoms policy. Therefore 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:

The proposed works would not be to the detriment of the surrounding area (it would preserve the character and setting of the location), but is necessary to ensure improved delivery of service, and would respect and continue to maintain the appearance of the area, so according

with the principles of the policy. It accords with the requirements of the NPPF and the objectives of the London Plan (Policy 4.11 Encouraging a Connected Economy (March 2015))

The proposal is for the installation of a new 15m High HEL Medium Duty Phase 5 Tower on new D9-4 Root Foundation that will provide new coverage for EE 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. The cabinet equipment are however, permitted development (without Prior Approval) and thus do not form part of this application. 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.

Network Consolidation between H3G LTE and EE and new 4G technologies facilitate a Single Stack structure being upgraded to a Dual Stack structure. In a straight swap scenario at equal height the new lower aperture antennas would be lower than they were originally - resulting in significantly reduced coverage. To ensure existing coverage is maintained the whole structure needs to be increased in height.

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:

This can be emailed to the LPA on request

Type of Structure

Description:

Tower Details:-

12.00m Hutchinson Alpha 8 Telegraph Pole on new pad foundation
Material: Steel
Colour: Brown

Cabinet Details:-

BTS3900A (side by side) on root foundation
Dimensions: 1240 x 480 x 900 High
Material: Steel
Colour: Grey

Link A/C MK 4 on root foundation
Dimensions: 500 x 600 x 1520 High
Material: Steel
Colour: Grey

Proposed Works

New Site Build

- Install 1No. BTS 3900A (side by side) 2G/4G on 200mm High Steel Plinths on new root foundation. Connect to Transmission and proposed MK4 Link AC DB with 1No. 50A MCB.
- Install proposed MK4 Link AC Cabinet on new root foundation C/W IDU and 100A incoming Rec supply.
- Install 12.00m Hutchinson Alpha 8 Telegraph Pole on new 1.75 x 1.75 x 1.00 (d) pad foundation.

Overall Height: 12.00m 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:	12.00m Hutchinson Alpha 8 Telegraph Pole on new pad foundation, Material: Steel Colour: Brown
Equipment housing – type of material and external colour:	BTS3900A (side by side) on root foundation, Dimensions: 1240 x 480 x 900 High, Material: Steel, Colour: Grey Link A/C MK 4 on root foundation, Dimensions: 500 x 600 x 1520 High, Material: Steel, Colour: Grey

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 12.00m Hutchinson Alpha 8 Telegraph Pole 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 In keeping with the National Planning Policy Framework (NPPF). guidelines of using "high quality communications infrastructure", the proposed design has been selected to minimise visual impact upon the street scene by integrating with the existing street furniture, having similar vertical lines and overall appearance to the numerous street lighting columns.

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)	12.00m AGL

5. Technical Justification

Reason(s) why site required

[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

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 & ESN in order to improve coverage in the NW8 area of London. 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:

D1 – Network Rail GSM-R Mast (8347) – Greenfield NGR: E 526355 N 184042 - Existing mast, which we're advised is not available for site share (as re-confirmed by Jaspal Kullar - Technical Surveyor, Property at Network Rail on 25/11/14).

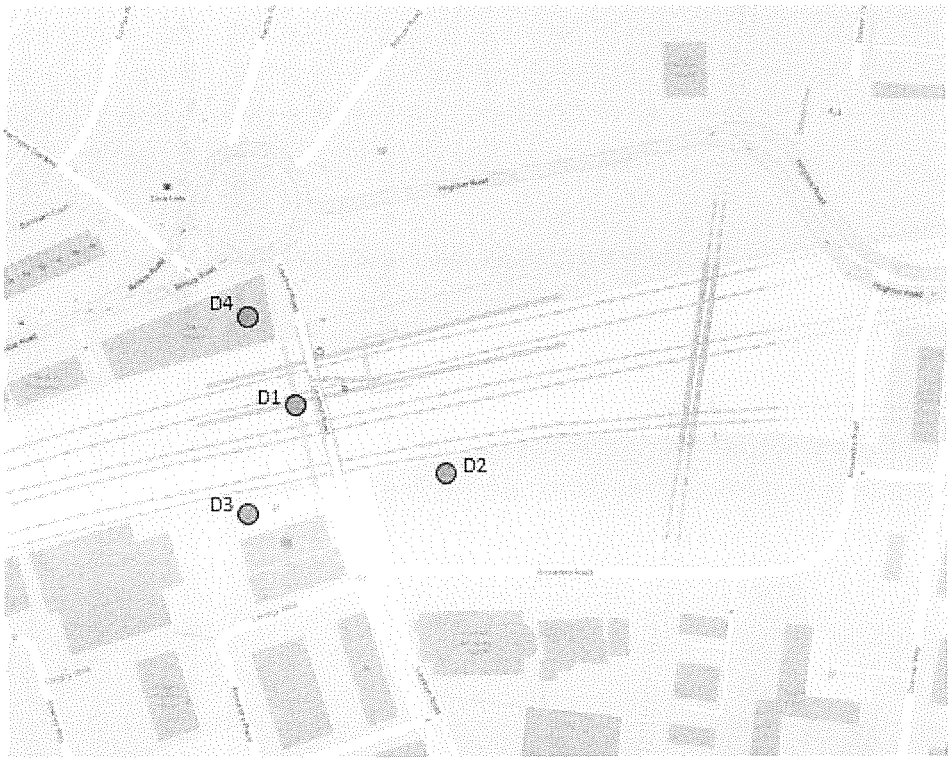
D2 – 154 Loudoun Road – Rooftop – NGR: E 526410 N 184023 – This is an award winning (new) residential development by Origin Housing, providers of affordable housing, care and

support services in London and Hertfordshire. Originally, we considered the building for a possible rooftop solution, but were concerned as to whether rooftop antenna would achieve the desired coverage given the prominent height of the building (in part 7 floors, and in part 6 and 4 floors. The development also sits on a somewhat elevated position in comparison to the entrance to the tunnel, so a large amount of tilting would be required, plus the building is side on and slightly set back from the tunnels). Upon further investigation, we've learned the architects incorporated PV cells and green roofs in to the design and it is therefore our recommendation to discount this as an option.

D3 – Loudoun Road Workshops – Greenfield NGR: E 526337, N 184020 – Camden Property Services (Grant Fischer) advises the whole site is to be compulsory purchased from them over the coming years, as the land is to be used to construct a service area and ventilation shaft for HS2.

D4 – 59-65 Belsize Road – Rooftop NGR: E 526350, N 184078 – A modern apartment complex with penthouses and rooftop terraces making a rooftop installation at this location unsuitable.

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 London specifically in this instance to enhance 3G and 4G coverage levels and network capacity within the NW8 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.

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Signed:		Date:	30th August 2018
Position:	Planning Manager	Company: (on behalf of above operator)	WHP