

SUPPLEMENTARY INFORMATION

1. Site Details

Site Name:	The Fairways	Site Address:	2 Fairways, Woolton, Liverpool, L25 9QJ
National Grid Reference:	343530, 385759		
Site Ref Number:	CS30324000	Site Type: ¹	Macro - Rooftop

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?	Yes	No
If no explain why: No mast register exists. A physical search of the area was undertaken prior to the selection of a suitable site, to identify any potential opportunities for mast or site sharing.		
Were industry site databases checked for suitable sites by the operator:	Yes	No
If no explain why: N/A		

¹ Macro or Micro

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 Hive 2, 1530 Arlington Business Park, Theale, Berkshire, RG7 4SA.
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Site Specific Pre-application consultation with local planning authority

Was there pre-application contact:	No
Date of pre-application contact:	N/A
Name of contact:	N/A
Summary of outcome/Main issues raised:	
Pre-application correspondence including a covering letter, drawings and a consultation plan was sent to Knowsley Metropolitan Borough Council on 7 th February 2022.	
A response was received which advise that pre-application enquiries / advice is now chargeable. Given the scope of the proposed development and available timescales, it was considered necessary in this instance to proceed to application without formal pre-application advice.	

Community Consultation

Rating of Site under Traffic Light Model:	Red	Amber	Green
Outline of consultation carried out and responses received:			
A covering letter explaining the proposal and drawing was sent to the following people on 7 th February 2022:			
- Halewood North Councillors – Cllrs Terry Powell, Alan Flute and Shelley Powell - Halewood Town Council			
No responses have been received to date.			

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School/College

Location of site in relation to school/college (include name of school/college): No schools, colleges or nurseries within proximity of the site.
Outline of consultation carried out with school/college (include evidence of consultation): N/A
Summary of outcome/main issues raised (include copies of main correspondence): 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: Details of the proposal were sent to Liverpool John Lennon Airport on 7 th February 2022. An acknowledgement was received which did not raise any concerns or objections to the proposal.		

Developer's Notice

Copy of Developer's Notice enclosed?	Yes	No
Date served:	24 th February 2022	

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3. Proposed Development

The proposed site:

This application seeks consent with regard to the siting and appearance of:

The installation of 6 antennas on 3 no. 3m high poles at 29m AGL, the installation of 3 no equipment cabinets and associated ancillary equipment on the roof of the building.

There is an existing site at Camberley Drive, which currently provides coverage to the area. The existing site is a shared streetworks installation which has been found unable to accommodate upgraded equipment for both operators without significant re-development (including an increase in height) which would have a negative impact on the character and appearance of the locality. As such, an additional installation is required to provide upgraded coverage for one of the operators within the surrounding area.

The proposed site is located on the rooftop of The Fairways which is one of three multistorey residential buildings within the immediate area. It is approximately 175m south west of the existing installation at Camberley Drive. The character of the area is predominantly residential and generally comprised of low level development. The three multistorey residential blocks are the exception to this low level development and are located centrally within the wider residential area.

To the north of the building is Frensham Park, to the south, east and west is predominantly residential development with some intermittent commercial / retail and community uses including Arncliffe Nursing Home, Camberley Medical Centre, The Grenadier and a parade of shops.

There are no planning constraints on or adjacent to the site itself. The area is designated as a primarily residential area on the Knowsley Policies Map.

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The proposed location is shown below:



Type of Structure (e.g. tower, mast, etc):

Description:

The installation of 6 antennas on 3 no. 3m high poles at 29m AGL, the installation of 3 no equipment cabinets and associated ancillary equipment on the roof of the building.

Overall Height:	29.2 Metres
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Height of existing building (where applicable):	26.5-28 Metres
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Equipment Housing:

1 no. Eltek PSU Cabinet

Width:	0.7 Metres
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Depth:	0.82 Metres
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Height:	1.8 Metres
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2 no. Outdoor Hybrid ERS Rack

Width:	0.62 Metres
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Depth:	0.62 Metres
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Height:	1.77 Metres
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Materials (as applicable):

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Tower/mast etc – type of material and external colour:	Steel support poles – galvanised
Equipment housing – type of material and external colour:	Pressed metal – grey

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

In designing the proposed installation, the applicant has sought to achieve a balance between technical requirements and minimising environmental impact as far as practicable. It, however, must be acknowledged that technical constraints heavily influence the design and limit the scope to alter the appearance of the site to a significant degree.

There are three main elements to a radio base station;

- the supporting structure that holds the antennas in the air or fixes them to a building or structure
- the antennas themselves, which emit the radio signals (along with any necessary amplifier or receiver units)
- and the cabin or cabinets which contain the equipment used to generate the radio signals
- Other elements necessary for the base station to function are the 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.

In terms of design, the amount of telecommunications equipment on the rooftop has been kept to a technical minimum in accordance with para 115 of the NPPF (2021).

The antennas are proposed to be mounted on the rooftop using galvanised antenna support structures or tripods which provide bracing and support for the antennas on the rooftop.

The number of antennas required is dictated in part by the amount of different technologies that need to be deployed to the area. In this case, this site would provide 3G, 4G and 5G coverage to the locality.

The antennas are proposed close to the rooftop edge due to technical constraints associated with the provision of 5G coverage. 5G antennas are much more prone to clipping than older technologies such as 4G. This means that coverage is easily interrupted by intervening vegetation and built form. For 5G rooftop sites antennas therefore need to be sited much closer to the building edge to avoid shadowing and the antenna ‘clipping’ the edge of the buildings to allow the smart ‘tracking’ features

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of the antennas. This is the reason why in this case the antennas are located on the edge of the rooftop and not set back or in, as they need to be positioned on the roofs edge to ensure the effective transmission of 5G signal to the surrounding area.

The height of the support poles and antennas is dictated by the heights within the surrounding environment (this includes heights of buildings, trees and vegetation, structures), it also takes into account fluctuations in topography and the extent of the area that the antennas need to cover. As above, signal needs to be able to 'oversail' surrounding built form and clutter to effectively deliver signal to the locality. The antennas are proposed at the lowest possible height to ensure the effective transmission of signal to the locality.

The galvanised support poles and bracing are of relatively light weight design and of typical colouring and style for rooftop equipment that will blend into this urban environment.

The cabinets are low level structures that will be viewed as part of the rooftop plant equipment which is commonly seen in urban environments. The cabinets have been set into the centre of the roof which will mostly obscure them from view from a number of vantage points. The varying roof level on this building also provides a backdrop for the cabinets from some perspectives as do the existing trees surrounding the site.

In all aspects of the design now put forward the smallest practical components have been utilised to ensure that the visual impact of the development is kept to the absolute minimum within the context of the technical constraints to design.

The existing building is of no special architectural merit and already has telecommunications development on the rooftop.

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Technical Information

	Yes	No
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, Telefonica 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 Telefonica's 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		

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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.		
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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

Whilst it is the case that Cornerstone remains a jointly owned company, established by the two mobile network operators, Vodafone Limited and Telefonica (UK) Limited (O2), to establish and operate a shared single grid network to provide 2G 3G and 4G coverage, this can no longer be the case with all sites for the provision of 5G service. 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 those instances where greenfield structures and rooftop installations are currently in place, in the vast majority of cases, these will remain shared base stations. These shared base stations allow for separate antennas on supporting structures that are capable of accommodating the weight, wind loading and technological requirements associated with providing four technologies (2G, 3G, 4G and 5G) for two separate operators from a single shared location, albeit sometimes via redevelopment of the existing base station. However, to address some site specific coverage and data capacity demand, the 5G equipment upon many base station structures cannot be shared by both operators. This is due to variations in the make-up of the independent Vodafone and Telefonica (O2) networks.

It is critical to understand that the UK's four Mobile Network Operators (MNOs), including Vodafone and Telefonica (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 and Telefonica (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

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account of those spectrum and licence variations and this leads 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.

As noted, most infrastructure should be capable of sharing, however, the current streetworks site is not capable of accommodating all of the differing equipment that is required to meet the site specific demand of both operators and customers for this area from a single site, being mindful of the spectrum variations. To this end, many existing shared installations are being removed from the 'single grid', meaning the existing site will become operator unilateral for 5G provision. This creates the necessity for an additional new base station in the cell to accommodate the technological requirements of the other unilateral operator – either Vodafone or Telefonica (O2). Given the maturity of the two independent networks, and the single grid consolidation over the last few years, any new base station needs to be located in close proximity to the existing site – thereby retaining customer coverage and experience within a previously shared 'cell'. The rooftop site here proposed will accommodate all the technologies for the single operator and the 'cell' will benefit from improved service provision from both operators, including the introduction of 5G service to the area. A new rooftop site in proximity to the existing streetworks site, is a sensitive solution to provide modern services, including 5G service provision to the area.

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5. Site Selection Process

Alternative sites considered and not chosen (not generally required for **upgrades/alterations to existing sites** including redevelopment of an existing site to facilitate an upgrade or sharing with another operator)

Site Type	Site name and address	National Grid Reference	Reason for not choosing site
ES	Existing site – TEF85608, Camberley Drive, Halewood Green, Halewood, Knowsley, L25 9PS	343446E, 385938N	Though currently a shared structure providing 2G/3G/4G coverage for both Operators, there is no comparable street works solution that can accommodate 5G antennas for both Vodafone and Telefonica. It would require significant redevelopment and a completely new mast of substantial width and height, as well as taking up the majority of land at its base. Therefore, it is considered that redevelopment would be inappropriate within the street-scene, compromise pedestrian movements and impact on highway safety. In order to avoid network interference there needs to be vertical and horizontal separation between antennas of each operator. In this instance 30 metres of horizontal separation is required between the existing mast that will continue to be operated by Vodafone and the proposed Telefonica mast. It is considered that the identified rooftop scheme will be less visually intrusive than another streetworks installation in proximity to the existing. As such, this location is discounted in favour of the selected option.

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GF	Woolton Golf Club, Doe Park, Halewood, Knowsley, L25 7TZ	343323E, 385967N	Any greenfield site would have to be taller than the existing mature trees on the perimeter of the course to provide the required coverage. Trees are 25m+. GF site would have considerably more visual impact than the proposed location.
GF	Grenadier Pub, Camberley Drive, Halewood, Knowsley, L25 9PS	343578E, 385969N	Location at the rear of the pub was considered but discounted as the visual impact would be greater and the proposed rooftop site due to the height required to provide coverage to the area.
GF	Holy Family Catholic Primary, Arncliffe Road, Halewood, Knowsley, L25 9PA	343841E, 386218N	Location discounted by the radio planner as is located too far north of the existing site and the targeted area to provide the level of coverage required.
GF	Arncliffe Sports & Community Centre, Arncliffe Road, Halewood, Knowsley, L25 9PA	343746E, 386373N	Location discounted by the radio planner as is located too far north of the existing site and the targeted area to provide the level of coverage required.
SW	SW Adj to Shops, Camberley Drive, Halewood, Knowsley, L25 9PS	343494E, 385942N	Potential SW installation on wide pavement, however, was discounted in favour of the proposed location which is considered preferential in terms of visual amenity.

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

N/A – alternative locations set out above.

Environmental Information (refer to Section 2 of Site Finder Report):

No environmental designations or constraints.

Land use planning designations (if Heritage Statement is required then include here or make reference to attached Heritage Statement):

There are no planning constraints on or adjacent to the site itself. The land is designated as a primarily residential area on the Knowsley Policies Map.

No other land use planning or heritage designations on the site or immediately adjoining.

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

PLANNING POLICY

The following documents are considered relevant to the assessment of this application:

- The Town and Country Planning (General Permitted Development) (England) (As Amended) - Schedule 2, Part 16
- National Planning Policy Framework (2021) – Chapter 10, Supporting High Quality Communications Infrastructure
- National Planning Policy Guidance
- Knowsley Unitary Development Plan (2006) – Saved Policy ENV8 Telecommunications

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Policy ENV8 – Telecommunications Development

1. Proposals for new telecommunications masts and associated antennae and buildings will not be permitted unless the applicant has demonstrated that the following criteria would be satisfied:

Where the proposal is for a free standing mast, the need for the development could not, for technical reasons, be met in a more environmentally acceptable manner by:

- Sharing an existing mast or site,
- Erecting antennae on an existing building or other structure;

b) The development would not, by reason of its scale, siting or design, have an unacceptable impact on the character or appearance of the surrounding area, or the amenity of nearby residents.

2. New telecommunications development will not be permitted within environmentally sensitive areas, such as Conservation Areas, residential areas or the Green Belt, unless the applicant has demonstrated that there are no other suitable alternative sites outside such areas and that appropriate steps have been taken to minimise any visual impact through careful siting, design and screening.

3. Applications for development by telecommunications code system operators must be accompanied by:

- a) Evidence that the proposal would comply with all relevant ICNIRP14 Standards (or future guidance which may supersede the current guidelines), taking into account any cumulative emissions from other nearby telecommunications equipment;
- b) Evidence of how the proposal fits into the wider network, regionally and nationally.
- c) Where the telecommunication development would be on or near a school or college site, evidence that the governing body of the relevant school or college has been consulted.

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Planning Assessment

Principle of Development

This is a prior approval application. As such, the only issues that can be considered when assessing this application are the siting and appearance of the proposed telecommunications monopole and cabinets. The principle of development is therefore not an issue of consideration for this prior approval application.

Notwithstanding this, it is useful to highlight the following paragraphs of the National Planning Policy Framework:

The NPPF directly addresses the need for enhanced wireless communication services, at paragraph 20, which states that an LPA's strategic policies must make sufficient provision for:

b) infrastructure for transport, telecommunications (our emphasis), security, waste management, water supply, wastewater, flood risk and coastal change management, and the provision of minerals and energy (including heat)"

Chapter 10 [Para's 114-118] (Supporting High Quality Communications) is most relevant to this application.

Paragraph 114 states that "Advanced, high quality and reliable communications infrastructure is essential for economic growth and social well-being. Planning policies and decisions should support the expansion of electronic communications networks, including next generation mobile technology (such as 5G) and full fibre broadband connections".

Paragraph 115 states that "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. Use of existing masts, buildings and other structures for new electronic communications capability (including wireless) should be encouraged".

It should be noted that paragraph 118 states that "Local planning authorities must determine 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".

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This proposal seeks to expand the electronic communications network to provide advance, high quality and reliable communications infrastructure in accordance with para 114 of the NPPF. This installation is proposed following an identified need for an additional base station to meet customer demands, to ensure the efficient operation of the network and provide reasonable capacity for future expansion. The operator has taken a sequential approach to development and has explored the use of existing masts, sites and buildings. An existing building with another operator on site has been identified as an appropriate solution to deliver the required levels of coverage within the target area in accordance with para 115 of the NPPF.

Siting and Appearance

This is an application for Prior Approval, as such the policies contained within the development plan are only relevant in so far as they relate to the matters of siting and appearance.

Saved Policy ENV8 relates specifically to proposals for telecommunications development. The proposed development has met the criteria relating to siting and appearance as demonstrated below:

1. Proposals for new telecommunications masts and associated antennae and buildings will not be permitted unless the applicant has demonstrated that the following criteria would be satisfied:

Where the proposal is for a free standing mast, the need for the development could not, for technical reasons, be met in a more environmentally acceptable manner by:

- Sharing an existing mast or site,
- Erecting antennae on an existing building or other structure;

N/A –shared rooftop location.

b) The development would not, by reason of its scale, siting or design, have an unacceptable impact on the character or appearance of the surrounding area, or the amenity of nearby residents.

The proposed development seeks consent for a new site to provide continued coverage to the locality. This need has arisen following a requirement to remove one operator from the existing streetworks site at Camberley Drive which is currently a shared installation. The reasoning for this has been explained in detail under the section of this document entitled "Technical Justification".

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The proposed site is on the rooftop of a tall residential block where another existing telecommunications operator is already established. The character of the area is predominantly comprised of low level residential development with the exception of the building subject to this application which is taller and larger scale. The proposed site has been put forward over the re-development of the existing streetworks site which would need to be much taller and wider than it currently is to accommodate two operators with 3G, 4G and 5G coverage. The use of existing sites and rooftops is encouraged at para 115 of the NPPF (2021). The rooftop of the building is able to provide the required height and space needed for the upgraded telecommunications equipment and coverage in this location.

The design, height and appearance of equipment has been heavily influenced by technical constraints. Notwithstanding this, equipment quantity and height has been kept to a technical minimum. The equipment has been sited in the least detrimental location on the rooftop whilst still being able to provide coverage to the locality. Justification for design has already been set out under the section of this document entitled 'reason for choice of design'. The development as proposed would provide the least visually intrusive solution for providing additional coverage in this location - being located on a rooftop where equipment would read as part of the existing building. The equipment is proportionate to the form and scale of the existing building and would not look overly dominant on the rooftop. The antennas are of the smallest size possible and the number has been kept to a minimum. The antennas are positioned on light weight support structures on three sides of the roof. A 'yolk bracket' has been used to group antenna sectors together and reduce the proliferation of support poles on the rooftop. The antennas themselves are slender, functional structures which are not unexpected sights on taller buildings.

The building is of sufficient height to ensure that the antennas would be out of general eyeline from ground level and the support structures light weight in design. The size of the antennas would be modest in comparison to the size and bulk of the host building, which would remain the dominant feature in views. Shrouding options were considered as part of the design process but deemed to be more visually intrusive than the antennas themselves as they would result in multiple, large box structures on the rooftop. For these reasons the antennas would be visible but not visually intrusive within the streetscene. The cabinets have been positioned to the centre of the building and so will generally not be viewed from ground level.

With regard to neighbouring amenity, this is an established telecommunications site where the principle of development has already been accepted. Given the height of the building, and separation distance from existing development, the proposal would not be overbearing or intrusive and as such would not have any harmful impact on the amenity of nearby residents.

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2. New telecommunications development will not be permitted within environmentally sensitive areas, such as Conservation Areas, residential areas or the Green Belt, unless the applicant has demonstrated that there are no other suitable alternative sites outside such areas and that appropriate steps have been taken to minimise any visual impact through careful siting, design and screening.

3. Applications for development by telecommunications code system operators must be accompanied by:

- a) Evidence that the proposal would comply with all relevant ICNIRP14 Standards (or future guidance which may supersede the current guidelines), taking into account any cumulative emissions from other nearby telecommunications equipment;

An ICNIRP Certification accompanies this application.

- b) Evidence of how the proposal fits into the wider network, regionally and nationally.

The Unitary Development Plan was adopted in 2006 and has been superseded by the NPPF (2021) which states at para 118 that Local Planning Authorities should not question the need for telecommunications development or prevent competition between operators.

- c) Where the telecommunication development would be on or near a school or college site, evidence that the governing body of the relevant school or college has been consulted.

Details of pre-consultation have been included under section 1 of this document. There are no schools, colleges or nurseries within proximity of the proposed site location.

The proposed development is therefore considered to be in broad conformity with the criteria set out under saved policy ENV8 of the Unitary Development Plan and would therefore be acceptable with regard to the matters of siting and appearance.

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Public Benefits Associated with improved coverage and new 5 coverage

Mobile telecoms networks are now ubiquitous throughout the UK. Individuals and businesses expect to be able to connect and use their mobile device whenever and wherever they so require. Access to quality mobile communication services is an essential utility for the residents, businesses and for commuters that travel through an area daily.

High quality communications infrastructure is essential for sustainable economic growth. Mobile connectivity allows business to be done on the move, enables access to information and services anywhere, and opens new opportunities and markets. Telecommunications networks also play a vital role in enhancing the provision of local community facilities and services.

At the time of writing the critical nature of these services has been made ever more apparent. Restrictions on travel resulting from the Coronavirus pandemic has resulted in a massive shift from office based to home working, from physical professional and social gatherings to virtual ones and to unprecedented reliance on online shopping and entertainment services. Usage within suburbs and peripheral areas has therefore increased dramatically as less people travel to town and city centres. It is anticipated that the current shift towards homeworking and online services will persist, albeit perhaps to a lesser degree, in the future. It is therefore vital that the infrastructure is in place throughout the UK to meet this demand.

This is emphasised by data from Ofcom's 2021 annual communications report (published in July 2021) which confirms the importance of mobile technology in the UK. The volume of data used on fixed and mobile connections grew significantly in 2020, with average use per mobile data user up by 27% to 4.5GB per month (36% higher than in 2019). The interactive data which accompanies the report states that "the total number of mobile subscriptions increased by 1% to 94.7 million in 2020". This report also confirms that there has been consistent growth in mobile subscriptions from 2012 to 2020.

It is clear therefore that data-based technologies, such as 4G and 5G services (provided by this proposed development), are increasingly important to our everyday lives, even during more normal circumstances.

This importance has been reaffirmed in a recent letter from Matt Warman MP, the minister for Digital Infrastructure, to English Local Authority Chief Executives. The letter dated 24 May 2021 (attached at appendix 5) accompanied the 'Consultation on Changes to Permitted Development Rights for Electronic Communications Infrastructure' and states:

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'Digital connectivity is – now, more than ever – vital to enable people to stay connected and businesses to grow. The demand for mobile data is increasing rapidly, and the COVID-19 pandemic has highlighted how important it is that we all have access to reliable, high quality mobile connectivity...The planning system plays a key role in delivering the infrastructure that we need as households and businesses become increasingly reliant on mobile connectivity.'

Upgrading digital telecommunications is therefore a key Government priority and one that is also set out in detail in the NPPF (2021) and summarised within the DDCMS Connected Growth Manual (2019). Furthermore, the Government wants the UK to be a world leader in 5G and has set a target for “the majority of the UK population to have access to a 5G signal by 2027 (House of Commons Library, Building Telecommunications Infrastructure , August 2021) Critical to achieving this is the ability of operators to deploy appropriate infrastructure.

Differences between 4G and 5G

In their recent #checkthefacts campaign, Mobile UK highlight the biggest differences between 4G and 5G. These are broadly summarised as:

- Quicker speeds
- Improved latency - Time taken for information to travel from sender to receiver
- Improved capacity - more devices can be connected at one time
- 5G Networks can be sliced – allowing dedicated and reliable networks for local services (such as the emergency services) and individual businesses.

The new installation will bring next generation technology. The full extent of benefits of 5G technology is still unknown and will, to a significant degree, depend on the ability to provide a comprehensive network coverage. However, the possibilities and potential of the technology seem endless. If allowed, residents and visitors will benefit from:

Much faster download/upload speed and latency. Delays between information sent and received will become virtually impossible to perceive. Real-time content sharing and data will become a reality. This will effectively make buffering and loading delays a thing of the past, with data only taking 1 millisecond to be received by a device after it has been requested – it currently it takes up to 60 milliseconds.

Multiple Devices can be connected. Countless devices will be able to access mobile online services at the same time. It will mean you can always stay connected. For example, if you are at a football stadium or a crowded festival with everyone trying to simultaneously upload and share their experiences to social media without loss of connection.

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Improved home working. 5G rivals the speed of fibre broadband and can provide much needed connections where internet connections are still poor and in need of updating. Everyone will have access to fast and uninterrupted sharing, streaming, and browsing via their mobile phone network. It will mean accessible near gigabit capable speeds when you are out and about and could, in the future, work alongside or provide an alternative to fibre and wires in the home.

5G supports the development of the "Internet of Things". This encompasses all the 'smart' and connected devices we're starting to see in homes and beyond, from smart light bulbs and thermostats, to connected kettles, security cameras and more, most of which can be controlled by an app on a mobile phone, or by voice when paired with an AI Assistant such as Amazon Alexa. In some cases, they can even be automated, with lights for example turning on when entering a room and turning off when leaving it. They do this in part by communicating with each other, for example, motion sensors at a room entrance could adjust lighting when people enter or leave a room.

Smart Cities. It also supports the development of "Smart Cities" which develops the "Internet of Things" beyond homes and out into the world to make cities smarter. Examples include traffic lights that can adapt automatically based on traffic flow, automatic deployment of road repair vehicles when potholes are detected, smart power distribution (e.g. so that buildings are not being lit when they are empty) and rubbish bins automatically reporting when they require emptying, all leading to cleaner, safer, more efficient cities, and all with minimal human oversight.

Cars of the future. When connected to 5G, the cars would communicate and share data with other vehicles and connected infrastructure, avoiding accidents and traffic as a result, and telling smart cities where traffic is building up, so routes for other vehicles can be adjusted. This will also play a large role in self-driving cars, with its speed and reliability key to them rapidly sending and receiving information about the road and other vehicles.

The Environment. 5G connected devices will allow us to reduce our energy use and emissions, so we have a less negative impact on the environment. Multiple devices will connect to each other, so they know when they're in use and powerup or down accordingly. 5G will allow us to download data in a more efficient way, so we use less energy. Smart energy meters will help us reduce household energy use, and smart transport systems will help us produce fewer emissions when we travel.

More information on 5G and its benefits can be found at <https://www.mobileuk.org/5g-benefits>.

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Mobile UK also have a useful Local Authority Toolkit which can be viewed through the following link <https://www.mobileuk.org/5g-local-authority-toolkit>.

Summary

National planning policy is to facilitate the growth of new and existing telecommunications systems, and operators have obligations to meet customer demands for improved quality of service.

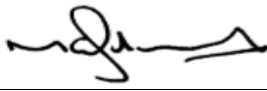
This development proposes improved coverage to the surrounding area. The proposal represents an appropriate siting and design solution for this area, balancing environmental and planning considerations.

A simple design solution is proposed to mitigate visual impact and prevent harm to the local environment. The relatively minimal impact of the development would be outweighed by the significant public benefits of the new super-fast coverage to the area.

The proposed development is compliant with the relevant policies from the NPPF and in broad compliance with the policies set out within the Knowsley Unitary Development Plan as outlined within this supporting statement. The proposal is fully compliant with ICNIRP guidelines and declaration of compliance has been provided.

As such, it is respectfully requested that this application is approved.

Confirmation that submitted drawings have been checked for accuracy

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Date:	24/02/22
For an on behalf of Cornerstone	

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