

SUPPLEMENTARY INFORMATION

1. Site Details

Site Name:	Streetworks south side of Higher Road	Site Address:	Streetworks south side of Higher Road, Halwood, Liverpool, Merseyside, L26 9TX
National Grid Reference:	345474, 384643		
Site Ref Number:	30306201	Site Type: ¹	MACRO – STREETWORKS

Background Information:

As part of VMO2's (trading as O2) continued network improvement program, there is a specific technical requirement to provide new 5G coverage in this area of Knowsley. An existing shared site between Vodafone and VMO2 has been identified in the area, however, it is not capable of accommodating the provision of 5G coverage for both operators due to technical constraints to development.

As such a new site is required to serve one of the operators – in this case, VMO2 (trading as VMO2). To efficiently replace the existing site, a new site must be found in close proximity of the existing to replicate and improve upon the existing coverage pattern and to ensure that no new gaps in coverage are created.

In this instance, a new streetworks installation has been proposed as the most viable solution to meet the demand for coverage taking into consideration both technical requirements and planning and environmental constraints.

An application was submitted in July 2020 (20/00413/TEL) for a similar mast on Leathers Lane, to the north-west of the now proposed location. This application was refused on the basis of its size and height combined with its prominent and open location, being detrimental to the character of the area and to the street scene.

Following a review of the reasons for refusals and a reconsideration of the search area and available options, a new streetworks site on Higher Road has been found to be a viable location for a mast to meet this requirement whilst balancing environmental and planning considerations, as well as technical and operational considerations. As such, this current application seeks consent for:

The installation of a 20m monopole supporting 6 no. antennas and 2 no. 0.3m dishes, 2 no. cabinets, associated ancillary equipment and development ancillary thereto.

¹ Macro or Micro

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 Cornerstone Telecommunications, Infrastructure Limited,
 Hive 2, 1530 Arlington Business Park, Theale, Berkshire, RG7 4SA.
 Registered in England & Wales No. 08087551.
 VAT No. GB142 8555 06

Sinclair Dalby Limited, 3 Princes Street, Bath, BA1 1H
 Registered Office, Sinclair Dalby Limited, 11 Windell Street, Bath, Somerset, BA2 5BG. Registered in England 7610197.

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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:		

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:	
A description of the proposal and drawings were sent to the Knowsley Metropolitan Borough Council by email on 18th July 2024.	
No site-specific comments have been received to date.	

Annual area wide information to planning authority

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

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Summary issues raised:

Cornerstone's commercial relationship with VMO2 and Vodafone has changed, effectively increasing their independence to work with other companies in the deployment of mobile infrastructure. It means Cornerstone no longer has visibility of VMO2 and Vodafone's full update plan. However, Cornerstone is fully committed to working closely with Local Planning Authorities and following best practice guidance.

Cornerstone aims to engage and work with the planning department at the earliest opportunity from when it is instructed to deliver new infrastructure within your Local Authority area and often conduct strategic pre-rollout engagement meetings to discuss their wider rollout. If your Local Authority would like a meeting to discuss wider Cornerstone rollout plans, then please advise. We recognise the importance of developing long term partnerships and will always work with you to deliver improved mobile connectivity.

Community Consultation

Rating of Site under Traffic Light Model:	Red	Amber	Green
Outline of consultation carried out:			
A description of the proposal and drawings were sent to the Halewood South Ward Councillors - Joanne Harvey, Edna Finneran, and Barbara Dunn – to the Halewood Town Councillors and also to Derek Twigg MP via email on 18th July 2024.			
Summary of outcome/main issues raised (include copies of relevant correspondence):			
No responses have been received to date.			

School/College

Location of site in relation to school/college (include name of school/college):
None in proximity.
Outline of consultation carried out with school/college (include evidence of consultation):

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N/A

Summary of outcome/main issues raised (include copies of main correspondence):

N/A

Civil Aviation Authority/Secretary of State for Defence or the operator of the civil safeguarding area or defence safeguarding area notification (only required for an application for prior approval)

Will the proposed development be on a civil safeguarding area or a defence safeguarding area?	Yes	No
Has the Civil Aviation Authority/Secretary of State for Defence/operator of the civil safeguarding area or defence safeguarding area been notified?	Yes	No
Details of response: Liverpool John Lennon Airport was consulted on 18th July 2024. No response has been received to date.		

Developer's Notice

Copy of Developer's Notice enclosed?	Yes	No
Date served:	28 th October 2024	

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3. Proposed Development

The proposed site:

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

A 20m monopole supporting 6 no. antennas and 2 no. 0.3m dishes, 2 no. cabinets, associated ancillary equipment and development ancillary thereto.

The site is located on the southern side of Higher Road at the western end of the lay-by, close to the roundabout with Sandhurst Road located to the east. To the north of the proposed site is a newer residential development with houses facing south, however good separation is provided by the road itself and an intervening grass verge with mature trees. The railway line is approximately 100m to the south of the site across an open grassed area / field. Beyond this there are regularly spaced electricity pylons. To the east of the site is the service lane which serves Higher Road, there is no built form on the southern side of the road. Further to the east the railway line continues and there is Speke Boulevard, a busy dual carriage way. To the west is the roundabout providing an intersection to Baileys Lane and Aldersgate Drive, as well as continuing Higher Road. These roads lead to areas which are more residential in nature.

There are no planning constraints on the site itself. The location is shown below:

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Please see section below for the proposed dimensions, materials and colours.

Enclose map showing the cell centre and adjoining cells if appropriate:

N/A

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

Description:

The installation of a 20m monopole supporting 6 no. antennas and 2 no. 0.3m dishes, 2 no. cabinets, associated ancillary equipment and development ancillary thereto.

Overall Height:	20 Metres
Height of existing building (where applicable):	N/A
Equipment Housing:	York Cabinet
Length:	1.90 Metres
Width:	0.66 Metres

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Height:	1.75 Metres
Equipment Housing:	Shire Cabinet
Length:	1.05 Metres
Width:	0.66 Metres
Height:	1.75 Metres
Tower/mast etc – type of material and external colour:	Monopole – steel – Grey RAL 7035
Equipment housing – type of material and external colour:	Cabinets - steel – Fir Green RAL 6009

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 was practicable. It, however, must be acknowledged that technical constraints heavily influenced the design and limited 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

In terms of design, a slim and unfussy design of support structure has been chosen to take account of the sites highways location. The monopole design of support structure is the most appropriate and available design for a streetworks location. This structure has been selected over other available design such as a lattice tower with an open headframe and level antennas, and is free of ancillary equipment such as tall fencing, or larger cabinets. The finish of the monopole is proposed to be grey to match the existing street furniture and to blend into the surroundings.

In terms of the height of the proposed structure, it is acknowledged that the mast would be taller than some of the existing street furniture. This is necessary as the site is proposed to provide 5G services. 5G signal is particularly susceptible to 'clipping' and interference which means it is more prone to be obstructed by trees or taller structures than 3G or 4G signal. Therefore, the height of the mast has to take account of this susceptibility to ensure that the 5G antennas are sufficiently high enough to clear

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obstacles and fully service the intended area. A monopole at 20m ensures that this is achieved. The provision of new 5G coverage is a public benefit and one that should be considered favourably within the planning balance. The mast would be seen in the context of the existing greenfield mast to the west and also the electricity pylons to the south which would bring context to its height, whilst remaining slimline.

This height also takes into account a need to accommodate multiple technologies in one installation. These technologies are stacked on top of each other. The need to provide modern 5G signal and multiple technologies in once mast, is therefore a driver of the height of the installation.

The mast is proposed to be coloured grey and the cabinets green. Whilst the proposed colour scheme has been selected taking into consideration the specific site context, the applicant would be willing to adhere to any colour scheme deemed more appropriate by the local authority.

2 no. dishes are proposed under the antennas and other ancillary equipment on a small bracket. The transmission dishes are essential to link the installation back into the wider network. They are used to link individual radio base stations to each other and, through a series of links, into the wider mobile phone and fixed line networks. In order to communicate with each other, dish antennas must have a clear line of sight, sometimes known as point-to-point communications. They must be in clear view of each other without any physical obstructions such as trees or buildings which would reduce or disrupt the low-powered signal. For this reason, dish antennas are always mounted high on rooftops or tall structures. The dish antennas used by mobile phone networks are relatively small and remain proportionate in size to the overall installation.

2 no. cabinets are proposed. The cabinets are of a type commonly seen on the street and are relatively low level structures that, when viewed in the context of the street scene, will not be out of character; they will also be painted grey, a colour typical for street furniture.

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.

There is street furniture close to the site and along the road and in the surrounding area all of which will provide context and screening and/or backdrop to the proposed development. Intervening built form and vegetation will also provide a level of screening in longer range views. The level of screening of the equipment will depend on the specific viewpoint, however overall, the surrounding built environment

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would assist in minimising visual impact to ensure that impact on amenity is kept to a minimum.

It is considered that the proposal strikes an appropriate balance between operational and environmental considerations.

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Health and Safety - including ICNIRP compliance

This application is supported by a certificate of ICNIRP compliance. Para 121 of the NPPF (2023) states: 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.

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

As part of VMO2's (trading as O2) continued network improvement program, there is a specific technical requirement to provide new 5G coverage in this area of Liverpool.

There is an existing shard streetworks site at Leather Lane which currently serves the area for VMO2 and Vodafone. Following technical consideration of the site, it has been concluded that the existing streetworks site is unable to accommodate new 5G equipment for two operators given the amount of equipment required for both operators and the separation distance required between the antennas of each operator for 5G. For this reason, VMO2 require a new site to support their new equipment and provide the latest technologies and frequencies to the area.

It is critical to understand that the UK's four Mobile Network Operators (MNOs), including Vodafone and VMO2 (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.

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For this reason, all MNOs, including Vodafone and VMO2, 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.

As noted, most infrastructure should be capable of sharing, however, the current rooftop site is not capable of upgrading with 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 VMO2. 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 new pole will accommodate all the technologies for the single operator and the 'cell' will benefit from improved service provision from both operators including new 5G coverage. To continue to share the site at this location would require significant redevelopment of the existing structure to a much more structurally robust site capable of hosting all the differing antennas and equipment from both operators to address their spectrum variations. This is not possible given the constraints of the installation on which the current antennas are located and therefore it is felt that a secondary site is the only other viable option to ensure a continuation of coverage and the provision of new technologies and frequencies for VMO2.

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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
D1 Existing site	EXISTING VF STREETWORKS POLE AT 85607 SW at Leathers Lane, Halewood, L26 0TR	344810, 385162	Though currently a shared structure providing service for both Operators, there is no comparable street works solution that can accommodate 5G antennas for both Vodafone and VMO2. 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. Therefore, co-location within this 30 metre radius is not technically viable and so is discounted.

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D2 – Streetworks	SW East side of Leathers Lane, Halewood, Knowsley, L26 0TR	344775, 385092	An application was submitted in July 2020 (20/00413/TEL) for a similar mast on Leathers Lane, further west of the now proposed location. This application was refused on the basis of its size and height combined with its prominent and open location, being detrimental to the character of the area and to the street scene. The newly proposed site seeks to overcome these issues being located further south-east from the existing site in a less densely populated location and where the site would benefit from the presence of taller infrastructure including the electricity pylons to the south.
D3 - Rooftop	Aldi, Halewood Shopping Centre, Leathers Lane, Knowsley, L26 0TR	344855, 385180	This building was investigated as a potential rooftop site; however, it was concluded that the building is too low to provide the required level of coverage for the area.
D4 - Greenfield	Halewood Town Junior Football Club, Leathers Lane, Knowsley, L26 0TR	344804, 385153	A greenfield site within the sports grounds would be located closer to residential development and would have considerably more visual impact than a streetworks installation; therefore, for these reasons this option has been discounted.
D5 - Streetworks	Wood Road SW, Halewood, Knowsley, L26 0TB	344901 , 385307	The wide pavement to the north of the bus stop was investigated as a potential streetworks location, however, this area is located closer to the houses than the proposed location which would be able to better protect residential amenity and the character of the area.

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D6 - Streetworks	SW on corner of Leathers Lane & Higher Road, Halewood, Knowsley, L26 0UE	344666, 384823	This option was investigated as a potential streetworks site, however, was discovered that this location was subject to a planning application from a different operator which has been refused. For this reason, this option has been discounted.
D7 - Streetworks	Pavement outside Halewood Leisure Centre, Baileys Lane, Halewood, Knowsley, L26 7TY	345369, 385083	The pavement near the entrance to Sports Centre was investigated; however, this is not wide enough to accommodate an installation. For this reason, this option has been discounted in favor of the proposed location.
D8 - Streetworks	Verge north side of Higher Road, Halewood, Knowsley, L26 7TX	345438, 384689	Wide grass verge closer to the roundabout, however, the area to the land is being redeveloped. This option has been discounted in favor of the proposed location which is located further south.
D9 – Rooftop	The Halewood Centre, Roseheath Drive, Halewood, Knowsley, Liverpool, L26 9UG	344917 , 385075	The building is too low level and does not have the required height for the antennas to be able to 'see over' obstructions in the environment and successfully deliver coverage to the surrounding area. Therefore, discounted on technical grounds.
D10 - Rooftop	Commercial units next to bus stop (Subway, Hawood Fish Bar etc), Leathers Lane, Halewood, Knowsley, L26 0AD	344861 , 385098	The building is too low level and does not have the required height for the antennas to be able to 'see over' obstructions in the environment and successfully deliver coverage to the surrounding area. Therefore, discounted on technical grounds.
D11 – Streetworks	Outside Shell Garage, Higher	344543 , 384891	Insufficient space to accommodate a mast within the

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	Road, Halewood, Knowsley, L26 1UN		pavement. Evidence of underground services which would prevent an installation from being built in this location. Also potential to block sightlines when exiting the petrol station. For these reasons, this option has been discounted.
D12 – Existing Mast	Existing Lattice Mast Serving Another Operator (EE), Higher Road, Knowsley, L26 0AP	345664 , 384602	The mast is too far east to replicate and improve upon the existing coverage pattern. It would not work in technical terms and is therefore not a viable location for mast sharing.
D13 – Streetworks	Streetworks on Blakeacre Road, Halewood, Knowsley, L26 9US	344929, 384844	The area is entirely residential, and any installation would need to be positioned in very close proximity to properties. Whilst not wholly unacceptable the site would be more visually dominating and more impactful on neighboring amenity than the selected site. It has therefore been discounted for these reasons in favour of the proposed site.
D14 – Streetworks	Streetworks on Roseheath Drive, Halewood, Knowsley, L26 9WA	345040, 384999	As above, the area is entirely residential, and any installation would need to be positioned in very close proximity to properties. The pavements are also too narrow to accommodate an installation. It has therefore been discounted for these reasons in favour of the proposed site.
D15 – Rooftop	Rooftop at Halewood Police Station, Marsden Road, Halewood, Knowsley, L26 9UJ	344684, 384863	Building is too low to provide the height required for the antennas to see over obstructions with the surround environment to successfully deliver coverage to the target areas. Discounted on technical grounds.
D16 – Streetworks	Streetworks on Higher Road, Halewood,	344965, 384742	Higher Road was investigated for potential streetworks installation,

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	Knowsley, L26 9UZ		however, the area is residential with houses facing the road from both sides. The pavements are also too narrow to accommodate an installation. For these reasons, this area has been discounted.
D17 – Streetworks	Streetworks at junction of Higher Road and Old Hutter Lane, Halewood, Knowsley, L26 9UZ	345210, 384678	The pavements at Higher Road junction with Old Hutter Lane have recently been redeveloped and cycling route created. The pavements are scared of services and there is no space to accommodate an installation. For this reason, this option has been discounted.

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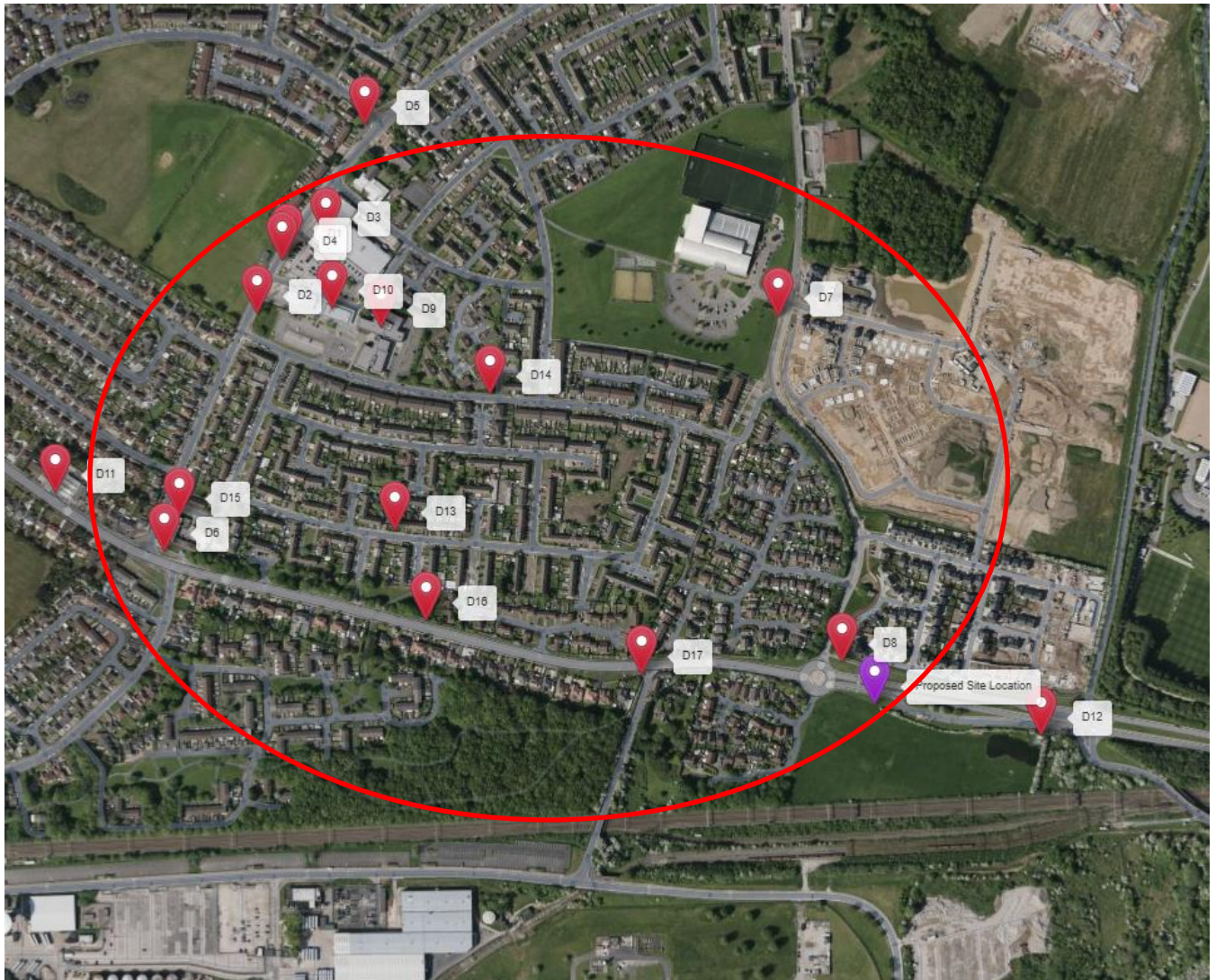
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Map of discounted options:



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

N/A – alternative locations set out above.

Land use planning designations:

Site falls within boundaries of land allocated for sustainable urban extension however there are no current applications or approvals for development on the land or to the south of the site. No other relevant designations on the land or adjoining.

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

PLANNING POLICY

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

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- The Town and Country Planning (General Permitted Development) (England) (As Amended) - Schedule 2, Part 16
- National Planning Policy Framework (2023) – Chapter 10, Supporting High Quality Communications Infrastructure
- National Planning Policy Guidance
- Code of Practice for Wireless Network Development (2022)
- The Knowsley Local Plan Core Strategy was adopted in January 2016 – Policy ENV8: Telecommunications Developments

Schedule 2, Part 16 of the GPDO

Schedule 2, Part 16 of the GPDO relates to the Prior Approval process for telecommunications development. This legislation has established the principle of telecommunications development. Prior Approval is therefore only assessed on the basis of siting and appearance. The development plan and NPPF (2023) is therefore only considered relevant in as far as it relates to the matters of siting and appearance.

The Knowsley Local Plan Core Strategy (2016) – Policy ENV8: Telecommunications Developments

“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:

a) 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;

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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 minimize 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. “

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 118-122] (Supporting High Quality Communications) is most relevant to this application.

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Paragraph 118 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 119 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 121** 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”.

This proposal seeks to expand the electronic communications network to provide advance, high quality and reliable communications infrastructure in accordance with para 118 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 as well as sharing between two operators. The operator has taken a sequential approach to development and has explored the use of existing masts, sites and buildings however a new greenfield installation is considered to be the only appropriate solution to deliver the required levels of coverage within the target area in accordance with para 119 of the NPPF.

Siting and Appearance

Policy ENV8: Telecommunications Developments of the Knowsley Core Strategy (2016) sets out a number of criteria for telecommunications development.

Firstly it states that *“Proposals for new telecommunications masts and associated antennae and buildings will not be permitted unless, 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 or erecting antennae on an existing building or other structure”*.

A physical search of the area has taken place, and the applicant has explored the possibility of erecting apparatus on existing buildings, masts or other structures and is

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unable to find a suitable and/or available alternative which is able to work in technical and operational terms whilst also being acceptable in planning and amenity terms. Discounted options and reasons for discounting are shown above within this document. As such a new mast is proposed to meet customer demand in a location which is considered the least impactful and able to balance planning considerations with technical and operational requirements.

The search area for a mast / installation has been selected through technical assessment by a qualified radio planner and is based on technical data which shows the areas within which a mast be located to provide the desired coverage pattern. There is limited scope to move the search area from where this assessment determines, as doing so may mean that the mast would not service the intended target area and could also interfere with adjoining masts which are located within the locality.

Secondly policy ENV8 requires that 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 site is located on an area of grass verge adjacent to a layby / service lane which is off of a busy main road (Higher Road). The character of the area immediately surrounding the site is generally functional / highways. There are two green open fields to the south of the site which provide a buffer between the site and the railway line. Further east is Speke Boulevard A561 which is a major dual carriageway. This section of Higher Road, where the mast is proposed, provides a functional transition between the residential areas to the west and the dual carriage way to the east.

The site benefits from being located away from predominantly residential areas such as those to the north and east of the site. The closest residential development is the newer housing estate to the north of Higher Road. Whilst some of these properties look out over Higher Road and the site location, the dwellings are set back in their plots and there is sufficient separation distance to ensure that the installation would not be overbearing or unacceptable in amenity terms.

The site is proposed in a location where taller structures have already been considered acceptable and provide a backdrop / context to the development. The road is flanked by tall streetlighting and signage. There is also an existing lattice mast to the east (which has been discounted for sharing above) and large pylons further south. The presence of the railway line to the south and designated industrial area beyond further provide a backdrop to the development and soften its impact. With the exception of the residential development to the north, this is otherwise a transitional location where peoples experience of the mast would generally be when travelling along the road and would be fleeting.

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The installation would take up a small area of grass verge. It is not considered that the introduction of telecommunications infrastructure would greatly disturb the way the land is used or understood or the character of the area, particularly when weighed against the benefits of providing improved coverage to this area of Knowsley.

In terms of appearance, following technical assessment by qualified radio planners and telecommunications designers, the height of the mast has been proposed at 20m. This is the lowest possible height which can still deliver the required levels of mobile phone signal to the locality due to technical constraints.

It is accepted that the proposed mast would still be taller than some of the existing street furniture, although there are taller pylons to the south of the site which will provide a backdrop to the development. A height of 20m is required as 5G signal does not travel as far and is prone to 'clipping' than lower frequencies such as 3G and 4G. It does not pass well through different materials and needs a clear space free of obstructions (such as trees and buildings) to deliver signal. As such, there is a need to ensure that the antennas are able to rise above any obstructions. The mast has been proposed at the lowest possible height to ensure that the antennas can over sail the obstructions in the environment. Taller masts are being proposed across the country to accommodate the delivery of 5G coverage.

With regards to form and scale, a relatively slimline streetworks monopole with smaller antennas has been chosen over a bulkier and wider, standard mast or lattice tower with an open headed bracket, larger level antennas and dishes, and a large cabin and/cabinets. The development is also free of any fencing, lengths of cable trays and large areas of hard standing. The number of cabinets have been kept to the technical minimum and are of the smallest possible dimensions.

Whilst visible, the proposed development would not constitute unacceptable harm. Any resulting impact of the development at this location would be outweighed by the significant public benefits of the proposal to the surrounding area.

There development is therefore considered to accord with the requirements of criteria 1B of Policy ENV8.

In accordance with criteria 2 of Policy ENV8, the site is not located within an environmentally sensitive area, such as a Conservation Areas, residential area or the Green Belt.

In accordance with criteria 3 of Policy ENV8 this application is supported by an ICNIRP declaration to demonstrate that the installation would comply with the up-to-date ICNIRP standards.

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Balancing siting and appearance of mobile phone mast against operational efficiency can be challenging and every effort has been made in this case to ensure that the mast is proposed in the best possible location and is of the best possible appearance given the technical and planning constraints which exist. It should be acknowledged by the LPA that operators are limited on the options for where equipment can be located and how it appears, particularly with regard to the emergence of new technologies such as 5G which require different considerations than previous technologies. The location as selected is considered to be the least detrimental location within the required search area and generally conforms to the requirements of Policy ENV8 which relates specifically to telecommunications development.

Public Benefits Associated with Improved Coverage and New 5G 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 carried out 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.

5G is expected to broaden the role that mobile technology plays in wider society by enabling thousands more 'smart' devices on the street which connect to the internet and each other. This will pave the way for new virtual and augmented reality services and help drive the take-up of new innovations such as autonomous cars and remote healthcare technologies. And it could transform the way public services are delivered - such as energy and transport - by allowing greater real-time monitoring and responsiveness in order to reduce waste, pollution or congestion.

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 continued shift from office based to home working, from physical professional and social gatherings to virtual ones and to 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.

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The 'Online Nation Report' (June 2022, OFCOM) is supportive of this statement, finding that *"The global pandemic since March 2020 has resulted in significant changes in online behaviour; in particular, our online shopping habits that developed during lockdown periods appear to be here to stay. Overall, online companies grew in 2021. The largest online platforms' revenues and profits increased significantly during the lockdown periods and this growth continued in 2021. The growth is being driven by UK consumers' increasing spend on e-commerce and entertainment subscription services, while advertising revenues are also increasing with the continuing brand migration to online"*.

In addition, this report highlights that *"data from Ipsos iris shows that 49.9 million UK individuals aged 15+ accessed the internet on smartphones, tablets and computers in September 2021 (our sample month), spending an average of 3 hours 59 minutes a day online. Young adults continue to spend the most time online, with 18- 24-year-olds spending a daily average of 5 hours 6 minutes, and the 55+ group spending the least time (2 hours 58 minutes). Women spent more time online (4 hours 11 minutes) than men (3 hours and 46 minutes). Online adults in Scotland spent the most time compared to the other UK nations (4 hours 18 minutes), while those in Northern Ireland spent the least (3 hours 25 minutes)"*.

Ofcom's 2023 communications market report (interactive data published in July 2023) reaffirms the importance of mobile technology in the UK. The average monthly data volumes per mobile data user increased by 1.2 GB (22%) to 6.6GB in 2022. The total number of mobile subscriptions also increased by 3% to 111.8 million in 2022.

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 letter from Matt Warman MP, the previous minister for Digital Infrastructure, to English Local Authority Chief Executives. The letter dated 24 May 2021 accompanied the 'Consultation on Changes to Permitted Development Rights for Electronic Communications Infrastructure' and states:

"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 evidently a key Government priority and one that is also set out in detail in the NPPF (2021) and summarised within the DDCMS

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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 in the places which need it most.

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.

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.

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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>.

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>.

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

There is a requirement to upgrade the VMO2 network in the area to provide improved coverage and capacity, most notably in relation to 5G services, but also in relation to 4G services.

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The first generation of services provided voice calls, the second generation (2G) allowed basic data such as texting and the third generation (3G) offered internet access and the development of apps. Since then, the smart phone has developed further, and the fourth generation has brought video and much faster data speeds allowing the integration of the smart phone into wider use.

The next generation of mobile telephony is 5G which brings greatly increasing data speeds. The advantages this presents range from near-instant downloads of HD films to connected cars, smart medical devices, and smart cities. To bring this new technology VMO2 will need to provide a mix of upgrades to existing sites and the building of new sites. New sites will be needed for many reasons, including that the higher radio frequencies used for 5G do not travel as far as those frequencies currently in use leaving gaps in the network.

Although 5G will undoubtedly bring new opportunities and huge benefits to society, we cannot escape from the requirement that new structures, antennas, and ancillary equipment will be needed. It has been acknowledged by Government that we must ensure that we have the infrastructure in place to deliver 5G across our major centres and transport networks. This is one of the many additional structures that will be needed to provide enhanced services.

The higher frequencies that 5G will use can provide more bandwidth and thus greater capacity but the signal will not travel as far as those of previous generations. The implications to the built environment will be that more infrastructure needs to be deployed, as in this case.

Education:

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

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

Health:

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

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

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.

An existing shared base station has been identified in the area however it is not capable of supporting the required level of equipment for both operators. A new installation is therefore required for VMO2 to allow for the provision of modern technologies and frequencies including 5G services.

As set out above, to replicate the existing coverage pattern and avoid the creation of new gaps in the network, it is necessary for the proposed site to be as close as possible to the existing site location.

This location has been found to be the most suitable location for a new installation which is capable of delivering the necessary improvements in coverage to the surrounding area. This document has demonstrated 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 significant public benefits associated with the provision of the new super-fast coverage to the area have been set out and should be fully considered by decision makers.

The proposed development is compliant with the relevant policies from the NPPF and in broad compliance with the policies set out within the Knowsley Core Strategy (2016) 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.

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Confirmation that submitted drawings have been checked for accuracy

Name: (Agent)	Veronica Raescu on behalf of Matthew Silverwood	Telephone:	07867 977748
Operator:	Sinclair Dalby Limited on behalf of Cornerstone		
Address:	3 Princes Street, Bath, BA1 1HL	Email Address:	matt.silverwood@sinclairdalby.co.uk
		Date:	31 st October 2024
Signed:		Company:	Sinclair Dalby Limited
		(On behalf of Cornerston e and above operator)	
Position:	Director		

In the first instance, all correspondence should be directed to the agent.

Cornerstone Industry Site Specific Supplementary Information (England) V.9 – 22.03.2024

Registered Address:

Cornerstone Telecommunications, Infrastructure Limited,
Hive 2, 1530 Arlington Business Park, Theale, Berkshire, RG7 4SA.

Registered in England & Wales No. 08087551.

VAT No. GB142 8555 06

Sinclair Dalby Limited, 3 Princes Street, Bath, BA1 1H

Registered Office, Sinclair Dalby Limited, 11 Windell Street, Bath, Somerset, BA2 5BG. Registered in England 7610197.



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