

SUPPLEMENTARY INFORMATION
1. Site Details

Site Name:	Persley B3	Site Address:	Telecommunications site Parkhill Road Near Granite Hill TCE Aberdeen AB22 8AT
National Grid Reference:	390812, 810068		
Site Ref Number:	VF019248 / TEF069241	Site Type: ¹	

2. Pre-Application Check List
Site Selection

Was an LPA mast register used to check for suitable sites by the operator or the LPA?	Yes	No
If no explain why: None identifiable		
Was the industry site database checked for suitable sites by the operator:	Yes	No
If no explain why:		

Annual rollout consultation with LPA

Date of last annual rollout information/submission:	October 2020
Name of Contact:	Chief Planner
Summary of outcome/main issues raised:	N/A

Pre-application consultation with LPA

Date of written offer of pre-application consultation:	15/03/2021
Was there pre-application contact:	Yes No
Date of pre-application contact:	16/03/2021
Name of contact:	J Leadbeater
Summary of outcome/main issues raised:	
<p>Pre-application consultation has preceded this submission with information submitted to the LPA via email on the above date. The included a written description of the preliminary proposal, a consultation plan and draft plans. The abovementioned case officer responded with a holding response via email under reference 210347/PREAPP, however, detailed comment was not forthcoming. In light of the established nature of this shared base station site, it has been considered appropriate to progress to a formal application stage without further delay and to address any concerns as part of the planning process.</p>	

¹ Macro or Micro

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Ten Commitments Consultation

Rating of Site under Traffic Light Model:	Green	Amber	Red
Outline of consultation carried out: Dyce / Bucksburn / Danestone Ward Councillors			
Summary of outcome/main issues raised: No comments have been received			

School/College

Location of site in relation to school/college: N/A
Outline of consultation carried out with school/college: N/A
Summary of outcome/main issues raised: N/A

Civil Aviation Authority/Secretary of State for Defence/Aerodrome Operator consultation (only required for an application for prior approval)

Will the structure be within 3km of an aerodrome or airfield?	Yes	No
Has the Civil Aviation Authority/Secretary of State for Defence/Aerodrome Operator been notified?	Yes	No
Details of response: The site is approx. 3km from the Aberdeen Airport who were consulted at the same time as the LPA and Councillors above. No response has been received.		

Developer's Notice

Copy of Developer's Notice enclosed?	Yes	No
Date served:	27/07/2021	

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3. Proposed Development

The proposed site:
The subject site is a well-established telecommunications site in the Persley area, in the north west of Aberdeen. The site itself is in a predominantly agricultural area and there are no sensitive properties in close proximity. The topography declines in a southerly direction and there are a number of pockets of mature trees in the locale.

Enclose map showing the cell centre and adjoining cells:
This can be supplied upon request.
The intention is for the proposed base station site to provide new and up to date network services, including 5G, to those living, working and visiting / travelling in the local area. The operational context of the development has been explained in further detail below.

Type of Structure:
Description:
The proposal incorporates the following:
<ul style="list-style-type: none"> • Removal of 18m lattice mast, headframe, 3No. antennas, 1No. 300mm dish, and all ancillary development • Installation of 25m lattice mast (total height 25.3m), headframe, 12No. antennas, 2No. 300mm dish and all ancillary development
All apparatus has been limited to a minimum amount and dimension for the achievement of an efficient and up-to-date telecommunications service to be achieved for:
<ul style="list-style-type: none"> • Vodafone Limited (the host operator); and • Telefónica UK Limited (O2) (the sharing operator)

Overall Height:	
Height of existing building:	As per plans
Equipment Housing:	
Length:	As per plans
Width:	As per plans
Height:	As per plans
Materials:	
Tower/mast etc – type of material and external colour:	As per plans
Equipment housing – type of material and external colour:	As per plans

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

The design of any communications infrastructure is dictated primarily by operational requirements and secondly by the development's setting.

From an operational perspective, the operator must ensure the following when devising a final design solution for any site:

- Antennas need to be located at a height and specifically orientated to transmit effectively and efficiently without signal being impeded;
- Dish links (if required) achieve a direct line of site connection with other base station sites within the network; and
- GPS modules achieve a direct satellite link.

To achieve this the operator would usually undertake panoramic assessment to determine what is the minimum height for transmission equipment to be located in a context of local topography and clutter, such as manmade or natural features, and what antenna tilts and orientation are required to provide an effective solution.

In all cases Cornerstone is committed to limiting the size and amount of apparatus to an operational minimum.

Please see below for further details:

- **Technical requirement**
In this case, the proposed scheme is an upgrade of an established base station site and will provide multigenerational mobile communications (2G, 3G, 4G and 5G) network services. 5G technologies operate in higher frequency bands than older technologies and therefore attenuation of the radio signal is naturally higher and more prone to the effects of clutter. This means that operators will often require a higher structure or antenna position to achieve the same degree of coverage footprint as preceding generations.
- **ICNIRP Compliance**
The proposed solution will ensure mobile telecommunications service within this locale meet the expectation of residents, businesses and visitors, while minimising the visual impact of the infrastructure on the surrounding environment and meeting all ICNIRP certification requirements.
- **Design principles**
The design principles of the established lattice style mast development have been replicated as far as possible. However, an exact replication of the existing mast's aesthetic and height is simply not possible as the new mast needs to be more structurally robust and taller for supporting the additional set of transmission equipment and ensuring its effective operation.
- **Colour Scheme**
The replacement mast will be coloured Grey as per that which exists on site. This has been well established as the best colour for minimising impact and limiting contrast against both a backdrop of vegetation, regardless of seasonal changes in foliage, and any views that may be afforded against the predominantly grey British skyline. That said, the operator would be happy to colour the mast to any preference of the Council which can be achieved via an amended set of plans agreed at either application stage or as a pre-commencement condition.

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4. Technical Information

<p>International Commission on Non-Ionizing Radiation Protection (ICNIRP) Declaration attached</p> <p>ICNIRP public compliance is determined by mathematical calculation and implemented by careful location of antennas, access restrictions and/or barriers and signage as necessary. Members of the public cannot unknowingly enter areas close to the antennas where exposure may exceed the relevant guidelines.</p> <p>When determining compliance, the emissions from all mobile phone network operators on the site are taken into account.</p>	Yes	No
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Frequency:	800-3800MHz
Modulation characteristics ²	2G (900 or 1800) 3G (900 or 2100) 4G (800 or 2600) 5G (400 to 3800)
Power output (expressed in EIRP in dBW per carrier)	Maximum 35 dBW
<p>In order to minimise interference within its own network and with other radio networks, the lead operator:</p> <ul style="list-style-type: none"> • Vodafone Limited <p>And the sharing operator:</p> <ul style="list-style-type: none"> • Telefónica UK Limited (O2) <p>Operate their network in such a way the radio frequency power outputs are kept to the lowest levels commensurate with effective service provision.</p> <p>As part of their network, the radio base station that is the subject of this application will be configured to operate in this way.</p> <p>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</p>	

² The modulation method employed in 2G (GSM) is GMSK (Gaussian Minimum Shift Keying) which is a form of Phase modulation
The modulation method employed in 3G (UMTS) is QPSK (Quad Phase Shift Keying) which is another form of Phase Modulation
The modulation method employed in 4G (LTE) is 64 QAM (Quadrature Amplitude Modulation) which is another form of Phase Modulation
The modulation method employed in 5G is 256 QAM (Quadrature Amplitude Modulation) which is another form of Phase Modulation

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<p>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.</p> <p>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.</p>	
<p>Height of antenna (m above ground level)</p>	<p>As per plans</p>

5. Technical Justification

Enclose predictive coverage plots

<p>Reason(s) why site required e.g. coverage, upgrade, capacity (map attached if required):</p> <p>Coverage Requirement</p> <p>In this instance the applicant is seeking to address the following specific coverage requirement:</p> <ul style="list-style-type: none"> The proposed development will provide up-to-date multi-generational (2G, 3G, 4G, 5G) telecommunications coverage for both Vodafone Limited and Telefónica UK Limited (O2) in the Persley area; a target coverage area of residential, industry and commerce properties which places capacity and coverage demands upon mobile communications networks. The proposed antennas will transmit the signal with the associated and ancillary equipment servicing these antennas. <p>Both Cornerstone operators, i.e., Vodafone Limited and their partner operator, Telefónica UK Limited (O2), are Electronic Communications Code Systems Operators licensed under the terms of the 2003 Communications Act to provide mobile personal communications networks in the UK.</p> <p>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 Cornerstone operators. As a result, and in line with their licence requirements, mobile operators are constantly developing their networks as well as refining and modernising their infrastructure.</p> <p>Whilst it is the case that Cornerstone remains a jointly owned company, established by the two mobile network operators, Vodafone Limited and Telefónica UK Limited (O2), to establish and operate a shared single grid network to provide 2G, 3G and 4G coverage, the provision of 5G service infrastructure requires the separation of each operator's equipment. Therefore, whilst the site will remain shared, an increased mast size and amount of apparatus is required.</p> <p>How Mobile Networks Operate</p> <p>Cellular networks are made up of a series of 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'.</p>

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The base stations themselves will require a supporting structure, such as a mast or high building, to support antennas and dish whilst elevating these transmission elements above clutter, such as tall trees, buildings, or topography that could otherwise impede signal. Associated cabinets for housing radio equipment and power connections are also deployed to service the antennas. 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 connectivity and service is required where customers live, work and play and 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. 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.

It is critical to understand that the UK's four Mobile Network Operators (MNOs), including Vodafone Limited and Telefónica UK Limited (O2), all utilise different technology spectrums to provide their mobile service. The spectrums the Operators utilise are allocated by Ofcom, as industry regulators on behalf of UK Government, through licence agreements with each of the individual MNOs. As such, each MNO must utilise the spectrum licenced to them. Each part of the RF spectrum has variations in terms of RF propagation. Therefore, the four individual MNO networks, and their sharing arrangements, cannot be compared directly and there will be variations in how all four networks are deployed and developed. For this reason, all MNOs, including Vodafone Limited and Telefónica UK Limited (O2) whom continue to be competitors but share base stations where possible, have a completely different network configuration they need to fit within and build 5G service around. Therefore, the network has to be built differently, with different antennas and equipment, to take account of those spectrum and licence variations and this will lead to necessary infrastructure variations cell to cell, depending on site specific demand, local constraints and requirement. As such, the various networks will have variations in how their infrastructure is deployed and developed.

Public Benefits

It is undeniable that mobile communication is now a key part of sustainable development and a vital tool in our personal lives and in all business and government operations. Indeed, the demand for faster and improved mobile connectivity continues to grow with modern society now expecting to be able to make use of mobile devices to their full potential where people live, work and travel. Each new generation of mobile communications technology

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has provided us with higher speed, better connection, and many more advanced features on our mobiles, and now with 5G, we can expect to experience an even more extensive range of telecommunication services. There is, therefore, currently a drive by the Government to ensure that all communities, both urban and rural, have access to the most up to date mobile technology, given the clear sustainability, social and economic benefits for doing so.

Good connectivity allows people to access a wide range of essential services and a further explanation on some of these key benefits is provided below:

- Economic benefits
 - Creating more productive and cost efficiencies for businesses
 - Businesses offering online services can extend their products to a broader audience
 - Local areas and businesses can benefit from tourists and visitors as hotels, attractions, and restaurants can be booked online from anywhere in the world
 - Business owners and services like doctors can provide a faster and more cost-effective service by offering both online appointments and ordering
 - Digital connectivity facilitates economic growth, something which the Government is keen to progress and promote
 - 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 facilitate learning on the job procedures, thanks to technologies such as Augmented Reality (AR) goggles, which, for example, can give the likes of engineers real-time instructions on how to fix a machine on a production line.
- Social benefit
 - Mobile communications can help people to stay in touch wherever and whenever, which can help improve social wellbeing
 - Convenient access to online commerce or businesses
 - Contacting emergency services is easier, especially in remote areas
 - Giving the ability to manage our personal finances and information 24/7
 - Using a mobile wherever you go can provide better personal security
 - Having access to social networking sites and applications can keep people entertained with their lifestyles and interests
 - Access to real-time transport information or timetables
 - Smart meter reads for utilities such as gas or electric
 - Contacting local authorities
 - Promotion of smarter and productive ways of working. For example, working from home can help minimise commuting which can provide better work and home life balance
- Sustainability and Environmental benefits
 - Facilitating remote access to services, education, and commerce, reducing the need to travel and in turn minimising carbon emissions.
 - Better monitoring and control of energy consumption through climate change technology, smart metering and smart energy grids.
 - 5G infrastructure requires fewer heat generating electronic components.
 - 5G enabling of the Internet of Things (IOT) sensor deployment can manage and alert us to pollution risks, health hazards and flood risk.
 - Provision of smart technologies within the agricultural sector will facilitate more efficient and less wasteful practices helping to limit negative impacts.

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- 5G networks allow monitoring of traffic flow resulting in less congestion and better air quality. They also make driverless cars possible; a means of transport that offers better fuel efficiency.
- Smart cities and buildings can rely upon 5G networks to enable buildings and infrastructure to use automated energy saving through better and more efficient lighting, heating, cooling and other operations.
- Health benefits
 - 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.
 - Patients across the country are now becoming accustomed to using remote healthcare services such as NHS 111, virtual GP appointments, and ordering online deliveries of essential medical supplies.
 - 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.
- Education benefits
 - Facilitates access to educational establishment databases or booking systems for securing places for the likes of school dinners, field trips, extra-curricular activities, student/teacher reviews, etc.
 - Provides access to school/college/university apps for setting and submitting homework/coursework, ensuring news and notifications are delivered efficiently, and for parent/student/teacher interactions.
 - 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.

Following on from the above, it is worth noting that the Digital Infrastructure Minister, Matt Warman MP, gave a Keynote Speech at Connected Britain 2020³, in September of 2020, and spoke about ongoing work by the government and telecommunications industry to boost the UK's world class digital connectivity. In his opening paragraphs, he stated thanked the telecommunications industry as a whole, stating:

"You have kept school children connected with their teachers, allowed isolated grandparents to speak to their grandchildren, and enabled great British businesses to power the economy through these difficult times."

Before going on to suggest that:

"COVID has altered the way we live, work and, most importantly, stay connected with our family and friends. The digital infrastructure that keeps us all connected was essential to our daily way of life under lockdown - and is now more important than ever as we head into recovery. Many of these changes - such as increased working from home - will stay with us for the foreseeable future."

The Minister went on to refer to 5G as 'game changing technology' and referenced its endless opportunities before concluding that

³ <https://www.gov.uk/government/speeches/matt-warman-keynote-speech-at-connected-britain-2020>

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“The world is in the middle of a digital revolution. COVID has accelerated this process, digitising almost every part of our everyday lives and making the infrastructure that connects us more important than ever. That’s why it is at the top of the government’s agenda”

Who will be affected by a lack of 5G coverage?

In considering the merits of the subject application, it is important to give due cognisance to those that would be impacted upon if the current network requirement for both Telefónica UK Limited (O2) and Vodafone Limited were not to be addressed. The following paragraphs will provide some context on this issue using recent statistics and data.

According to approximate figures produced by www.which.co.uk in an article dated 17 May 2021 and titled ‘Who are the biggest UK mobile networks’⁴, Telefónica UK Limited/O2 and Vodafone Limited, (both MNOs – Mobile Network Operators), and their respective Mobile Virtual Network Operators (i.e., GiffGaff, Sky Mobile and Tesco Mobile for Telefónica UK Limited (O2) and Asda Mobile, Lebara and Voxi for Vodafone Limited), make up just over 50% of mobile device users in the UK.

It is therefore fair to assume that at least 50% of the mobile device users in the local area will be relying on the operators in question to provide up-to-date mobile network coverage at the earliest opportunity.

It is also important to evaluate the proposal within a context of how people in the UK are using mobile communications networks and industry trends, especially those experienced during the peaks of the Covid-19 pandemic. We would therefore refer the reader to ‘Online Nation 2020’⁵ which has been produced by Ofcom, June 2020.

The report found that in relation to the increasing importance of mobile connectivity:

- 71% of all measured time spent online was via smartphones;
- 35% of internet users accessed the internet only on mobile devices (smartphone or tablet)

The report also confirms that “...87% of the UK adult population use the internet...” and, under the sub-heading ‘Smartphones are the most popular device for accessing the internet’, state that:

“Smartphones are cited as the most important device for accessing the internet at home or elsewhere among all adults 16+ (60%).”

Reinforcing the importance of mobile connectivity during the pandemic, the Online Nation report included the sub-heading ‘Covid-19 impact: time spent online reaches record levels’ which states:

“In April 2020, internet users in the UK spent an average of 4 hours 2 minutes online each day, 37 minutes more each day per online adult compared with January 2020.

In April 2020, the reach of education (+3 percentage points), health (+5pp) and government (+5pp) sites had all grown since January...

⁴ <https://www.which.co.uk/reviews/mobile-phone-providers/article/best-mobile-networks-overview-amhDx1F0z41t#who-are-the-biggest-uk-mobile-networks>

⁵ https://www.ofcom.org.uk/_data/assets/pdf_file/0027/196407/online-nation-2020-report.pdf

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... between January and April 2020; Houseparty increased from 175,000 to 4 million; Zoom reached 13 million adult internet users in April, up from 659,000 in January."

The report also includes the sub-heading 'Most internet users use online messaging and calling service and use increased during the coronavirus pandemic' which states that:

"In February 2020, 73% of UK adult internet users used online text messages, 54% use online voice calls, 35% use video calls and 55% use emails, at least weekly. Nine in ten adult internet users used any of those four services at least weekly.

Until early this year, online video calling was used much less than other online communication services, with 35% of online adults using online video calling at least weekly in the 12 months to February 2020.

In May 2020, this had doubled to 71% of online adult consumers using online video calling services at least weekly, with 38% using them at least daily. Our research suggests that 7% of adult internet users used video calling for the first time as a result of the coronavirus pandemic."

It is clear from the above that reliance on mobile connectivity was increasing before the pandemic and has since increased. It is also fair to assume that increased use of and expectation for reliable mobile digital connectivity will see this upward trend continue given a widespread societal shift to a mix of previously normal and home-working practices and also the combination of face-to-face and remote-learning in the educational sectors.

The reader will also appreciate that those living in lower income households are less likely to have fixed line broadband, tending instead to be reliant on mobile connectivity for online access. It is they who will find reliable up-to-date mobile digital connectivity an essential service, rather than a luxury, for all sorts of reasons including working from home, education, accessing services online, shopping online, and keeping in touch with friends and family amongst other things. These households will be further disadvantaged if the current infrastructural need is not met.

Another important factor to consider is the impact a lack of 5G network services will have upon local businesses, including those working from home and recent start-ups. As an example, Ofcom in its Online Nation 2020 report states that a shift in consumer behaviour regarding business-focused video calling services has occurred since lockdown, with these being '...perceived to provide a better replacement for face-to-face interaction, whereas previously it was mainly used to communicate with friends or family abroad or far away.' Those continuing to work from home in the target coverage area, and those businesses or educational establishments continuing to operate without face-to-face contact and using the Telefónica (UK Limited (O2) and Vodafone Limited networks, or via their MVNOs, will all benefit from the provision of improved network services and this is recognised as an essential part of the recovery of the economy. As indicated above, the lack of an effective 5G coverage solution means that it is expected that 50% of individuals and businesses in the area will not benefit from up-to-date network services.

Without the new and improved network coverage and capacity that the critical infrastructure proposed will bring, Telefónica UK Limited (O2) and Vodafone Limited network users in this area, and those of the associated MVNOs, will not benefit from reliable mobile digital connectivity when using their smartphones for business, education and personal purposes.

The Covid-19 pandemic and its context with the provision of mobile network services

Whilst Scotland is now seeing the roll out of a nationwide vaccination programme and an easing of lockdown measures, one must consider the operational context of modern communications in the management of future spikes in cases. There will undoubtedly be long-term implications on the way we do business, socialise and function and in 2020 the Scottish Government's Digital Directorate, a part of Business, Industry and Innovation, published

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a statement in relation to telecommunications infrastructure deployment in a context of the Covid-19 pandemic⁶, stating that:

“Digital connectivity has never been more vital than it has proven to be during the last few months, whether supporting our health and emergency services or in enabling people to work or study from home and stay connected to friends and family.

The telecoms sector is also critical in supporting the development and growth of Scotland’s economy, especially in more remote areas and in support of a resilient and green recovery from the impacts of COVID-19.”

Ongoing Government advice for mitigating the spread of the virus includes at the time of writing working from home where practicable, a limitation on the number of people that can meet up in one place and the minimisation of face-to-face contact for vulnerable people. Mobile communications are therefore a key element in maintaining operational businesses, education and social interaction.

In instances where childcare and educational establishments have had to close temporarily, mobile communications have been a key facilitator in remote learning with many schools and colleges having now adopted the use of bespoke apps or the likes of ‘seesaw’ or ‘google classrooms’ for teachers, students and parents/guardians to interact on a daily basis. Such apps allow schools/colleges to record what is happening, set and receive homework/coursework, and to notify parents of important information about operations, such as temporary closures or Covid-19 regulations. Whilst these apps can be used on many devices and work with both Wi-Fi and mobile communications networks connections, the dependence upon the latter is undoubtedly significant given the ease with which one can do so.

One must also recognise the fact that mobile connectivity is the main means by which patients and the more vulnerable persons in our society can stay in touch with friends and family members who could no longer visit them in hospital, in care, in isolation or when shielding.

Summary

Without the new and improved network coverage and capacity that the proposed critical infrastructure proposed will bring, Telefónica UK Limited (O2) network users in this area, and those of the associated MVNOs, will not benefit from reliable mobile digital connectivity when using their smartphones for business, education and personal purposes.

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

Site Type	Site name and address	NGR	Reason for not choosing site
	N/A		

⁶ <https://www.gov.scot/publications/coronavirus-covid-19-statement-to-telecommunications-operators-on-build-and-maintenance-of-networks/>

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

This is an upgrade proposal; therefore, no alternative sites have been considered and, if this site is not upgraded, a new base station development will be required. Whilst an alternative site may be identifiable, this would result in an increase in cumulative impact and is unlikely to benefit from the same degree of planning merit.

Environmental information:

N/A

Land use planning designations:

N/A

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

The development would be required to comply with the following policies, guidance and legislation:

Government Ambition and Legislative Reforms

The subject proposal must be considered in a wider context of current Government guidance and ambition which clearly recognises the benefits that modern communications networks bring. The reader will also be aware that a number of legislative reforms have already taken place to support the provision of improved and of up-to-date network services for all, the most recent of which was the April 2021 revision to Part 20, Development by electronic communications code operators, Class 67.

The Third National Planning Framework

NPF3⁷ recognises the role that modern communications systems must play in achieving sustainable economic growth and advocates a general presumption in favour of allowing the development for modern communications. It encourages a more positive approach to how LPAs view new development proposals with an emphasis on the important benefits modern communications bring, for example helping to achieve sustainable economic growth and the need for access to high quality mobile services in all areas, both rural and urban.

The Scottish Planning Policy (SPP)

The SPP⁸ recognises the importance of the contribution of high-quality electronic communications to economic growth, and states that planning authorities should take account of the economic and social benefits of proposed infrastructure when determining applications. It also reiterates that development should be designed as sensitively as possible in a context of the specific technical requirements faced by the operator, acknowledging that technical constraints often place limitations on design flexibility and options.

Paragraph 293 of the SPP clarifies this, stating:

“The planning system should support:

⁷ <http://www.gov.scot/Resource/0045/00453683.pdf>

⁸ <http://www.gov.scot/Resource/0045/00453827.pdf>

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- *development which helps deliver the Scottish Government’s commitment to world-class digital connectivity;*
- *the need for networks to evolve and respond to technology improvements and new services;*
- *inclusion of digital infrastructure in new homes and business premises; and*
- *infrastructure provision which is sited and designed to keep environmental impacts to a minimum.”*

Paragraph 299 goes on to confirm that:

“All components of equipment should be considered together and designed and positioned as sensitively as possible, though technical requirements and constraints may limit the possibilities.”

With regards to the issue of health and safety, Paragraph 300 provides the following guidance:

Planning authorities should not question the need for the service to be provided nor seek to prevent competition between operators. The planning system should not be used to secure objectives that are more properly achieved under other legislation. Emissions of radiofrequency radiation are controlled and regulated under other legislation and it is therefore not necessary for planning authorities to treat radiofrequency radiation as a material consideration”.

Planning Advice Note 62 – Radio Telecommunications (PAN62)

The PAN⁹ gives advice on the sequential process of site selection and design, illustrating how transmission and associated equipment can be sensitively installed. It also explains why additional base stations are needed to serve the growth in customer demand and in response to changing technical requirements, including the third generation of mobile phones.

Local Plan

The Aberdeen City Council’s adopted Local Development Plan 2017 sets out policies and proposals to guide development in the city. It contains telecommunications specific policy in the form of the following policies and their relevant sections:

- **Policy CI1 – Digital Infrastructure**
“All new residential and commercial development will be expected to have access to modern, up to date high speed communications infrastructure”
- **Policy CI2 – Telecommunications Infrastructure**
“Proposals for telecommunications development, including prior approval and broadband cabinet applications, will be permitted provided that they comply with the over-arching themes included within Planning Advice Note PAN62 – Radio Telecommunications, as well as other applicable National and Local policies (e.g. Historic Scotland’s SHEP, ALDP Policy D5 – Built Heritage) in relation to;
 - 1) *The siting and appearance of the proposed apparatus and associated structures should seek to minimise impact on visual amenity, character or appearance of the surrounding area;*
 - 2) *If on a building, apparatus and associated structures should be sited and designed to minimise impact to the external appearance of the host building;*

⁹ <http://www.gov.scot/Publications/2001/09/pan62/pan62->

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- 3) *If proposing a new mast, it must be demonstrated that the applicant has explored the apparatus on existing buildings, masts or other structures. Such evidence should accompany a planning application;*
- 4) *If proposing development in a sensitive area, the development should not have an unacceptable effect on areas of ecological interest, areas of landscape importance, archaeological sites, conservation areas or buildings of architectural or historic interest."*

This is the primary policy test for the subject proposal and it is important that decision makers realise the difficulty in applying more general policy criteria to such niche infrastructure development, especially when one considers the functionally led design criteria needed to ensure effective operation.

Other

Please also note that the proposal should be considered in a context of the following recent Government publications:

- The Scottish Government Consultation on the relaxation of Planning Controls for Digital Communications Infrastructure, August 2016,¹⁰ confirmed that:

"World class digital connectivity is vital to Scotland's economy, whether in relation to improving the ability of business to operate effectively in attracting inward investment; the delivery of public services; contributing to a low carbon environment and having strong, connected communities in urban and rural areas. Digital connectivity takes on greater significance in Scotland, helping to address some of the disadvantages of physical distances between places."

- The Scottish Government Mobile Action Plan, June 2016,¹¹ outlines its aims as this:

"Ensuring high quality digital connectivity across all of Scotland is a priority for the Scottish Government (SG). We have set out an ambition for the availability of world class digital connectivity across Scotland, and we recognise that improved mobile connectivity is an integral part of delivering that ambition"

- Digital Strategy for Scotland, March 2017,¹² sets out a vision for Scotland setting out plans to ensure:

"...that we put digital at the heart of everything we do – in the way in which we deliver inclusive economic growth, reform our public services and prepare our children for the workplace..."

"It recognises the profound challenges that digital poses for the nature of work, for society and for both the world and domestic economies. It also accepts that no single organisation can hope to have the answers to these questions and therefore looks to create a culture and environment of partnership in which we take collective action to ensure that nobody is left behind and we all remain safe, secure and confident about the future."

¹⁰ <http://www.gov.scot/Publications/2016/08/5901>

¹¹ <http://www.gov.scot/Topics/Economy/digital/Publications/SGMAP>

¹² <http://www.gov.scot/Resource/0051/00515583.pdf>

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The fact that each of these publications are recent and are on a national basis places significant weight on the benefits attached to proposals for improved communications and infrastructure and provide a counter balance to any perceived visual/environmental impact.

- 5G: Strategy for Scotland¹³ confirms the Scottish Government's aspiration is for Scotland to be at the forefront of this revolution and, ultimately, to establish the whole country as a leading 5G digital nation. The strategy confirms that 5G will be transformational for businesses, public services and for individual citizens. It is suggested that enhanced 5G capability could reduce business start-up costs, stimulate exports and increase the use of cost-reducing technologies such as cloud computing. It could provide easier access to healthcare, education and online shopping for people, wherever they live in the country.

Planning Summary

A summary as to why the subject proposal adheres to all relevant policy criteria is outlined below:

- **Operational Requirement**
There is a clear operational need for the development. The subject proposal will result in improved 2G, 3G and 4G network services whilst establishing a 5G solution for both Vodafone Limited and Telefónica UK Limited (O2), allowing local residents, businesses and visitors in the locale to access the many social and economic benefits associated with modern communications network services.
- **Siting**
The siting of any new base station development is directly linked to operational need. In this instance, the coverage requirement relates to the upgrade of a well-established base station site at a predominantly agricultural locale which is peripheral in terms of built/natural heritage assets and is also well removed from other sensitive properties in the general area. The subject site is not subject to any restrictive planning policy designations and because this is an upgrade proposal, no alternative sites have been considered. The site also benefits from a backdrop of mature trees.
- **Design**
Similar to siting requirements, the design of any new base station development is directly linked to operational need. It also has to be tailored to the bespoke nature of the site in question, i.e., with consideration in a context of topography, proximity to other natural and manmade features, planning policy and other local sensitivities, and it must be structurally capable of accommodating the necessary transmission apparatus. Following the nomination of the existing base station site for upgrade, a well-considered design process has been implemented with the applicant having to balance technical requirements including operational, wind loading and structural calculations, with the minimisation of visual impact. A replication of the design principles of the existing base station have been incorporated as far as is reasonably possible and a minimum amount and size of apparatus has been proposed. A lesser sized mast simply would not be able to provide an efficient or effective coverage solution for the operators at this site.
- **Mast colour**
The proposed grey colour scheme for the mast has been deemed most appropriate as this will allow best absorption against the natural backdrop (regardless of seasonal changes in foliage) and for any views that may be afforded against the predominantly grey British skyline.
- **Impact upon trees/vegetation**

¹³ <https://www.gov.scot/publications/forging-digital-future-5g-strategy-scotland/>

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There are trees adjacent to the subject site but none will be impacted upon.

- **Flooding**
The proposed site is not in an area identified as having any significant flood risk. A flood risk assessment is not therefore deemed to be necessary.
- **Cumulative Impact**
The proposed development will not increase their number of base stations in the area so no increase in cumulative impact will occur.
- **Impact upon built heritage**
The development is well removed from any built heritage assets in the wider area.
- **Impact upon natural heritage**
The development is well removed from any natural heritage assets in the wider area.
- **Impact upon residential amenity**
The existing base station development is well removed from residential properties, so a similar context is applicable in this upgrade.
- **Impact upon general amenity**
As indicated above, it is almost impossible for telecommunications infrastructural development to physically enhance its setting. Indeed, all that can be done is to seek to minimise impact as far as is operationally possible through sensitive siting and design practices, as has been the case in this instance. Although the replacement mast structure being proposed is larger than that which is there at present, the reader will note from the above that a minimum amount and size of apparatus has been proposed and an appropriate colour scheme has been incorporated. Although the development will be visible from certain vistas it is important to consider the level of sensitivity associated with such views. One should note that the site is well established for telecommunications use and will offer only localised areas immediately around the site clear views of the development. Such views will also be set in a context of mature trees, helping to absorb the development. Impact upon general amenity is considered to be acceptable and well outweighed by benefit.
- **Benefit**
As indicated, the proposed critical infrastructure will allow local residents, businesses and visitors in the locale to access the many social and economic benefits associated with modern communications network services. High quality and reliable communications infrastructure are essential for economic growth and social well-being and the demand for mobile data in the UK is increasing rapidly as households and businesses become increasingly reliant on mobile connectivity. The infrastructure must therefore be in place to ensure supply does not become a constraint on future demand. There should be no doubt that the Government fully supports the development high quality communications infrastructure and decision makers must appreciate that the NPF advocates that local planning authorities should also support the expansion of electronic communications networks where impact is deemed to be acceptable or outweighed by benefit.
- **Weighing up Harm versus Benefit**
Introducing any new infrastructural element into a rural landscape will undoubtedly result in some degree of visual impact. However, it is important that consideration be given to all material planning considerations when weighing up the acceptability of the proposal. Telecommunications development is now an accepted infrastructural element in modern society with the presence of base stations being commonplace features throughout all manner of landscapes and planning sensitivities. It is no longer an

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'alien' feature, and one must also recognise the fact that mobile telecommunications base stations, like street lighting, signage, bus stops, gas, electricity, water and any other utilities/infrastructural elements, are now an integral piece of infrastructure upon which, more so now than ever, our society is heavily dependent on day-to-day basis.

It is undeniable that there are extensive economic, social and sustainability benefits associated with modern communications networks, as have been expanded upon above. These many benefits offer circumstances which should be considered more than sufficient to outweigh any limited impact that may occur in this instance. However, an even greater emphasis has been thrust upon such networks by the recent Covid-19 pandemic, which has resulted in a significant and widespread societal shift to remote working and reliance upon both online services and social media interaction for both business and personal use.

Although some degree of impact will occur as a result of this development, it is considered to be both acceptable and outweighed by the many benefits of modern communications systems. One must appreciate after all that a failure to achieve a successful 5G coverage solution for the operator in question will be to the detriment of all their business and personal customers who live, work and travel in this general area.

- **Photomontages**
The operator would be happy to commission photomontages from viewpoints agreed with the LPA to assist in considering the planning merit of this application. Please do not hesitate to contact us if this additional is required.
- **Removal of redundant apparatus**
The operator would be happy to remove any redundant apparatus and reinstate the land.
- **Health**
An ICNIRP Certificate has been supplied. As such, the issue of health is not a material planning consideration. However, for the benefit of further information on this matter, we would refer the reader to the additional supporting information that has been submitted with this application.

We trust that the above and enclosed information is to your satisfaction and would be happy to expand upon this or to discuss any aspect of this proposal as required.

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Confirmation that submitted drawings have been checked for accuracy

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Operator:	Vodafone Limited and Telefónica UK Limited (02)		
Address:	c/o Agent	Email Address:	jodie.kane@gallifordtry.co.uk
	Galliford Try Telecoms PO Box 17452 2 Lochside View Edinburgh EH12 1LB		
Signed:		Date:	27/07/2021
Position:	Consultant Planner	Company:	Galliford Try
		(on behalf of Cornerstone and above operator)	

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