SUPPLEMENTARY INFORMATION

1. Site Details

Site Name:	KINGSTON LANE	Site Address:	FOOTWAY AT KINGSTON LANE, UXBRIDGE, LONDON, UB8 3PH
National Grid Reference:	E: 506472 N: 182585		
Site Ref Number:	HGN25320	Site Type:[1]	Macro

2. Pre-Application Check List

Site Selection (for New Sites only)

(Would not generally apply to upgrades/alterations to existing site including redevelopment or replacement of an existing site to facilitate an upgrade or sharing with another operator)

Was a local planning authority mast register available to check for suitable sites by the operator or the local planning authority?		No
If no explain why: We have not been able to find a publicly accessible mast register for Hillingdon Council.		
Were industry site databases checked for suitable sites by the operator:	Yes	
If no explain why:		

Site Specific Pre-application consultation with local planning authority

Was there pre-application contact:	Yes
Date of pre-application contact:	12/01/2023
Name of contact:	N/A
Summary of outcome/Main issues raised: A pre-application consultation letter and copy of the site location plan were sent to the Local Planning Authority by email on 12/01/2023. No specific response received to date.	

Annual area wide information to planning authority

Has annual area wide information been provided?	No
If no explain why:	

[1] Macro or Micro

Summary issues raised: The relevant information is being collated and will be distributed accordingly on request.

Community Consultation

Rating of Site under Traffic Light Model:	~~Red~~	~~Amber~~	Green
Outline of consultation carried out: Pre-application consultation letters and a set of plans were sent on 12/01/23 to the local ward councillors for for Colham & Cowley (Councillors S Ahmad-Wallana, R Chamdal and E Gohil), the London Assembly Member for Ealing and Hillingdon (Dr. O Sahota), the Vice Chancellor and Chair of Council of Brunel University and to MOD Safeguarding (re RAF Northolt).			
Summary of outcome/main issues raised: Mr Chris Waldron from MOD DIO safeguarding replied on 20/1/23 – see below. No further responses have been received to date.			

School/College

Location of site in relation to school/college (include name of school/college): The application site is close to Brunel University
Outline of consultation carried out with school/college: A pre application consultation letter and set of plans were sent to the university on 12/01/23
Summary of outcome/main issues raised: No response received at time of application

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
Has the Civil Aviation Authority/Secretary of State for Defence/Aerodrome Operator been notified?		Yes
Details of response: Proposed site lies within 3km of RAF Northolt. Copy of notice sent to MOD Safeguarding on 26/1/23 is attached as part of this application. A pre-application notice and set of planning drawings was also sent to MOD Safeguarding on 12/1/23. Mr. Chris Waldron, DIO Assistant Safeguarding Manager replied on 20/1/23 to confirm that, based on the documentation provided, the MOD has no safeguarding concerns to this proposal.		

Developer's Notice

Copy of Developer's Notice enclosed?	Yes	
Date served:	A developer's notice and a set of plans were sent to Hillingdon Council's Highways department via email on 26/01/2023. Copies of the developer's notice and evidence of serving are attached as part of this application.	

3. Proposed Development

The proposed site:

Clarke Telecom Ltd act on behalf of the mobile telecommunications operator CK Hutchison Networks (UK) Ltd (commonly known as Three). The proposal is to install a radio base station, in order to provide the latest 3G, 4G and new 5G technologies.

As part of CK Hutchison Networks (UK) Ltd continued network improvement program, there is a specific requirement for an installation on highways land on Kingston Lane. It is being proposed to ensure that the latest high quality 3G and 4G service provision is provided in this area of Uxbridge. The proposed column will also ensure that new 5G coverage can be provided at this location. This ensures that coverage and capacity requirements are maintained and enhanced.

Mobile telecoms networks are now ubiquitous throughout the UK. It is an expectation that an individual can connect and use their mobile phone whenever and wherever they are. With the advent of new technology, under the banner of 5G, further advances are proposed and Central Government has seen the telecoms industry, and in particular 5G, to be at the forefront of economic development.

This site will enable 5G coverage to be provided to this area of Uxbridge. The Government recognises that widespread coverage of mobile connectivity is essential for people and businesses. That is why the Government is committed to extending mobile geographical coverage further across the UK, with continuous mobile connectivity provided to all major roads and to being a world leader in 5G. This will allow everyone in the country to benefit from the economic advantages of widespread mobile coverage.

As well as improved mobile signal, 5G networks are also crucial to drive productivity and growth across the sectors that local areas are focusing on through their emerging Local Industrial Strategies. Enabling and planning for 5G implementation is central to achieving the Government's objective to deliver prosperity at the local level and enable all places to share in the proceeds of growth.

5G service provision will bring faster, more responsive and reliable connections than ever before. More than any previous generation of mobile networks, it has the potential to improve the way people live, work and travel, and to deliver significant benefits to the economy and industry through the ability to connect more devices to the Internet at the same time, the 'Internet of Things'. This will enable communities to manage traffic flow and control energy usage, monitor patient health remotely, and increase productivity for business and farmers, all through the real-time management of data.

The demand for mobile data in the UK is increasing rapidly, and as households and businesses become increasingly reliant on mobile connectivity, the infrastructure must be in place to ensure supply does not become a constraint on future demand.

The radio base station will also meet the extra demands on the network in this area as more people use internet enabled handheld devices. It is a densification project for the operator's network to fill holes in

service provision including coverage and capacity. This will enable the operator's customers to be able to use their handheld devices without calls being dropped or buffering occurring where there is a gap in the operator's network coverage and capacity ability. A site in this location will fill the gap in service provision and provide high quality, reliable, advanced 3G, 4G and 5G to this suburban area of Uxbridge.

The proposed radio base station is located to cover the surrounding area. This allows the most efficient use of the base station as it can cover the town from the least amount of overall base stations– this aligns with planning policy which seeks to reduce proliferation of base stations.
The proposed radio base station is located on the footpath at Kingston Lane, adjacent to Trailfinders Rugby Academy playing fields and directly across the road from the eastern boundary of Brunel University grounds. The site is surrounded by sports fields, car parks and university buildings with Uxbridge Public Mortuary c60m to the north. The surrounding area has little in the way of suitable tall buildings or tall vertical structures on which to locate antennas. There were no existing masts which could be used or shared due to geographic issues or technical reasons due to 5G coverage characteristics. This location on Kingston Lane was considered the best option to minimise overall impacts, whilst providing the required level of coverage to the target area.

The suburban nature of the surrounding land uses can be seen from the aerial image above. The area contains a number of linear items including lighting columns, traffic light columns, fencing, bus shelter and signage, sports ground floodlights, rugby posts, road signage and mature/semi-mature trees and bushes.

Network Information

As part of CK Hutchison Networks (UK) Ltd continued network improvement program, there is a specific requirement for a new mast on the highway/footway on Kingston Lane, to ensure that the latest high quality 3G and 4G service provision can be provided in this area of Uxbridge for CK Hutchison Networks (UK) Ltd. The proposed new column will also ensure that new 5G coverage can be provided at this location for CK Hutchison Networks (UK) Ltd. This ensures that coverage and capacity requirements are maintained.

The proposed new mast has been sited and designed in order to provide 5G coverage and to fill the hole in coverage for this mobile network. At present it is paramount that digital connectivity is supported and maintained throughout the country. In particular, the current massive shift in user demand from city centres and places of work to residential areas and suburbs requires an improvement in coverage and capacity throughout the whole network. The current proposal therefore provides such additional capacity to the network whilst still promoting the improved 5G technology.

The 3G and 4G provision allows internet access, video calling, data downstreaming, accessing social media networks and emailing to name just a few of the benefits. Therefore, to maintain high quality indoor 3G and 4G services in this area would promote activity in line with the general population demand as the ownership of smart devices increases. 5G service provision will bring faster, more responsive and reliable connections than ever before.

The search area is very small for this new installation. The existing sites around Uxbridge are struggling to cope with demand and an increase in capacity is required; therefore a new site is required to provide reliable, high quality 3G, 4G and 5G technology.

Type of Structure *(e.g. tower, mast, etc): Valmont Phase 8 Street Pole*	
Description: The installation of a 20metre high slim-line monopole, supporting 6 no. antennas with 1 no. wraparound equipment cabinet at the base, 2 no. equipment cabinets, 1 no. electric meter cabinet, and ancillary development thereto, including the installation of a GPS module.	
Overall Height: 20m	
Height of existing building *(where applicable):*	N/A
Equipment Housing: H3G Wraparound	
Length:	0.75 Metres
Width:	1.8 Metres
Height:	1.6 Metres
Equipment Housing: Bowler	
Length:	0.66 Metres
Width:	1.9 Metres
Height:	1.827 Metres
Equipment Housing: RBS 6130	
Length:	0.7 Metres
Width:	0.65 Metres
Height:	1.1 Metres
Equipment Housing: A/C Transmission Cabinet	
Length:	0.6 Metres

Width:		0.5 Metres
Height:		1.585 Metres
Materials *(as applicable):*		
Tower/mast etc – type of material and external colour:	Steel – Grey RAL 7035	
Equipment housing – type of material and external colour:	Steel – Grey RAL 7035	

Reasons for choice of design, making reference to pre-application responses:

This proposal is for the installation of a new site to boost the capacity on the network in this location for the operator. The site needs to cover a certain target coverage area as the operator is experiencing capacity issues in this (sub)urban area. As demonstrated in the Alternative Sites section, the area surrounding the proposed site has been fully investigated, and it was considered that the application site was the most viable and suitable location for the proposed equipment. The search area for the proposed site is small due to the operator's requirement to fill the hole in coverage to fix coverage and capacity issues currently being experienced by its users.

The operator has carefully considered the design of the new proposed column. The operator is proposing the most sensitive design currently available to provide the necessary coverage and capacity to the surrounding area. Due to all the technologies that will be available at this location 3G, 4G and 5G, 6 antennas need to be installed at the top of the slim-line monopole. These are split into a dual stack formation where 3 antennas will be located at the top and the other 3 will be located underneath. The 3 upper antennas will provide new 5G service provision. The 3 lower antennas will provide 3G and 4G technology for the operator to the surrounding area. This makes the lower set of antennas 3.35m lower than the top of the pole. Thus, if the column were to be any lower, the antennas would not be able to clear the buildings, trees and urban clutter and as such would not be able to operate effectively.

The proposed height at 20m is essential in order to provide coverage to the target coverage area. 5G new radio technologies operate in higher frequency bands than older technologies. Since it operates at higher frequencies where attenuation of the radio signal is naturally higher and the effects of clutter are greater it will normally require a higher structure to achieve the same coverage footprint. To increase capacity and data speeds to the user, the antenna will normally need to be mounted higher than conventional antennae. These factors drive a requirement for an increase in antenna height in 5G.

The new antennas are all unshrouded for technical reasons. However, they have been designed to be as tight as possible and virtually the same width as the main column, to minimise their visual appearance. The higher the radio frequency the more signal attenuation there is. The higher frequency 5G antennas are unable to operate effectively through the Glass Reinforced Plastic that the shroud is made up of and as such if these antennas were to be covered then they would not be able to provide the necessary coverage to the target coverage area. An additional installation would be needed elsewhere within the cell area, leading to the proliferation of masts.

This is the slimmest design possible which will enable all the multi technologies to be supported from this site. If the column and shroud width were to be any slimmer then the technology would not fit in the one column and another radio base station would be required, which would lead to the proliferation of masts contrary to national Government guidance set out in the NPPF and The Code of Practice. Similarly, if the column were to be a uniform width throughout then the overall width would have to increase which would appear more visually prominent in the streetscene, than the proposed design.

The proposed design is more visually sensitive and much easier to assimilate into a streetscene than lattice towers or more traditional monopoles with bulky headframes. These non 'stealth' designs are preferred by operators as they are structurally capable of hosting more equipment and give greater scope for antenna orientation and are thus more efficient structures. However, such designs would appear more alien in this location. Therefore, the operator has compromised on obtaining maximum coverage in order to better assimilate in to the streetscene.

The design of the column resembles as closely as possible to other vertical structures within the immediate area such as lighting columns and road signage. These vertical structures will help the proposed installation of this radio base station assimilate with the surrounding area. Form does follow function however and this is modern infrastructure for a modern technology.

The design of the column is a simple, functional, vertical structure which should not appear incongruous within the streetscene. The presence of other linear urban structures such as lighting columns will assist with assimilation in the streetscene. The column is proposed to be coloured grey to match the existing street furniture; however the column can be coloured any other colour the LPA consider appropriate.

The equipment cabinets are small for telecommunications apparatus and proposed to be coloured grey. They have been positioned at the rear of the footway alongside the proposed monopole. They will assimilate with the existing statutory undertaker equipment cabinets in this area.

It is therefore considered that the proposal before you strikes the best balance between environmental impact and operational considerations. The proposed height and design represent the best compromise between the visual impact of the proposal on the surrounding area and meeting the operator's technical requirements for the site. Taking all matters into account it is considered that this proposal, to provide the latest 3G and 4G service provision and new 5G coverage providing high quality dense coverage and capacity, would not appear out of place within the streetscene.

Health and Safety - including ICNIRP compliance

International Commission on Non-Ionizing Radiation Protection Declaration attached (see below)

International Commission on Non-Ionizing Radiation Protection 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 or near to the site are taken into account.

In order to minimise interference within its own network and with other radio networks, CK Hutchison Networks (UK) 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 CK Hutchison Networks (UK) Ltd 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.

4. Technical Justification

Enclose predictive coverage plots if appropriate, e.g. to show coverage improvement. Proposals to improve capacity will not generally require coverage plots.

Reason(s) why site required e.g. coverage, upgrade, capacity

There is a specific requirement for a new column and associated equipment cabinets at this location to allow CK Hutchison Networks (UK) Ltd (commonly known as Three) to improve the 3G and 4G coverage and capacity in the area of Uxbridge and be able to provide new 5G service provision to this 'cell'. This ensures high quality indoor service provision is provided.

The dynamic nature of technological advances in the telecommunications industry coupled with ever increasing demand from subscribers dictates a continual reinvestment programme on the part of the operators. As a result, and in line with their licence requirements, mobile operators are constantly developing their networks including filling holes where there is currently a lack of service provision.

Cellular networks are made up of several individual cell areas, each of which has a base station within it. A good analogy for describing a cellular network is that of a patchwork quilt with each cell area being one of the many patches that are sewn together making up the network 'quilt'.

Notably, there are 3 main elements to a radio base station; the cabin or cabinets contain the equipment used to generate the radio signals(s), the supporting structure that holds the antennas in the air or fixes them to a building or structure and the antennas themselves, which emit the radio signals (along with the necessary amplifier or receiver units). Other elements necessary for the base station to function are a power source, feeder cables that link the equipment housing to the antennas and the various support structures, grillages and fixings, often referred to in general terms as *'development ancillary to'* the base station.

These base stations then receive and transmit to mobile devices using radio waves. The antennas operate like an aerosol spray with signal transmitted along a central orientation and dissipating with distance. The dishes operate on a direct line of sight basis, linking with dishes on other base station sites elsewhere within the wider network. The dish links also link the base station to a master control centre that manages the call handover process that occurs when a mobile user moves from one cell area to another. They also provide telemetric monitoring to ensure the site is working properly and offer remote maintenance.

In the early days of mobile communications, peripheral locations, high-level topographies and large-scale masts were often identified in order that transmission from a new base station could cover an expansive geographical area. However, whilst this approach was viable for early network generations, the number of

mobile handset users has dramatically increased with time, as have the advancements in mobile technology itself. As a result, the cellular network construction and operational criteria have changed too. Because modern networks use higher frequencies with faster data rates whilst serving significantly increased numbers of mobile device users, typical network cell areas (i.e. the geographical area targeted for coverage for which a base station development provides a solution), are now smaller in their geographical expanse and tend to be directly proportionate to the number of users within it. They are also therefore greater in their number with base stations operating at a lower power output than their predecessors.

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 the operator needs to position base stations in, or close to, residential areas.

Mobile connectivity and service is required where customers live, work and play. 5G coverage and superfast mobile broadband data capacity demand will continue to increase exponentially with the introduction of IoT (Internet of Things), machine to machine connectivity, automated transport/industry and other 'smart' applications. To this end the existing shared infrastructure within the built environment has had to be reviewed and adapted as appropriate.

In the UK, rollout is now commencing. The main benefits of 5G are that it will be much faster and have higher capacity than 4G, with download speeds in excess of 1Gbps. To place this in context, customers will be able to download - not merely stream - a full HD movie in less than 10 seconds on a 5G network. The same task would take closer to 10 minutes on 4G.

The case for 5G is compelling as it will bring faster, more responsive and reliable connections than ever before.

The Local Government Association (LGA) has produced a Councillor's Guide to Digital Connectivity and sets out some of the benefits of 5G technology:

- Faster mobile broadband and a more consistent experience in congested areas with a very high number of devices.
- Industrial applications, enabling businesses to improve their productivity, for example through predictive maintenance and real-time analytics.
- Internet of Things (IoT) services, many of which will help council's and businesses deliver services more efficiently including:
    - Transport and logistics: connected parcels and fleet tracking.
    - Health and social care.
    - Environmental monitoring: sensors monitoring air quality and water pollution in real-time.
    - Smart agriculture and smart animal farming, smart retailing.
    - Connected and autonomous cars: allowing cars to communicate with each other, other road users and even the road infrastructure.

Good connectivity allows people to access a wide range of essential services including emailing; downloading apps; social media; helping with homework; researching local events, businesses or transport timetables; managing personal finances; shopping; contacting local authorities; arranging medical appointments; general business functions; and much, much more.

5. Site Selection Process

As explained earlier, the search area is very small for this new installation. The existing sites in and around Uxbridge are struggling to cope with demand and an increase in capacity is required; therefore a new site is required to provide reliable, high quality 3G, 4G and 5G technology. The new site needs to be sited in a place where it will work alongside the existing sites in the area to provide the necessary capacity in the network, which will ensure that reliable network coverage is provided in this urban area.

Alternative sites considered and not chosen:

With no existing masts available to share and no tall buildings suitable in the search area, a ground-based solution was required. 5G antennas have a different ICNIRP profile than the previous generations of radio technology and as such they need a greater clearance from existing development. This rules out a lot of rooftop development as the areas the public or operatives can access are restricted. This is also true of locations for poles in the street as adjacent development can rule out a lot of locations unless far taller poles are proposed. This is set out in the Code of Practice and is the basis of the Government's recent relaxation of permitted development rights allowing increased height as permitted development.

As a statutory undertaker, the applicant has rights to install and maintain apparatus on the public highway and so undertook a search of potential locations. A number of locations in the local area were considered, however were found to be less suitable for a number of reasons. These reasons included:

- greater impact on residential amenity than application site
- greater impact on footway width
- underground services
- overhead wires
- within visibility splays

The alternatives considered and discounted are listed and mapped below:

1. Royal Lane, Uxbridge, Middlesex, UB8 3QP. NGR E: 506839 N: 182834
2. Uxbridge Road, Uxbridge, Middlesex, UB8 3RF. NGR E: 506856 N: 182827
3. Uxbridge Road, Uxbridge, Middlesex, UB8 3RF. NGR E: 506859 N: 182799
4. Uxbridge Road, Uxbridge, Middlesex, UB8 3RF. NGR E: 506845 N: 182680
5. Royal Lane, Uxbridge, Middlesex, UB8 3QP. NGR E: 506848 N: 182802
6. The Chantry, Uxbridge, Middlesex, UB8 3RA. NGR E: 506733 N: 182801
7. The Chantry, Uxbridge, Middlesex, UB8 3RA. NGR E: 506739 N: 182787
8. The Chantry, Uxbridge, Middlesex, UB8 3RA. NGR E: 506840 N: 182818
9. Uxbridge Road, Uxbridge, Middlesex, UB10 0JH. NGR E: 506831 N: 182932
10. Royal Lane, Uxbridge, Middlesex, UB8 3QP. NGR E: 506822 N: 182505
11. Uxbridge Road, Uxbridge, Middlesex, UB8 3RF. NGR E: 506828 N: 182540
12. Uxbridge Road, Uxbridge, Middlesex, UB8 3RF. NGR E: 506830 N: 182595
13. Colham Road, Uxbridge, Middlesex, UB8 3GX. NGR E: 506911 N: 182387
14. Colham Road, Uxbridge, Middlesex, UB8 3GX. NGR E: 506948 N: 182368
15. Colham Road, Uxbridge, Middlesex, UB8 3GX. NGR E: 507022 N: 182287
16. Royal Lane, Uxbridge, Middlesex, UB8 3QS. NGR E: 506904 N: 182343
17. Old School Road, Uxbridge, Middlesex, UB8 3WE. NGR E: 506890 N: 182298
18. Kingston Lane, Uxbridge, Middlesex, UB8 3PQ. NGR E: 506387 N: 182712
19. Kingston Lane, Uxbridge, Middlesex, UB8 3PQ. NGR E: 506406 N: 182678
20. Kingston Lane, Uxbridge, Middlesex, UB8 3PQ. NGR E: 506408 N: 182652

21. Uxbridge Road, Uxbridge, Middlesex, UB8 3RF. NGR E: 506855 N: 182482
22. Uxbridge Road, Uxbridge, Middlesex, UB10 0JE. NGR E: 506853 N: 182916

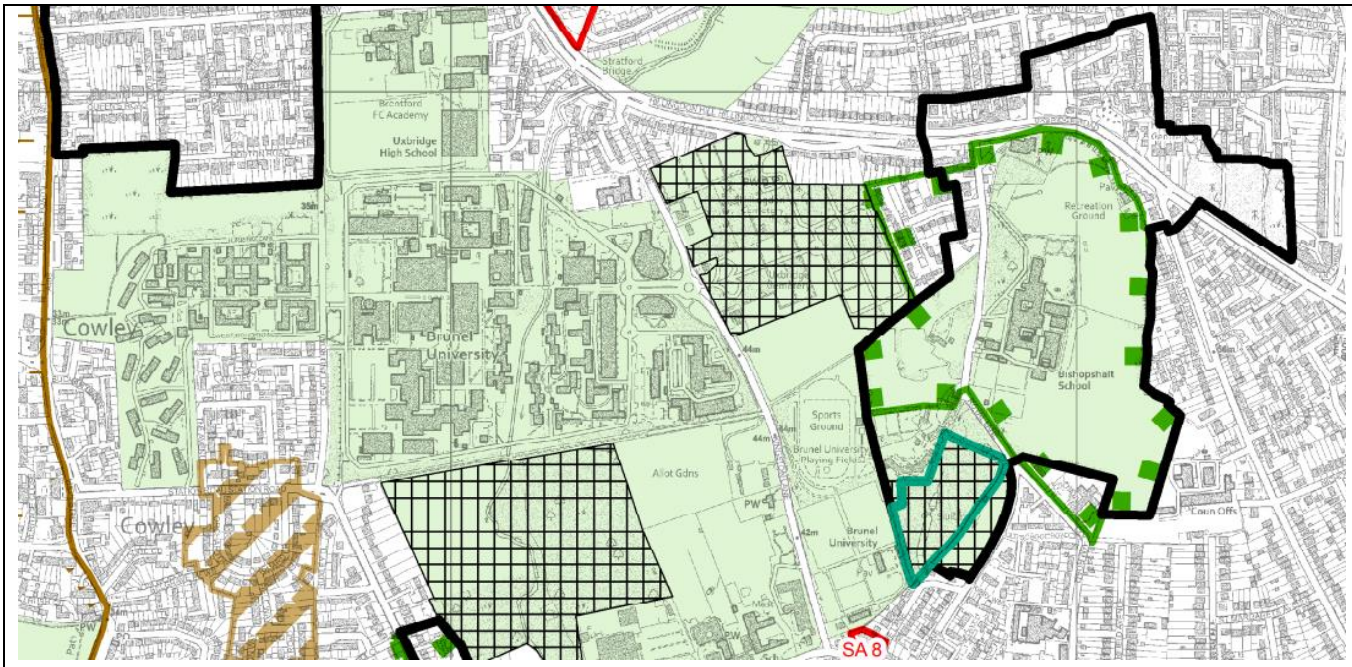
These sites can be seen on the map below

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

N/A

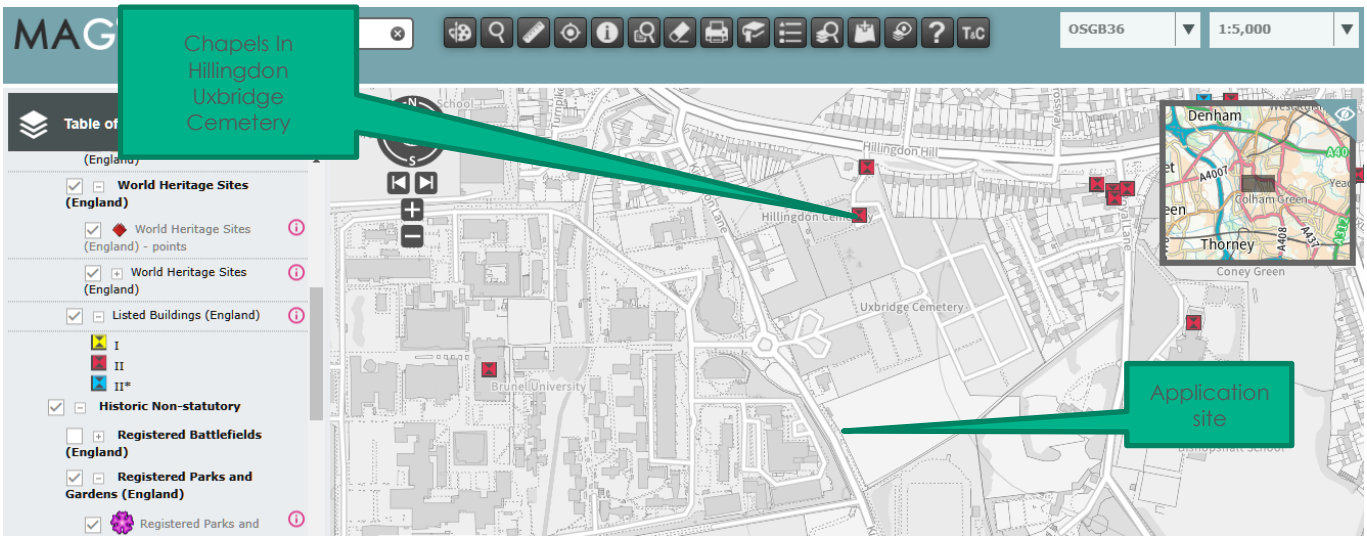
Land use planning designations:

The current use of the land is that of public highway. Kingston Lane has no specific designations associated with it. Heritage and environmental designations are discussed further below. Below is an extract from Hillingdon Council's Policies Map.



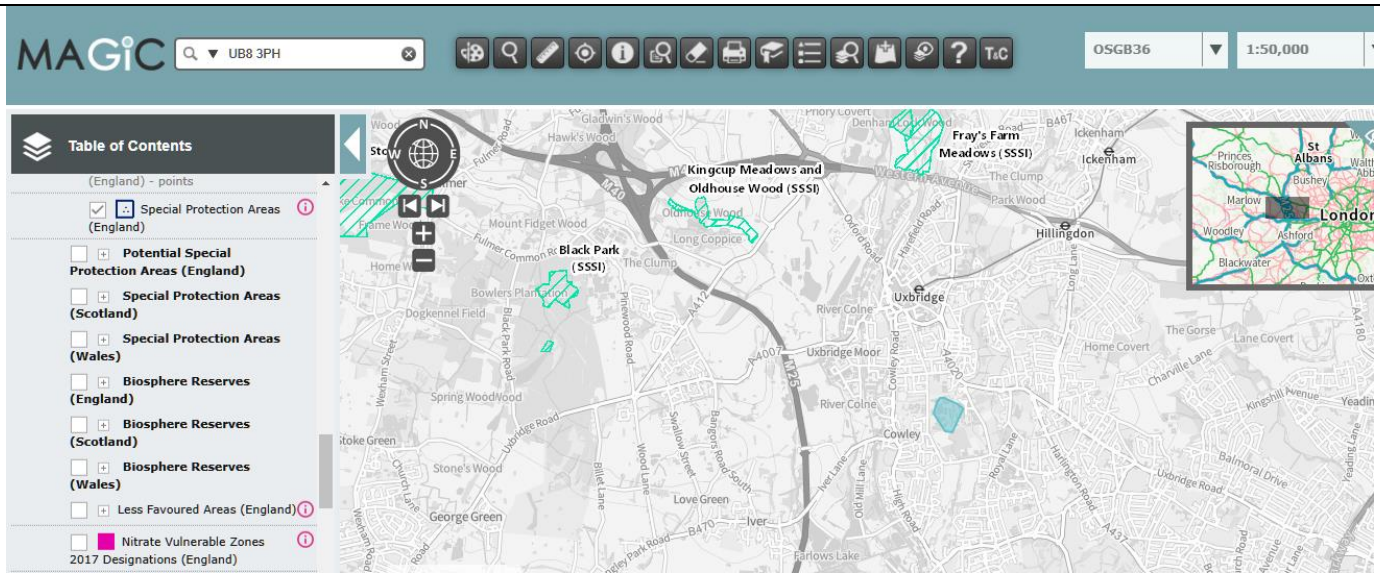
Heritage

No heritage assets would be affected. The DEFRA mapping below shows the nearest asset, Chapels in Hillingdon Uxbridge Cemetery, a grade II listed building, which lies over 250m to the NNE.



Environmental

No environmental assets or designations would be affected. The DEFRA mapping below shows the nearest asset, Kingcip Meadows and Oldhouse Woods (SSSI) which lies over 3.5km to the northwest.



Additional relevant information (include planning policy and material considerations):

National Planning Guidance

Planning policy is provided at the national level by the National Planning Policy Framework (NPPF). It is a material consideration in planning decisions.

It is not necessary to quote extensively from this document, but the following points are highlighted.

National Planning Policy Framework (July 2021)

The Government's National Planning Policy Framework (NPPF) was published on 24 July 2018 and updates the 2012 version. In February 2019 the NPPF was revised again, with minor alterations to wording relating to housing supply and not any parts relating to telecommunications. The NPPF was updated in July 2021, in order to strengthen sections including requirements on improved design quality, a new requirement for Councils to produce local design codes or guides, an emphasis on using trees in new developments, revised policies on plan-making, removing statues and opting out of PD rights relating to residential conversions.

The Government's latest thinking continues to strongly support communications infrastructure. The NPPF remains very supportive of high quality communications. Indeed, a whole chapter is dedicated to high quality communications, emphasising the importance that the Government attaches to digital connectivity. Paragraph 114 states that advanced, high quality and reliable communications infrastructure is essential for economic growth and social well-being. This wording echoes guidance set out in paragraph 42 of the 2012 version of NPPF. However, it also includes the importance of *reliable* communications infrastructure for both economic growth *and social well-being*.

The NPPF continues to support the expansion of electronic communications networks at paragraph 114. It notes that policies should set out how high quality digital infrastructure, providing access to services from a range of providers, is expected to be delivered and upgraded over time. The economic and social benefits

of providing high quality and reliable communications infrastructure are well documented and can be found later in this Supporting Information Statement.

The NPPF makes reference to 5G:

'*Planning policies and decisions should support the expansion of electronic communications networks, including next generation mobile technology (such as 5G) …'*

With the above in mind, the Government is already forward thinking the evolution of data networks and seeks planning decisions to take account of this. 5G technology provides increased speed of data and more capacity in the network, to ensure that handheld devices can continue to be used for the purposes in which they were purchased. This will bring even greater economic and social benefits to the area.

Paragraph 115 of the NPPF retains the requirement to minimise the number of installations consistent with the efficient operation of the network but also includes being consistent with the needs of consumers and providing reasonable capacity for future expansion.

Paragraph 118 of the NPPF retains the guidance set out in paragraph 46 of the 2012 NPPF version which relates to determining applications on planning grounds only. They should not seek to prevent competition between different operators, question the need for an electronic communications system, or set health safeguards different from the International Commission guidelines for public exposure.

At the heart of the NPPF is the retained presumption in favour of sustainable development (para 11). For decision-taking this means approving development proposals that accord with an up-to-date development plan without delay or where there are no relevant development plan policies, or the policies which are most important for determining the application are out-of-date, granting permission unless the application of policies within the revised Framework that protect areas or assets of particular importance provides a clear reason for refusing the development proposed or any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the revised Framework taken as a whole.

The NPPF continues to provide guidance on decision-making. At paragraph 38 it states that:

*'Local planning authorities should approach decisions on proposed development in a positive and creative way. They should use the full range of planning tools available, including…*permission in principle*, and work proactively with applicants to secure developments that will improve the economic, social and environmental conditions of the area. Decision-makers at every level should seek to approve applications for sustainable development where possible'*.

The NPPF builds on the aspiration to build a strong, competitive economy. Paragraph 81 states:

> *'Planning policies and decisions should help create the conditions in which businesses can invest, expand and adapt. Significant weight should be placed on the need to support economic growth and productivity, taking in to account both local business needs and wider opportunities for development. The approach taken, should allow each area to build on its strengths, counter any weaknesses and address the challenges of the future. This is particularly important where Britain can be a global leader in driving innovation[42]'…*

Footnote 42 of the NPPF states:

'The Government's Industrial Strategy sets out a vision to drive productivity improvements across the UK, identifies a number of Grand Challenges facing all nations, and sets out a delivery programme to make the UK a leader in four of these: artificial intelligence and big data; clean growth; future mobility and catering for an ageing society. HM Government (2017) Industrial Strategy: Building a Britain fit for the future'.

Code of Practice for Wireless Network Development in England (March 2022)

The Code of Practice provides guidance to Code Operators (referred to as 'operators' throughout the Code of Practice), including the Mobile Network Operators and wireless infrastructure providers, their agents and contractors, local planning authorities, and all other relevant stakeholders in England on how to carry out their roles and responsibilities when installing wireless network infrastructure. It is also a useful tool for other interested stakeholders such as community groups, amenity bodies and individuals with an interest in mobile connectivity.

The aim of the Code of Practice is to support the government's objective of delivering high quality wireless infrastructure whilst balancing these needs with environmental considerations. It also has an important role in making sure that appropriate engagement takes place with local communities and other interested parties.

The Code of Practice covers all forms of wireless infrastructure development, including mobile masts and cabinets. It is recommended that other wireless communications operators follow the principles of this Code of Practice, where appropriate.

Unlike previous iterations this Code of Practice has been led by the Department for Digital, Culture, Media and Sport (DCMS) and developed in collaboration with representatives of the mobile network industry, other government departments and public bodies, local planning authorities, and protected landscapes. This document replaces the previous Code of Best Practice on Mobile Network Development, which was published in 2016 and is now published by DCMS.

The Code of Practice sets out the legal and policy framework for the delivery of wireless infrastructure development.

Paragraphs 8 – 12 of the Code of Practice set out the importance of connectivity:

> '8.*Digital connectivity is vital to enable people to stay connected and businesses to grow. Fast, reliable digital connectivity can deliver economic, social and well-being benefits for the whole of the UK.*
>
> *9.As the demand for mobile data in the United Kingdom is increasing rapidly, it is important that everyone has access to dependable and consistent mobile coverage where they live, work and travel.*
>
> *10.The Future Telecoms Infrastructure Review (FTIR) and the National Infrastructure Strategy set out the government's long-term strategy for meeting its digital connectivity targets and delivering high quality, reliable digital infrastructure that works across the UK[2].*
>
> *11.The government has committed to extending mobile coverage across the UK. The*

[2] *The* Statement of Strategic Priorities for Telecommunications, The Management of the Radio Spectrum, and Postal Services followed the publication of the FTIR and reflects its conclusions

government has committed to extending mobile coverage across the UK. The government's Levelling Up White Paper has set a mission that the UK will have nationwide 4G coverage, with 5G coverage for the majority of the population by 2030. In support of this, the government and the UK's mobile network operators agreed a £1 billion Shared Rural Network deal to extend 4G mobile geographical coverage to 95% of the UK by the end of the programme.

12.Next Generation Mobile Technologies: A 5G Strategy for the UK, and the update to this, set out the government's ambition for the UK to be a global leader in 5G to take early advantage of its potential and help to create a world-leading digital economy that works for everyone. The government also wants businesses and communities to benefit from investments in 5G as soon as possible. Through the government's 5G Testbeds and Trials programme we have seen its value to manufacturing, farming, transport networks and healthcare.

The Government recognises the key role that the Planning System plays in delivering the digital infrastructure that we need, in a sustainable and well-designed way, especially as households and businesses become increasingly reliant on mobile connectivity.

The Code of Practice sets outs 'How wireless networks function.

Para. 16 states *"Cellular wireless networks use base stations to provide an area of radio coverage. Wireless technology uses the radio spectrum to broadcast radio waves between base stations and devices. Different radio frequencies have different characteristics which, along with the density of cell site locations, affect the extent of coverage and how much data can be carried over the network. Depending on the radio frequencies used, base stations can deliver coverage over a wide area or provide extra network capacity in areas where there is a high demand for network bandwidth".*

Para. 17 sets out that *"Wireless technology continues to evolve rapidly, and mobile devices are now capable of much more. Second generation (2G) technology gave us voice calls and text messages, 3G led to the launch of smartphones, and 4G, which enabled faster browsing, allowed us to do things like watching videos on the move. 5G, the latest generation of wireless technology, is much faster than previous generations of wireless technology and can offer greater capacity and lower latency, allowing thousands of devices in a small area to be connected at the same time. 5G networks, and future mobile generations, will be vital for a range of Internet of Things uses (IoT) and Smart City applications".*

The Code of Practice establishes 'Principles and commitments' by which operators should develop their networks and that Local Planning Authorities should demonstrate their support by.

Paragraph 18 of the Code of Practice sets out the principles and commitments that operators should follow when developing their networks inter alia:

- Site sharing and use of existing structures: make use of existing structures, sites and masts wherever possible to reduce the need for new development.
- Consultation with local planning authorities, local communities and other stakeholders.
- Standardised and high-quality approach to planning applications, and the notification procedure: provide standardised supporting documentation for planning applications (where appropriate) within the context of national and local requirements.

- Compliance with guidance laid out in the International Commission on Non-Ionizing Radiation (ICNIRP) public exposure levels guidance.

The Code of Practice also sets out the requirements of the LPA in relation to the deployment of digital infrastructure:

- Incentivising connectivity: support the expansion of telecommunications networks and take a 'joined-up' approach to the wireless infrastructure planning process, including ensuring that Local Plans effectively support the deployment of digital infrastructure.
- Facilitating sites: engage with operators when new sites have been proposed and discuss site requirements.
- Engagement with operators: respond positively to requests for engagement and make decisions in line with national policy and Local Plans. For planning applications, find solutions to issues and ensure timely decisions are made.

The added emphasis on support from Local Planning Authorities in the deployment in digital infrastructure is even more evident in the revised Code of Practice. The Code of Practice recognises the importance of collaboration and partnership to help drive network coverage across the country. It goes on to state that *'In all instances, it is important for all parties involved in the process to take a positive approach to consultation and engagement'.*

Siting and Design Principles

The government's objective is to deliver high quality, reliable wireless infrastructure whilst ensuring the impact of new network development is kept to a minimum. The siting and design of wireless network infrastructure is central to achieving this. The Code of Practice acknowledges that *'good siting and design principles should apply to all wireless network development and take into account any site specific considerations and context. Both can create better places in which to live and work and help make development acceptable to communities'.*

The Code provides guidance on siting and appearance principles. It sets out several design principles in respect of telecommunications development and acknowledges that the options for design used by an operator will be affected by site conditions including requirements to link the site to the network, landscape features and coverage and capacity requirements. The guidance includes at Para. 22 *'the choice over the site selection and design of equipment is primarily dependent upon the coverage and capacity requirements and technical constraints of a specific location, although operators should make efforts to reduce visual impacts where possible'.*

Para. 23 confirms that there should be a ***'presumption in favour of facilitating sustainable network development'*** and, as such, operators and local planning authorities, as well as all other bodies involved in the deployment process, should work together to ensure connectivity needs are met and find viable solutions to deployment issues (emphasis added).

Paragraphs 24 - 27 sets out general siting and site selection principles which Operators should consider. The Code of Practice acknowledges at Para. 24 that *'Operators use a range of sophisticated, computer-based planning tools to predict levels of signal strength and coverage from sites for 2G, 3G, 4G and now 5G. Once an operator has identified a requirement for a new cell site, a suitable site needs to be found. Elements that make a site favourable include: having existing or ready access to a power supply, access to fibre optic cables, vehicular access, and other buildings and development which may provide a level of*

existing screening. Operators will typically look to upgrade existing infrastructure prior to considering a new deployment, in particular for initial 5G deployment'.

Para 25 notes that *'When selecting sites for mobile infrastructure, operators should examine local plans and designations for the area, as well as carrying out an in-person site search to identify potential options which meet their requirements. Operators should follow these general siting and site selection principles:*

- *Installation on existing buildings and structures;*
- *Erecting new ground based masts;*
- *Camouflaging or disguising equipment where appropriate;*
- *Using small scale equipment (although small cells themselves are generally used to address capacity issues as opposed to providing coverage); and*
- *Mast and/or site sharing (including redevelopment of a site to enable upgrade or sharing with another operator)'.*

Para. 26 highlights that the installation of all wireless infrastructure requires a balanced approach between the technical needs and constraints of the proposed site and the potential impact of the development. The three key technical and operational considerations for installation sites are:

- **Coverage**: wireless infrastructure needs to provide an appropriate level of coverage over the intended geographical area. This involves ensuring that antennas are elevated sufficiently (often via masts) to provide clear lines of sight for signals.
- **Capacity:** where existing network infrastructure can no longer meet the demand for network capacity in a particular area, additional sites may be required within that coverage area to meet the demand. This is more likely to be required in densely populated areas or areas of high footfall.
- **Backhaul**: the radio access network requires a connection to the core network. Backhaul is sometimes provided by a microwave link, which requires a clear line of sight between the two ends of the link.

Para 27 requires that Local Planning Authorities consider these issues and consider the need for a site within a limited search area alongside the public benefit of improved connectivity. Para. 27 further considers that in general, it should not, therefore, be appropriate for planning authorities to seek wider evidence of alternative sites (beyond that required by the NPPF), unless they consider the proposed development is unacceptable having regard to the relevant material planning considerations

In respect of 'Design', the Code of Practice at Para 28 acknowledges that the siting of wireless infrastructure will influence which design options are most appropriate for reducing the visual impact including

- **Protecting visual amenity**
- **Mitigating visual impacts**

Para. 29 acknowledges that these factors along with location and the coverage and capacity requirements can influence the type of infrastructure structure that is deployed and requires that '*planning authorities should be aware of these constraints when considering proposals. In particular:*

- *In urban areas, where there is a high level of demand for mobile data, mobile base stations are likely to need to be deployed more densely. In these settings you can expect to see more use of*

streetwork monopoles and rooftop installations and, in future, we are likely to see a larger number of smaller units (so-called "small cells") deployed on buildings and on street furniture.

The Code of Practice establishes radio equipment housing (cabinets) principles. It states at Para. 30 states that *"cabinets protect radio transmitters and receivers, provide the power source for mobile equipment, and are connected to antennas via cables. Equipment cabinets are likely to be needed at most sites. The cabinets must be of sufficient size to facilitate hosting various operating equipment whilst also allowing air circulation to reduce the potential for overheating".* The Code of Practice establishes the planning and visual considerations for siting radio housing. These include:

- Colouring
- Siting on highways and footways:
- Highway safety:
- Listed buildings/ scheduled monuments and Conservation Areas:
- Access
- Trees

The Code of Practice notes that new ground-based masts will sometimes be required to accommodate the ever-increasing coverage and capacity needs of the country. 4G and 5G are likely to require further network densification in order to meet growing customer demand for data. Where higher frequencies are used, with lower signal propagation characteristics, apparatus will need to be located in closer proximity to user devices. The type of mast deployed will depend upon the location and setting, as well as the coverage requirements of the site. The Code acknowledges that there are many ways by which the potential for environmental and visual impact of a ground-based mast can be reduced.

Paragraph 39 advises that all new masts should be sited, so far as practicable, so as to minimise their impact on their setting, including the landscape and any buildings. This includes siting next to similar structures – e.g. streetworks masts should ideally be sited in line, and in harmony, with existing vertical structures such as lighting columns, to minimise their visual impact. Placing a mast within or adjacent to an existing group of trees, vegetation and other natural features can reduce visual impact. Antennas will, however, need to be sufficiently elevated to clear the tree-line.

Paragraph 40 relates to colouring and camouflage and states that where appropriate masts should be coloured to match their backdrop to minimise contrast in an urban setting. Streetworks monopoles can utilise design features such as shrouding or banding to protect visual amenity, though, for some 5G infrastructure, camouflage design solutions may not be practicable. Simple designs should be encouraged. Masts which have a complex design are more likely to dominate and be in discord with the landscape and have adverse visual impacts.

The Code of Practice states again in paragraph 64 that there are three primary technical and operational considerations for installation of radio base stations which are: ensuring that wireless infrastructure provides an appropriate level of coverage over the intended geographical area; ensuring that sites have sufficient capacity to meet user demand; and, requiring a connection to the wider network 'backhaul'. Paragraph 65 notes that planning authorities should take account of these constraints on network deployment and siting and design, when considering proposals.

Paragraphs 66 and 67 of the Code of Practice set out the 5G network deployment considerations:

'66. *With the introduction of 5G, more equipment will be required to provide*

coverage and capacity. 5G, as well as 4G, are data-driven technologies, and high volumes of data will be transmitted between base stations and wireless devices. 5G will require a denser network of base stations than previous generations, including more fixed line fibre optic cable for reliable and high capacity backhaul. The siting of 5G installations will be more constrained and guided by these special technical and operational considerations.

67. *Due to the scale and technological constraints of 5G equipment, in some cases previous camouflage design solutions, such as tree mast designs and concealing antennas in flagpoles, may not be practicable or suitable. In these cases, simple designs with particular attention to colouration and finishes may help reduce visual impacts on a site-specific basis.*

Local Policy

Section 38 (6) of the Planning and Compulsory Purchase Act 2004 states that "If regard is to be had to the development plan for the purpose of any determination to be made under the planning Acts the determination must be made in accordance with the plan unless material considerations indicate otherwise".

However, the principle of development is established by the GPDO and the provisions of Schedule 2, Part 16, Class A of the GPDO do not require regard be had to the development plan. Therefore, we have had regard to the policies of the development plan only in so far as they are a material consideration relevant to matters of siting and appearance. We have proceeded accordingly below.

The development plan for the application site is the Local Plan, Parts 1 & 2. Part 1 is the strategic document and does not contain any communications policy. Part 2 provides for specific development policies and includes a communications policy set out below.

Policy DMHB 21: Telecommunications
Telecommunication development will only be permitted where:
i) it is sited and designed to minimise their visual impact;
ii) it does not have a detrimental effect on the visual amenity, character or appearance of the building or the local area;
iii) it has been demonstrated that there is no possibility for use of alternative sites, mast sharing and the use of existing buildings;
v) there is no adverse impact on areas of ecological interest, areas of landscape importance, archaeological sites, Conservation Areas or buildings of architectural or historic interest; and
vi) it includes a Declaration of Conformity with the International Commission on Non Ionizing Radiation

With regard to the proposals and the policy criteria, we would note the following:

- The pole has been sited where it can provide coverage to the surrounding area. It reduces impacts on the surrounding area as much as is possible and practicable bearing in mind that the antennas need to be able to 'see' the surrounding area
- As above, the simple pole design and the location mean that impacts are minimised as much as is practicable bearing in mind the function of the pole
- Alternatives are discussed above and there were no opportunities to use existing facilities or share them

- No heritage, environmental or amenity designations will be affected by the proposals
- The proposals are ICNIRP compliant, and a certificate accompanies the application

Taking the above as a whole, and bearing in mind the technical and operational constraints of the technology, as well as the inexorable increase in demand for data, it is considered that the pole complies with this, the most pertinent policy of the development plan.

Connected Nations 2021 Report (June 2021)

The importance of the internet and access to smartphones is acknowledged within the latest Online Nation 2021 Report (June 2021). The report notes that the pandemic has highlighted the importance of being online and driven changes in the take-up and use of internet services, as many people have had a critical reliance on the internet for communications, information, entertainment, and commerce. Increases in internet use in 2020 were most pronounced in spring and November 2020 lockdowns, as people turned to the internet and were more dependent than ever on online services for video calling for socialising or home-based working, home schooling, keeping in touch, films and gaming, shopping and information about the pandemic.

In September 2020, UK Internet users spent nearly 4 times as much time on smartphones than they did on computers. 68% of the time spent online was via smartphones up 4% from September 2019, this was compared to 18% of time spent online via computers and 13% via tablets.

By the end of 2020 approximately 94% of UK homes had internet access, up from 89% in 2019. Video calling became an important way for people to keep in touch during the pandemic. Zoom went from a few hundred thousand users in the first few months of 2020 to more than 13 million in April and May 2020. This has dropped to 10.4 million users in March 2021, while platforms used mainly for work and education, notably Microsoft Teams have shown a sustained increase in use (13.7 million users in March 2021m up by 5.3 million year on year).

The report found that most of the time people spend on the internet is via apps on mobile devices. Online services were a crucial way for people to find out information about the pandemic, and for governments to try and track and control the spread of the virus.

The report acknowledged that the internet helped most children continue their education throughout lockdown. Virtually all households with school-aged children had access to the internet at home. 7% did not have fixed broadband and 4% had access only to a mobile phone. 1 in 5 did not have access to an appropriate device for their schoolwork all the time. The Report found that 2020 saw the rapid adoption of digital remote education by teachers, parents and children such as video conferencing, and platforms for setting and collecting work. In the first few weeks of lockdown in spring 2020, two thirds of children in England were not receiving any live or recorded lessons. By January 2021, this was down to just one in ten. The Report suggests that the use of these platforms may continue such as for those who can't attend school due to illness, or to provide additional revision materials.

Nine in ten 8 – 15 year olds who use social-media said it helped them to feel closer to their friends in 2020. The report stated that social video services offer huge benefits for users and the economy. They provide a platform for self-expression through enabling user-generated content (31% of adults and 40% of 13-17 year olds post video content).

Lockdown influenced the types of social video that were most popular such as the first episode of Joe Wickes' PE which was the most viewed YouTube video of 2020, and videos relating to home baking such as sourdough bread increased by 458%.

Social media serves as a means of entertainment and education for many (used by 97% of adult internet users), and as an important method of marketing for businesses (online video advertising grew by 23% in the UK in 2020).

Online retail spend in the UK increased by 48% in 2020 (compared to an average annual increase of 13% in the previous 4 years). Online share of retail spend increased from approximately 20% in 2019 to 35% in the spring lockdown and 30% in December 2020. By December 2020 11% of the UK grocery market sales were online, up from 5% at the beginning of the year. Online food delivery services also increased in demand. Just Eat being the most popular with its UK orders up 58% higher in the last quarter of 202 compared to the same period in 2019.

People have relied on the internet for news and information throughout the pandemic. During the spring 2020 lockdown 52% of people said that news and current affairs was one of their main reasons to go online.

Adults are as likely to use social media to find information about the COVID-19 pandemic as they are to use news sites and apps (approximately 1 in 3). Whilst one in eight 16 – 24 year olds considered social media to be their most important source of information about the coronavirus pandemic, compared to 5% of all UK online adults.

The report found that 91% of households used smartphones to access the internet in 2021, compared to 65% who used tablets and 47% who accessed the internet using computers. The report also noted that 61% of UK adults who access the internet did so using both computers and smart devices.

The Report notes that the smartphone is the most-used device for accessing the internet for all age groups apart from those aged 65 +. It found that in 2020, 85% of internet users aged 16 + used a smartphone to go online, compared to nearly 75% accessing the internet via a computer and just over 50% using a tablet to access the internet. One in ten adults also stated that they only use a smartphone to go online and three in ten used their phone to complete an online form or app on a weekly basis.

Levelling Up the United Kingdom (February 2022)

Digital Connectivity is a focus area and the mission is 'By 2030, the UK will have nationwide gigabit-capable broadband and 4G coverage, with 5G coverage for the majority of the population'.

Chapter 3 - The Policy Programme:

Para 3.2.4 - By 2030, the UK will have nationwide gigabit-capable broadband and 4G coverage, with 5G coverage for the majority of the population

This mission is focused on improving digital connectivity.

Digital connectivity: The case for action

The COVID-19 pandemic demonstrated the importance of digital infrastructure right across society, from ensuring business continuity to reducing isolation. Improved digital connectivity has the potential to drive

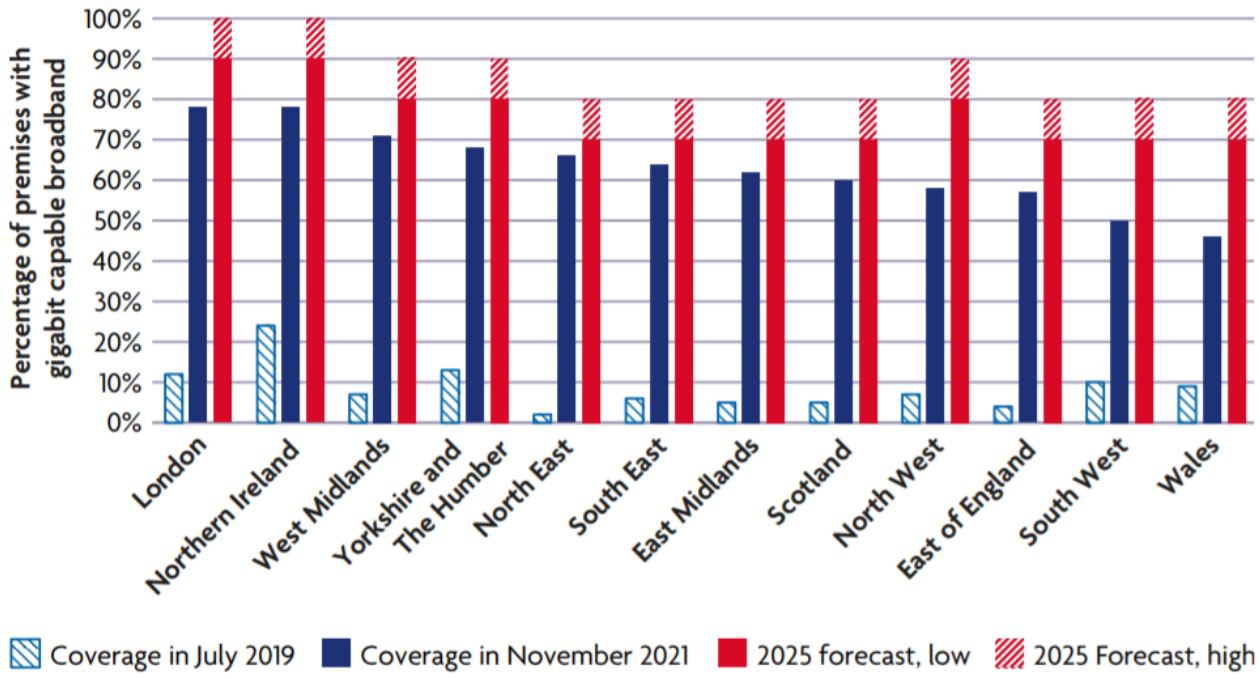
growth and productivity across the UK and widen job opportunities through remote working. However, there are significant spatial disparities in the quality of broadband and mobile networks, with rural areas likely to experience worse digital connectivity than urban areas. Infrastructure is only part of the picture: economic benefits will only materialise if businesses and workers have the skills to take advantage of improved infrastructure.

More broadly, high quality digital infrastructure can deepen local labour markets through remote working, making it more attractive for both workers and companies to locate regionally. It also allows for the development of high-value sectoral clusters, which can drive growth and jobs in new areas. Existing specialisms in the UK regions have the potential to generate strong tech clusters, such as fntech in Scotland and Wales, e-Commerce in the Northwest and Northern Ireland, and Agri-Tech in Yorkshire and the Humber. The sector also provides opportunities for raising living standards – median earnings for the sector are 50% higher than the UK average.

The policy programme In 2020, the UK Government published the National Infrastructure Strategy, committing to providing £5bn in public funding to roll out gigabit broadband to at least 85% of the country by 2025, and subsequently to as close to 100% as possible, working with the private sector.

Public investment will target premises that are hardest to reach and which would otherwise not be provided for by the private sector, ensuring no areas are left behind. Gigabit coverage has increased from 10% to over 60% in less than two years. Since 2019, coverage has improved across the UK, and the UK Government anticipates the following additional improvements to be delivered as a minimum by 2025, as set out below.

Figure 3.1 Gigabit coverage improvements, UK countries and regions, 2019, 2021 and 2025 (forecast)



Source: Levelling Up the United Kingdom.

5G has the potential to radically change the way people live and make businesses more productive and competitive. The UK Government's ambition is for the majority of the population to have access to a 5G signal by 2027. Since 2017, the UK Government has provided £200m in funding for 5G Testbeds and Trials, supporting over 200 start-ups and SMEs across a range of sectors – including healthcare, manufacturing, Agri-Tech and creative industries – to better understand how to use the technology to develop new solutions and services.

In 2022, the UK Government will publish the Wireless Infrastructure Strategy. This will review how far the private sector will go to deliver wireless infrastructure – including 5G – across the country and determine whether there are any market failures in places that need to be addressed, and how the UK Government could tackle these.

Box 3.9 - West Midlands 5G The West Midlands 5G (WM5G) Testbed started in 2018 with the mission of testing and proving the benefits of 5G to public and private sector productivity, creating jobs and boosting growth. The UK Government has invested £21m over three years, alongside investment from local government and the private sector. By working with local authorities and Mobile Network Operators (MNOs), WM5G has accelerated 5G deployment by over six months, resulting in the West Midlands being amongst the best connected places for 5G in the UK. In addition, WM5G has delivered a number of UK firsts, including a 5G road sensor network, 5G connected ambulance and capsule endoscopy trials, and a 5G application accelerator programme called 5prinG, which has already upskilled over 400 organisations on the benefits of 5G and allowed over 60 start-ups to develop new 5G products and services.

We must ensure that people have sufficient digital skills to reap the benefits and prosperity arising from the digital economy. In 2020, the UK Government introduced a new digital skills entitlement, giving adults with low or no digital skills in England free access to new digital skills qualifications based on employer-supported national standards. The UK Government continues to work with local leaders to develop Local Digital Skills Partnerships. These collaborative partnerships are now operating in seven regions across England, with an eighth formally launching in Hull and East Yorkshire in early March. The UK Government will work with devolved administrations to consider how best to share the insights and evaluation of the programme to help build digital skills capability across the UK.

Planning Assessment

The main issues arising from this prior approval application are whether the proposed streetpole and cabinets, due to their scale and siting, are acceptable, and whether any perceived harm would outweigh the significant social and economic benefits associated with the increased and improved connectivity provided by the proposal and other valid material considerations as outlined in the NPPF, which fully supports the roll out of 5G and the next generation connectivity to accelerate business opportunities and growth to ensure the economy is resilient and competitive.

The streetpole and associated antennas fully comply with the NPPF as it will increase overall connectivity across this area of Uxbridge. Access to a high quality, reliable superfast mobile network is not just 'a nice to have' but an essential part of everyday life. Indeed many, including the former Minister for Digital Infrastructure Matt Warman, consider it to be the fourth utility service as important as gas, water and electricity, a lifeline for many especially during the COVID-19 pandemic where people were able to see their loved ones, speak to friends and family and arrange virtual meetings allowing some form of normality in a very abnormal situation.

The principle of development has been established by the Government when the new permitted development rights came into force in April 2022, which enabled sites such as this one to be built under the

operators permitted development rights, (as the column height does not exceed 25m), with prior approval for siting and appearance being the only matters that the local planning authority can take into consideration.

Of specific note is that this proposal only uses 20m of these rights (or 20% less than the maximum allowed) – this in itself demonstrates that impacts are being minimised through the appearance of the apparatus.

Planning Practice Guidance explains how a prior approval application differs from a planning application at paragraph 28. It states that:

> '*The statutory requirements relating to prior approval are much less prescriptive than those relating to planning applications. This is deliberate, as prior approval is a light-touch process which applies where the principle of the development has already been established* (emphasis added)*. Where no specific procedure is provided in the General Permitted Development Order, local planning authorities have discretion on what processes they put in place. It is important that a local planning authority does not impose unnecessarily onerous requirements on developers and does not seek to replicate the planning application system*' (emphasis added).

The Planning Portal also provides Application Type Guidance. This guidance states that:

> '*Certain forms of telecommunication development, for example, mobile telephone masts, are known as 'permitted development' and subject to prior approval from the local planning authority. The prior approval procedure means that the principle of development is not an issue. The LPA can only consider the siting and appearance of the proposal'.*

Siting

The siting of the proposed radio base station has been carefully considered. To this end, there are a number of existing (albeit smaller) vertical elements of street furniture in the immediate vicinity, including lighting columns, traffic light columns, fencing, bus shelter and signage and road signage alongside additional vertical elements such as sports ground floodlights, rugby posts, and mature/semi-mature trees and bushes that will help assimilate the mast into this highways setting. The majority of views of the pole will be experienced by those travelling along Kingston Lane where items such as the pole are not necessarily uncommon features.

A recent image of the streetscene can be seen above. This shows the application site, the streetscene and the nearby Brunel University buildings which will experience some visual impact from the proposed pole. The local impacts are noted by the applicant however it should be recognised that installations such as this do need to be located in suburban areas as much as in others as this is where demand is derived from.

This is in accordance with the aspirations of the NPPF and Local Plan. It should be stressed here that form follows function – whilst it is tempting to make direct physical comparisons with existing vertical features, the different use must be at the foremost of the mind – form follows function. For example, whilst the streetlights are lower (at approx. 5m, or around one third the height of the proposed pole), far more than three streetlights will be required to provide lighting to the same area as the proposed streetpole will provide 4G and 5G connectivity to. Indeed, hundreds of streetlights would be required to fulfil that function. In addition, road signs need to be located where they can be easily read by road users i.e. lower.

Technical requirements have dictated the siting of the proposed equipment. The operator has spent a considerable amount of time identifying a potential site and the proposed location is considered to present the best balance between operational/technical requirements and environmental impact. As explained throughout this document, the search area is small due to the nature of reasoning for the site to improve coverage and capacity issues currently being experienced by this operator and its users.

The operator's equipment cabinets are similar to those of other statutory undertakers which are commonplace in urban areas. Their limited height and scale will ensure that these cabinets will not be detrimental to the visual amenity of the area.

In line with the requirements of NPPF, there are no existing suitable telecommunications installations for the operator to share, that would provide the necessary coverage to the target coverage area. Similarly, there are no buildings which are suitable and available that the operator could utilise to operate their equipment. Therefore, a new ground-based installation is required. The discounted options are set out above and their reasons for being discounted are fully explained.

3G and 4G signals by their very nature (as they carry high data rates) do not penetrate over long distances, (5G even less so), just a few hundred metres, depending on the topography of the land, building clutter and vegetation including trees in the area which can reduce their effectiveness. Therefore 3G, 4G and 5G radio

base stations need to be close to their customer demand. Therefore, a new site is required to provide new 5G service provision as well as enhance their 3G and 4G coverage to this cell area. The operator's search area is naturally smaller, than would otherwise be the case if the operator wasn't already providing service provision from this location. This severely limits the options for siting a new installation in the area.

As Section 5 above demonstrates there are no more suitable sites that are located within less sensitive locations than the current proposed site, and, as this is a site to improve coverage and capacity issues which is even more restricted in locating a more suitable site in which to provide new coverage to the target coverage area across Uxbridge.

In line with NPPF, the proposed installation is an item of essential infrastructure and therefore will not cause any loss of privacy. The column and antennas do not emit any noise, odour, vibration, artificial light or disturbance from air. The only noise emitted is from a cooling fan within the equipment cabinets, which only operate during hot weather conditions. However, within a few metres the noise is inaudible, particularly when taking into account the ambient noise levels of the area which include passing traffic. The proposed installation will not cause any traffic generation as it is not a visitor destination. Maintenance of the equipment cabinets is usually once or twice a year, where the engineer can walk to site with handheld tools.

Appearance

The design of the monopole has been carefully considered. To this end, it is a simple, functional slim-line streetpole, with the main column being split in to two sections. The upper section is 406mm and the lower section is 457mm in width. This column width is essential in order to safely support the antennas at the top of the column and the feeders for all four technologies which are hidden within the main column. The column is proposed to be painted grey, in order to match the street lighting columns and other street furniture in the area. However, the monopole can be painted any colour should the Local Planning Authority consider that an alternative colour would be more appropriate.

If the column were to be any lower, the antennas would not be able to clear the surrounding trees and urban clutter as such would not be able to operate effectively. A lower height would lead to a poor user experience for a large part of the target coverage area. As such, this would fail the operators design brief and an additional installation would have to be found leading to the proliferation of masts contrary to national planning guidance contained in the NPPF.

In order to reduce the visual impact on the surrounding area the antennas have been positioned in a dual stack formation, with 3 antennas at the top of the mast at an antenna centre line height of 19.55m and the other 3 antennas are proposed to be located underneath at an antenna centre line height of 17.65m. The antennas are positioned as tight as possible and will only be marginally wider than the main column width, rather than being a bulky headframe, and as such will not appear dissimilar to a shrouded design.

It is essential that the 5G antennas are unshrouded. As the radio frequencies get higher, required for data carrying, the antennas are less able to propagate through immediate blockages including Glass Reinforced Plastic, which is what the shroud is made from. This affects the 5G antennas more so than any other technology. The result being they cannot operate effectively close to Glass Reinforced Plastic or any other blocking material. Therefore, there is a technical reason why the 5G antennas need to be unshrouded. The latest 4G technology are also affected more so than older technologies (by propagation) and are therefore less efficient if they are shrouded. As such, the other antennas also need to be unshrouded to ensure that the latest technologies are provided to the surrounding area maximising their propagation.

The presence of the linear structures including road signage and lighting columns will ensure that the proposed column should not appear incongruous within the streetscene.

The installation of this 20metre high slim-line column designed to be as similar as possible to the other linear structures found in the immediate area will be no more at odds with the streetscene and character of the area than the other vertical structures in urban and suburban areas. Streetpoles such as this are now commonplace across the UK.

It is accepted that the height of the proposed installation is taller than other pieces of surrounding linear items of street furniture. This in itself is not a valid reason to conclude that it is not appropriate at a specific location. Indeed, Inspectors at appeal have noted that by their very nature to be effective masts are required to be taller than surrounding structures – see also discussion above in relation to form following function.

Telecommunications apparatus by its very nature must be taller than surrounding built and natural form to ensure its efficient operation. It is an essential piece of infrastructure, like pylons and telegraph poles. The proposal should not be considered negatively due to it being taller *per se* than the adjacent street furniture. Reasonable consideration of the proposal in the context of the surrounding buildings and vertical elements of street furniture should conclude that the presence of these seeks to provide a setting wherein a base station may appear more congruous from which to provide an important service. Permitted development rights extend to 25m at this location – it is important to note that this means that there is an *in principle* permission for this height of pole. However, the pole being proposed is 20m i.e. 5m lower (20% less) and so this is a demonstration of minimising impacts through the design of the pole.

NPPF states at paragraph 115 the number of radio and electronic communications masts, and the sites for such installations, should be kept to a minimum consistent with the needs of consumers, the efficient operation of the network and providing reasonable capacity for future expansion. In order to provide the latest 4G technology and 5G service in this locality, and to ensure that the coverage in the area is reliable and does not buffer or drop out, a new site is required. The operator has already explained above, it is unable to shroud the antennas, but the design is as slim as possible and will represent a simple, functional, vertical structure in the streetscene similar to the existing lighting columns on the street.

If the column and shroud were to be any slimmer, then the multi technologies would not be able to fit in the same installation and an additional radio base station would be required which would be contrary to national planning guidance (i.e. proliferation). It would also not be structurally capable of supporting all the technologies including the latest 4G coverage as well as 5G service provision. If the column were to be the same width throughout, then it would have to be as wide as the antennas at the top of the column. This would appear more visually prominent in the streetscene than the current proposals.

The design of the radio base station is one of the most sensitive designs available to the operators, designed to resemble typical existing urban linear street furniture. This is in line with the requirements of NPPF which supports equipment which is sympathetically designed and camouflaged where appropriate [paragraph 115], The Code of Practice as well as the aspirations of national and local planning policy.

The proposed new site therefore accords with NPPF and the development plan because the equipment will resemble other linear structures within the area and will expand the network, ensure high quality communications infrastructure is maintained whilst minimising the number of radio base stations in the area. Placing masts near similar structures such as lighting columns, utilising simple and unfussy designs is acknowledged in the Code of Practice on Mobile Network Development in England to be less likely to dominate and be in discord with the streetscene and as a result less likely to have a detrimental impact on the visual amenity of the surrounding area.

Lack of Coverage – Material Consideration

The current proposals will facilitate the development of an advanced broadband telecommunications infrastructure in line with National Government guidance contained within the NPPF which supports infrastructure especially where growth takes place. By providing the latest 4G technology and new 5G service provision the proposals will support the aspirations of Central Government for everyone to have access to the superfast highway network wherever they are, and that the majority of the population have access to a 5G service by 2027.

Mobiles can only work with a network of base stations in place where people want to use their mobile phones or other wireless devices. Without base stations, the mobile phones and other devices we rely on simply won't work. The proposed new mast has been sited and designed in order to provide new 3G, 4G and the latest 5G coverage and to improve the existing mobile network where there is currently a hole in coverage.

The way 5G works, it is closely connected with the Smart City agenda and will enable centralized control of lots of different street infrastructure owned or managed by councils, such as streetlights, water meters and bus stops.

Trials have already begun across the UK to demonstrate the potential of 5G and how it can improve and drive productivity and efficiency. In June 2019, West Midlands 5G partnered with BT and University Hospitals Birmingham to trial the UK's first 5G Connected Ambulance. Real-Time communications between the paramedics and the hospital doctors enabled the effective diagnosis of the patient at an early stage of care. The trial showed how a paramedic performed a remote-controlled ultra-sound scan on a patient in an ambulance over a public 5G network. These trials show how digital connectivity and technology can reduce patient waiting times and save lives (Source: WM5G).

In line with the NPPF, the proposals will provide world-class connections and access to opportunity for all in this cell area, as well as providing world-class digital infrastructure which provides the platform for the east Waterfoot area to embrace emerging technologies and societal changes. 5G infrastructure is fundamental to enable digital technologies to function. The proposals will ensure that any Three customer in this cell area will be able to access resilient, seamless connectivity at a speed they need anywhere at any time. Without the more basic technology solutions such as 5G, smart-region solutions and value-added outcomes will struggle to be brought to fruition.

Without this new site, the operator's customers would continue to experience an increase in numbers of dropped calls and buffering unable to access the internet on their handheld devices. They would also not be able to access the 5G network, a demand which is increasing rapidly as users update their handheld devices to ones that are 5G compatible. If the 5G network is not available, then users would not be able to utilise these handheld devices for the purposes in which they were purchased. This would be contrary to the aspirations of Central Government which aspires to everyone having access to the superfast highway network wherever they are, and that the majority of the population have access to a 5G service by 2027.

In accordance with the NPPF the proposed installation will help improve the area's economic prosperity, strengthen the (sub)urban economy's by supporting local businesses to start, grow, adapt and diversify. It will support a better environment for today and tomorrow by reducing the need to travel and in turn minimise carbon emissions. The radio base station will support the delivery of healthcare provision and accessibility by enabling people greater access to online services, NHS appointment reminders, reminders to take medicines, make appointments etc. As well as assisting hospital outpatient appointments and emergency

consultations carried out remotely via video link, connected ambulances, live streaming of CCTV footage etc.

By enhancing the 3G and 4G service provision to the surrounding area and providing new 5G coverage into the operator's network, this would fully support the NPPF and the ambitions of the SYMCA which recognises the importance of higher data capacity and increasing speeds in order to drive economic growth.

The Councilor's Guide to Digital Connectivity notes that a survey conducted by the Confederation of British Industry found that 81% of firms said that they see more reliable mobile connectivity as essential. Studies have also shown that mobile broadband is associated with positive impacts nationally, such as higher GDP and increased employment.

Therefore, the Government fully supports high quality communications infrastructure, even more so with the advent of 5G. The NPPF continues to strongly support telecommunications connectivity and states at paragraph 114 that local planning authorities should support the expansion of electronic communications networks. It acknowledges that advanced, high quality and reliable communications infrastructure is essential for economic growth and social well-being.

The demand for mobile data in the UK is increasing rapidly, and as households and businesses become increasingly reliant on mobile connectivity, the infrastructure must be in place to ensure supply does not become a constraint on future demand.

The proposed installation in this location will fill the current gap in the latest high quality service provision and enable the operator and MVNOs who buy network space off this operator to maintain access to their handheld devices wherever they are for the purposes in which they were purchased. This is fully in line with the Government's aspirations that everyone has access to the superfast communications network, contained within the NPPF.

Access to the internet in whatever medium now impacts every facet of our lives but only benefits those who can access and use it. The benefits of internet connectivity are key for both residents and businesses alike and a radio base station in this location providing the latest 3G, 4G and 5G technologies will support the NPPF.

In line with guidance contained within the NPPF a radio base station in this location will enable fast, reliable, secure internet accessibility wherever the user is located. This would fully meet the latest operators' coverage and capacity requirements for 3G, 4G and new 5G provision. This would be wholly in line with the Government's latest aspirations to strongly support advanced, high quality and reliable communications infrastructure, essential for economic growth and social well-being. Where the NPPF notes that decisions should support the expansion of electronic communications networks. An installation outside this search area, regardless of whether there are existing sites, would not allow the operator to provide their desired level of coverage and therefore would not adequately maintain and provide new coverage and capacity.

As part of the operators 4G licence obligations, many customers will benefit significantly from a vastly improved service provision in this locality. They will be able to gain access to the very latest technologies and connectivity, including 5G, to high-speed data services. Digital technology has catalysed the interconnection of the global economy, with the internet enabling the free exchange of goods and services, providing consumers with greater choice and businesses with access to skills, resources and customers.

The Code of Practice acknowledges that upgrading and improving mobile networks will not be possible without the necessary infrastructure on which we rely. With increasing consumer demand and the

Government's aspirations for high quality communications infrastructure it is ever more important to improve connectivity and capacity.

In the Code of Practice there is emphasis on the need for Local Planning Authorities to take account of network deployment and siting and design, when considering proposals. In relation to the introduction of 5G network deployment the Code acknowledges the requirement of additional equipment to provide necessary coverage and capacity. With the increasing consumer demand and the Government's ambitious aspirations it is becoming more important to improve connectivity and capacity. This is due to the ever-increasing demand for data hungry applications to be available to a range of connected devices, such as smartphones and tablet computers. However, the Code notes that upgrading and improving mobile networks will not be possible without the necessary infrastructure on which they rely. Therefore, there is a significant need to locate the equipment in this area.

The operator not only has a license requirement to provide a certain level of 3G/4G coverage to the population the operators are obliged to meet the growing consumer demand for 5G coverage, but especially as more people are also purchasing 5G enabled devices, in line with their license obligations and the operators competitive market driven "requirement" to provide a high-quality service. Customers expect to be able to access their portable handheld devices wherever they are, whether that be indoors or outside. The current network coverage in this area is struggling to cope with demand and therefore the new site is required to increase capacity on the network in this residential suburban area.

The OFCOM Online Nation 2021 Report highlights the importance of smart phones and thus in turn connectivity. In September 2020, UK Internet users spent nearly 4 times as much time on smartphones than they did on computers. The report found that most of the time people spend on the internet is via apps on mobile devices. Social media serves as a means of entertainment and education for many, and as an important method of marketing for businesses. The report found that 91% of households used smartphones to access the internet in 2021, compared to 65% who used tablets and 47% who accessed the internet using computers. The Report notes that the smartphone is the most-used device for accessing the internet for all age groups apart from those aged 65 +.

It is therefore imperative that the operator continues to invest in ensuring that the latest technologies are available on its network, so that customers are able to continue to use their handheld devices wherever they are, for whatever reason, for the purposes in which they were purchased.

Economic and Social Benefits

The NPPF strongly supports sustainable development. Mobile communication plays a significant role in sustainable development, being able to access the internet via a mobile device allows people to access a wide range of central and local government services buy groceries, manage finances, apply for jobs/university, and carry out school projects, send emails, download applications, send and receive instant messages, participate in social media, streaming and downloading data to name just a few of the benefits of being able to use an internet enabled handheld device. It also allows people to work from home or on the move without needing to return to the office. Residents and businesses will enjoy better accessibility, assisting home-base working by improving the electronic means of communication and the roll-out of high-speed broadband helping to promote live-work development. This reduces travel time, carbon emissions and increases the speed in which information is processed/shared. The proposals therefore fully comply with NPPF and development plan to minimise the effects of climate change, reducing the need to travel, and therefore the carbon footprint.

In such instances, as described above, the NPPF supports development that improves the economic, social and environmental conditions in the area. By filling the current gap for 3G and 4G coverage and capacity in this area and providing new 5G services will fully meet this national policy objective. Continuing to transform the digital connectivity of the city-region to drive economic growth and innovation, working to meet national targets of full roll-out of 5G technology for most people by 2027 which is in line with Central Government objectives.

Mobile connectivity is essential to the future success of the economy. The combined value of 4G and 5G mobile connectivity is estimated to add £18.5bn to the economy by 2026 (Councils and Connectivity Sept 2018). Mobile connectivity is essential to creating a better society. Digital inclusion can help people gain employment, become more financially secure and improve health and well-being. Mobile connectivity is essential to fulfilling the potential of new technologies. Innovations such as artificial intelligence and connected cars will change how we work, spend our leisure time and run our public services.

Providing the latest digital infrastructure to enable improvements in digital technology empowers and enables residents to have the highest quality of life, supports the creation of high-quality jobs and achieves the maximum productivity levels. It also helps the economy to be resilient and competitive. It will help Uxbridge be a world-leading digital region and one which its businesses, public service providers and citizens are using digital technology by default and to the fullest to grow their businesses and improve productivity to access skills, training and employment opportunities to address global challenges that have a local impact such as ill health, social isolation, and pollution; to improve living standards and well-being, helping people to lead prosperous and rewarding lives; and to improve the quality and value for money of public services.

Practical Applications of 5G Connectivity as Example of Material Socio-Economic Benefit: -

Education:
The relationship between 5G and education is evolving at a massive rate with educators exploring the relevance of Virtual Reality (VR) technologies for education and training. Crucially, VR can support remote learning, allowing students a presence in the classroom even when working elsewhere.

5G's ability to deliver real-time information (low latency), ultra-fast speeds (critical for high-definition images and video), increased capacity and heightened security will also allow learning on the job, thanks to technologies such as Augmented Reality (AR) goggles, which can give engineers real-time instructions on how to fix a machine on a production line, for example.

Health:
Patients across the country are now becoming accustomed to relying on remote healthcare services such as NHS 111, virtual GP appointments, and ordering online deliveries of essential medical supplies.

5G will prove critical in providing the infrastructure required to deliver remote health services over the next decade. By design, 5G's ability to deliver real-time information (low latency), ultra-fast speeds (critical for high-definition images and video), increased capacity and heightened security are going to be fundamental in scaling the patient benefits of remote healthcare and keeping medical records secure and private. For instance, trials have shown that connecting ambulance crews to expert resources using 5G allows paramedics to work with doctors and conduct specialist procedures in real time whilst on the road.

There is a demand for mobile connectivity in areas where geography, logistics or economics – or a combination of all 3, make it difficult. Mobile network capacity needs to grow to meet the demand of mobile users, who are consuming ever increasing amounts of data.

Paragraph 38 of the revised NPPF states that:

*'Local planning authorities should approach decisions on proposed development in a positive and creative way. They should use the full range of planning tools available, including…*permission in principle*, and work proactively with applicants to secure developments that will improve the economic, social and environmental conditions of the area. Decision-makers at every level should seek to approve applications for sustainable development where possible'*.

Providing high quality 3G, 4G and 5G coverage and capacity in this area fully meets this part of the NPPF. The social and economic benefits are a significant material consideration which should be weighed against the visual impact associated with a radio base station in this location. HM Treasury outlined such benefits in its report '*Fixing the Foundations: Creating a More Prosperous Nation*' – July 2015. Paragraph 7.1 of the plan stated that reliable and high quality fixed and mobile broadband connections support growth in productivity, efficiency and labour force participation across the whole economy. They enable new and more efficient business processes, access to new markets and support flexible working and working from home.

Paragraph 7.2 goes on to highlight strong support for high quality communications infrastructure. It states

'*by reducing red tape and barriers to investment, the Government will support the market to deliver the internationally competitive fixed and mobile digital communications infrastructure the UK's businesses need to thrive and grow, and which will enable the UK to remain at the forefront of the digital economy. The Government is working with business so that the market can play the lead role in delivering against the ambitions set out in the Digital Communications Infrastructure Strategy, published March, of near universal 4G and ultrafast broadband coverage.'*

The Government recognises that widespread coverage of mobile connectivity is essential for people and businesses. People expect to be connected where they live, work, visit and travel. That is why the Government is committed to extending mobile geographical coverage further across the UK, with continuous mobile connectivity provided to all major roads and to being a world leader in 5G.

This will allow everyone in the country to benefit from the economic advantages of widespread mobile coverage. As well as improved mobile signal, 5G networks are also crucial to drive productivity and growth across the sectors that local areas are focusing on through their emerging Local Industrial Strategies. Enabling and planning for 5G implementation is central to achieving the Government's objective to deliver property at the local level and enable all places to share in the proceeds of growth.

The Government is determined to ensure the UK receives the coverage and connectivity it needs. To this end, the Government wants to be a world leader in 5G, the next generation of wireless connectivity, and for communities to benefit from the investments in the new technology.

The case for 5G is compelling as it will bring faster, more responsive and reliable connections than ever before.

MPs have noted in parliament that the UKs Superfast Broadband connectivity was 'relatively poor'. As such, there is continuing and growing strong national support for high quality communications infrastructure. Further to the Government's commitment to improve connectivity, on 24th November 2016 the new permitted development rights for telecommunication operators came into force, designed to lift the restrictions on mobile operators such is the significance and weight the Government place upon the benefits

attached to modern connectivity. In April 2022, the permitted development rights were further relaxed to make the roll out of 5G even quicker in line with the Government's campaign to *'Speed up Britain'*.

In October 2016, there was also the BIG Infrastructure Group (as Chaired by MP Grant Shapps) Report release calling on operators to improve their network. This is signed and has comments from numerous MPs nationally.

A National Needs Assessment – A Vision for UK Infrastructure was also published in October 2016 (https://www.ice.org.uk/getattachment/media-and-policy/policy/national-needs- assessment-a-vision-for-uk-infrastr/National-Needs-Assessment-PDF-(1).pdf.aspx). It sets out the infrastructure needs for the UK which includes the importance of digital technology. An extract of this assessment can be found below:

'A lack of digital connectivity has a detrimental effect on business operations, productivity and output and hence competitiveness in the global marketplace. Securing digital connectivity is thus critical to the UK's long-term prosperity. A key challenge for the digital sector is a persistent digital divide between those who have access to the latest technologies and those who do not, with resulting social and economic exclusion, particularly as dependence on e-services and digital communications increases'.

The Assessment goes on to note that '*Universal digital connectivity would serve as an equaliser of economic opportunity in that it enables participation in a modern digital economy'*. Therefore, this Needs Assessment further explains the consequences of a lack of coverage and the effects this has on social and economic prosperity. This clearly highlights the importance of improving high quality 3G and 4G coverage to this area of Uxbridge and the wider area of Greater London.

Ministers from the DCMS and MHCLG wrote to all CEOs of Council's in England (March 2019) setting out its position in respect of supporting investment in high-quality, reliable digital connectivity **'Collaborating for digital connectivity'.** The Government acknowledges that such infrastructure is essential for communities to benefit from faster economic growth and greater social inclusion. Ministers state:

'It is essential to keep pace with growing demand for internet bandwidth and mobile data from local businesses, residents and those who visit our communities. As outlined in the Future Telecoms Infrastructure Review, the Government would like to see nationwide full fibre coverage by 2033. We would also like the UK to be a world leader in 5G, with the majority of the population covered by a 5G signal by 2027. We are writing to ask for your help in supporting the investment necessary to achieve these objectives.

Recent years have seen substantial investment in mobile and fixed digital infrastructure across the UK.

While mobile coverage across the UK has been significantly improving, there are still too many areas where coverage is poor. The UK has now achieved 95% superfast broadband coverage but still only 6% full fibre coverage.

We need to create the market and policy conditions necessary to support the large- scale commercial investment required to extend and future-proof digital connectivity. A key part of this is making it easier for operators to deploy infrastructure. To help to achieve this, the Government recently reformed the Electronic Communications Code - the statutory framework which underpins agreements between communications network providers and those in both the private and public sector who can provide sites for the installation of network equipment. The purpose of the reforms was to make it easier and more cost effective for communications network providers to deploy and maintain digital infrastructure.

Local authorities have an essential role to play as site providers. As Chief Executives, you can support investment in digital communications infrastructure by ensuring your organisations have policies and procedures in place that promote effective engagement with the digital communications industry and minimise barriers to deployment'.

Health and Safety

The proposed installation conforms to current government planning guidelines regarding potential health effects arising from telecommunications development. The operator has attached a declaration that the site conforms to ICNIRP guidance. This is in full accordance with NPPF.

Recent court cases have confirmed that the *public perception* of health risks can be a material consideration within the land-use planning system. The weight to be attached to this issue has to be determined accordingly in each case by the decision maker. It has been generally held, and widely established at planning appeal, that health concerns are not a sufficient basis alone for withholding planning permission providing it has been demonstrated that the proposed installation will comply with the ICNIRP guidelines.

The publication of the National Planning Policy Framework continues to highlight the Governments view that the planning system is not the appropriate mechanism for determining health safeguards. It sends a clear message to local planning authorities stating that they 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'. This is reiterated in the Code of Practice.

Notably, Ofcom have now undertaken 5G audits in the major cities and the results indicate that the exposure levels are a small fraction of the limits. This further reinforces the PHE guidance in respect of 5G which states: "It is possible that there may be a small increase in overall exposure to radio waves when 5G is added to an existing network or in a new area. However, the overall exposure is expected to remain low relative to guidelines and, as such, there should be no consequences for public health." (https://www.gov.uk/government/publications/5g-technologies-radio-waves-and-health)

Summary

The operator is limited in siting options as there is a requirement to fill the current hole in coverage and to provide improved 3G/ 4G coverage and capacity for this area of Uxbridge whilst also providing new 5G services. The requirement is to fill the hole in coverage to provide the latest technology whilst improving the provision of coverage and capacity to the surrounding local area.

Site selection was progressed in accordance with the applicant's licence obligations, advice in the NPPF and the Code of Practice and represents the least environmentally intrusive, technically suitable, available option.

The siting of the proposed radio base station has been carefully considered. The proposed height at 20metres is essential in order for the antennas to clear the surrounding urban clutter and trees and ensure the antennas are able to reach the target coverage area, to provide new high quality, reliable 3G, 4G and 5G service provision to the Hillingdon Council area. This will fully meet the national Government's aim of '*ensuring that everyone is connected to the information superhighway*' and the national policies set out in the NPPF. If the height of the column were to be reduced then the antennas would not be able to operate

effectively, leading to a degraded service for the operator's customers especially for the higher frequency technologies including the latest 4G technology and new 5G service provision.

The social and economic benefits of providing reliable and high quality mobile broadband connections including 5G support growth in productivity, efficiency and labour force participation across the whole economy. This is fully supported by the NPPF. These benefits are strong material considerations which any perceived loss of visual amenity to the surrounding area.

The applicant considers the proposed installation in terms of its siting and appearance would not cause significant harm on the street scene and any perceived harm would be outweighed by the need for the proposal when balanced against the development plan and its relevant policies, the NPPF, Code of Practice, and other material considerations.

We confirm that submitted drawings have been checked for accuracy.

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