

Broadband Connectivity Assessment

Oval Real Estate

Albert Bridge House

October 2022

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ADMINISTRATION PAGE

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Issue	Date	Detail of Changes
1	October 2022	Initial issue

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EXECUTIVE SUMMARY

Report Purpose

There is a requirement to ensure that new residences have access to superfast broadband download speeds (understood to mean a minimum of 24 Mbps) to ensure future occupants can obtain sufficient broadband services. Pager Power has been commissioned to investigate the broadband connectivity at the proposed development, consisting of 367 plots, located on St Mary's Parsonage in central Manchester.

Process

The availability of broadband services and the associated speeds has been determined based on:

- Openreach coverage checker – which is available via the Openreach website and identifies available speeds in any area within the UK.
- Crosschecks with three of the main UK broadband providers.
- Investigation of the process for obtaining superfast broadband to the premises.

Conclusions

Suitable superfast broadband download speeds, understood to mean a minimum of 24 Mbps, is not currently available at seven of nine assessed addresses checked near to the proposed development location. Therefore, superfast services may not currently be available to the proposed development under baseline conditions.

Openreach typically provide Fibre To The Cabinet (FTTC) infrastructure, and this is leased by BT and Sky who provide internet services, amongst other retail providers. Fibre services are not available at eight of the nine addresses near to the proposed development location. Therefore, FTTC infrastructure may not currently be available for the proposed development from Openreach. The review has shown that for majority of the assessed addresses near to the proposed development location, there is no superfast services from BT and Sky.

Virgin Media provide superfast services with of an average download speed of up to 1130Mbps; however, information was unavailable for seven of the nine addresses and was confirmed as unavailable at one of eight addresses near to the proposed development location. The remaining address did have access to superfast services from Virgin Media. Consultation with Virgin Media previously has indicated that the Virgin Media network is available throughout the centre of Manchester.

Next Steps

The proposed development consists of more than 19 plots. Therefore, Fibre To The Premises (FTTP) infrastructure is available free of charge for this development subject to application to Openreach. This would ensure internet speeds are maintained and is recommended for the proposed development. If the installation of FTTP were to be pursued, the application must be done at least six months before provision of the service to the first property is provided. The site

registration process is discussed in Section 4.2. The details that must be included within the registration are:

- Site start date and required service date.
- Site address and coordinates.
- Description of development including type, phases and capacity.
- Contact details.
- Location plan, site plan (1:500) and schematic or schedule of accommodation.

The proposed development may benefit from superfast services from Virgin Media. Although the review of locations near to the proposed development location did not reliably confirm that superfast service was currently available from Virgin Media, this does not necessarily mean that Virgin Media's infrastructure is not in place at nearby access points and ducts. Consultation with Virgin Media previously has indicated that the Virgin Media network is available throughout Manchester.

If Virgin Media are contacted within a sufficient time frame and notified of the site plans^{1,2} it is possible that the proposed development will benefit from either FTTP or cable broadband supplied by Virgin Media.

Other internet service providers can be contacted in advance³. Provided one or more of these processes are followed, superfast services can be made available for the proposed development.

¹ <https://www.virginmediapartners.com/developersnetworkexpansion>

² <https://www.virginmedia.com/content/dam/virginmedia/dotcom/images/shop/downloads/New-Build-Handbook-v1-63.pdf>

³ For example, Hyperoptic is a fibre to the building internet provider in many town and city centres in the UK.

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ABOUT PAGER POWER

Pager Power is a dedicated consultancy company based in Suffolk, UK. The company has undertaken projects in 54 countries within Europe, Africa, America, Asia and Australasia.

The company comprises a team of experts to provide technical expertise and guidance on a range of planning issues for large and small developments.

Pager Power was established in 1997. Initially the company focus was on modelling the impact of wind turbines on radar systems. Over the years, the company has expanded into numerous fields including:

- Renewable energy projects;
- Building developments;
- Aviation and telecommunication systems.

Pager Power prides itself on providing comprehensive, understandable and accurate assessments of complex issues in line with national and international standards. This is underpinned by its custom software, longstanding relationships with stakeholders and active role in conferences and research efforts around the world.

Pager Power's assessments withstand legal scrutiny and the company can provide support for a project at any stage.

1 BACKGROUND

1.1 Introduction

There is a requirement to ensure that new residences have access to superfast broadband download speeds (understood to mean a minimum of 24 Mbps) to ensure future occupants can obtain sufficient broadband services. Pager Power has been commissioned to investigate the broadband connectivity at the proposed development, consisting of 367 plots, located on St Mary's Parsonage in central Manchester.

This report presents the investigation into the current internet speeds in the area around the proposed development to determine whether minimum internet speeds at the development can be met.

2 DEVELOPMENT PLANS

2.1 Proposed Development Boundary

The red line boundary for the proposed development and ground level footprints for buildings A and B are shown in Figure 1⁴ below.



Figure 1 Proposed development boundary

⁴ Source: 0412-SEW-ZZ-00-DR-A-PL1000.pdf (cropped).

2.2 Proposed Development Boundary – Aerial image

The development red line boundary and site footprint (blue) for the proposed development overlaid on aerial imagery is shown in Figure 2 below.

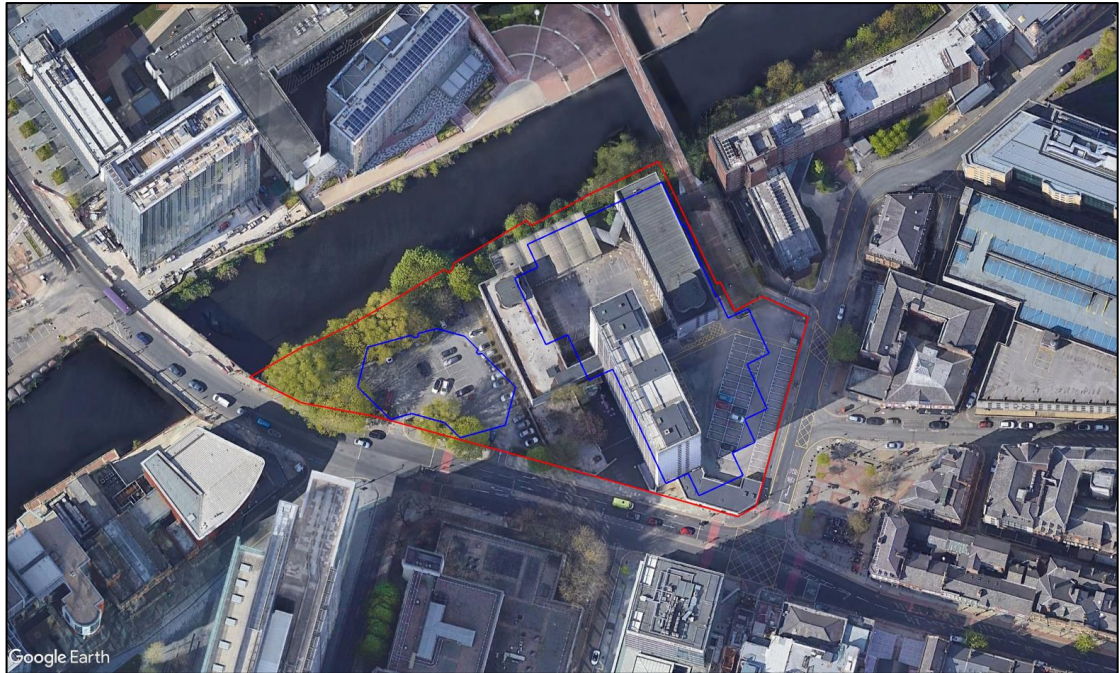


Figure 2 Proposed development boundary and footprint overlaid on aerial imagery

3 INTERNET SERVICES IN THE UK

3.1 Common Types of Broadband

Broadband services in the UK can be provided in various ways. Typical fixed line broadband options include:

- Asymmetric Digital Subscriber Line (ADSL) – which is provided via a copper telephone line as shown in Figure 3 below.
- Fibre optic broadband – which is provided via a bespoke fibre network. Fibre optic broadband typically provides the highest speeds in the UK and can be further subdivided into:
 - Fibre To The Cabinet (FTTC) – whereby a fibre connection is made between the exchange and a distribution point (typically referred to as a cabinet), which in turn is connected to a residence via a copper cable.
 - Fibre To The Premises⁵ (FTTP) – whereby a fibre connection is made between the exchange and the residence.

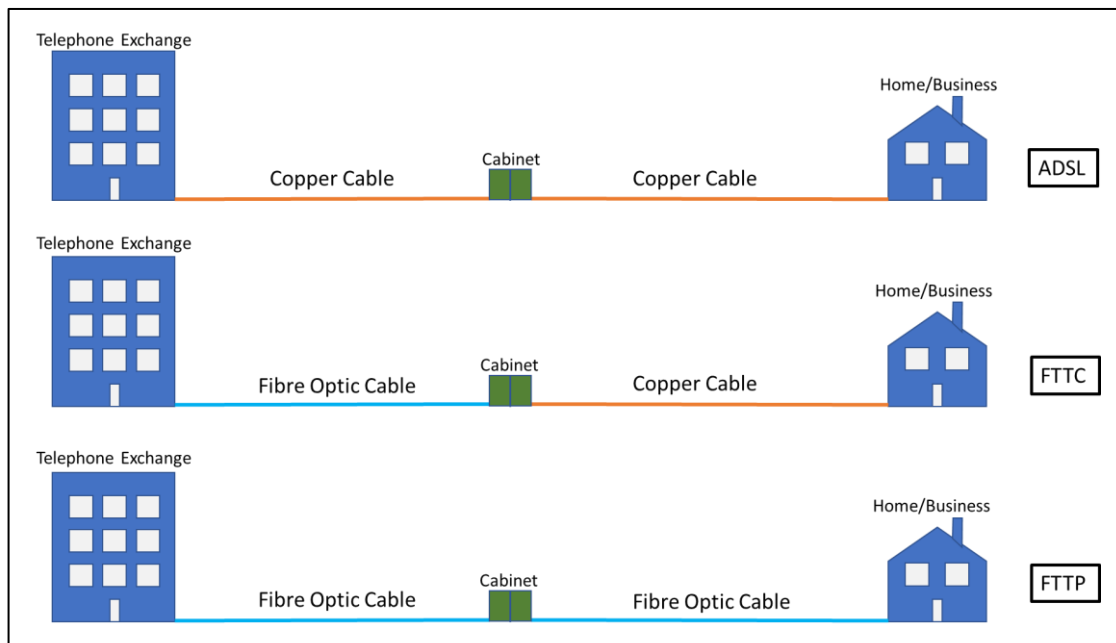


Figure 3 Common types of broadband (fixed line)

- Gfast – which is a new hybrid technology used by Openreach that delivers broadband much like FTTC; however, the transmission is modified typically at the distribution point to increase the speed of the service.

⁵ Also referred to as Fibre To The Home (FTTH).

- Cable (DOCSIS) – typically provided by Virgin Media⁶ who make use of DOCSIS technology⁷ standard whereby typically there is a fibre connection made up to a distribution point, which in turn is connected to a residence via coaxial cable.

Wireless Broadband services are available in the UK are less common. Typical wireless options include:

- Fixed Wireless Access (typically offered by small internet service providers to rural locations) whereby a fibre connection is made up to a distribution point, which in turn is connected to a residence via wireless technology (typically WI-FI).
- Mobile network providers can also provide wireless home broadband via 4G / 5G technology and may be sought as another alternative solution.
- Satellite internet services are very uncommon and used only in very remote rural areas typically where no alternative viable solutions are available.

3.2 Broadband Speeds

The term 'superfast' is understood to mean speeds of 24 Mbps or higher⁸. Available speeds for the technologies are as follows:

- Standard broadband – up to 24Mbps;
- Superfast broadband – up to 80Mbps (FTTC);
- Gfast Broadband – up to 330 Mbps;
- Cable Broadband – up to 1130 Mbps⁹ (Virgin Media);
- Ultrafast Full Fibre – typically up to 1 Gbps¹⁰ (FTTP).

⁶ Virgin Media now also provide FTTP solutions in the UK for home broadband services.

⁷ Data Over Cable Service Interface Specification - An international standard for data transfer over cable.

⁸ Source: BBC, 2014, *One million UK properties on 'superfast broadband' after investment*. Last accessed August 2021.

⁹ <https://www.virginmedia.com/shop/broadband/speeds>

¹⁰ Source: Openreach. 1 Gbps = 1,000 Mbps.

4 BROADBAND CONNECTIVITY ASSESSMENT

4.1 Current Availability

The availability of internet services at the proposed development has been explored in two ways:

- Assessment via Openreach – which shows the availability of their fibre network at UK locations via an automated service on their website.
- Enquiries with three main high-speed broadband providers in the UK, namely:
 - BT (Uses Openreach broadband infrastructure network);
 - Sky (Uses Openreach broadband infrastructure network);
 - Virgin Media (Owns and maintains its own broadband network).

Nine address locations were assessed near the development boundary shown in Figure 4 below. The results are shown in Table 1 on the following page.

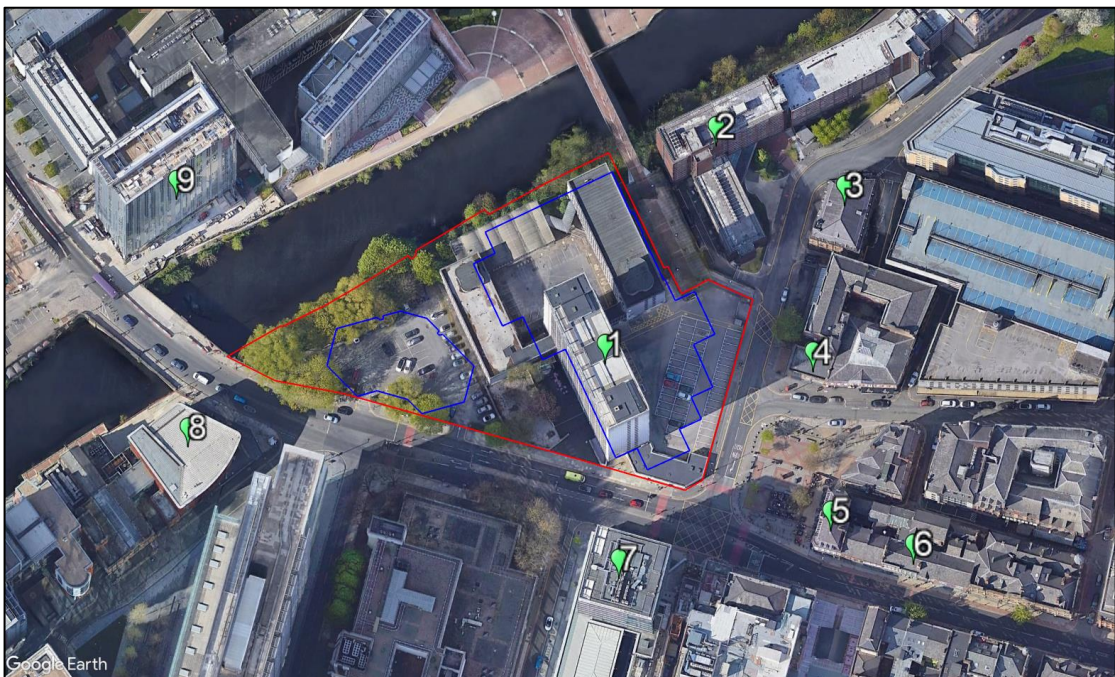


Figure 4 Locations assessed

Location	Address	Openreach	BT (Openreach network)	Sky (Openreach network)	Virgin Media
1 (Proposed Development Location).	Crown Square, 1 Bridge St, Manchester M60 1WJ.	Information currently unavailable for this address on Openreach availability checker. Superfast services may not be available based upon the download speed results for Sky. See Section 4.2 for obtaining superfast services from Openreach.	Information currently unavailable for this address on BT availability checker.	Results showed that typical download speeds in practice average from 5.9 Mbps to 12 Mbps.	Information currently unavailable for this address on Virgin Media availability checker. Consultation with Virgin Media previously has indicated that the Virgin Media network is available throughout the centre of Manchester. See Section 4.3 for obtaining superfast services from Virgin Media.
2.	Alberton House, 30 St Mary's Parsonage, Manchester M3 2WJ.	No fibre service available. Superfast services not available (i.e. ADSL only). See Section 4.2 for obtaining superfast services from Openreach.	Results showed that typical download speeds in practice average from 8 Mbps to 16 Mbps.	Results showed that typical download speeds in practice average from 12 Mbps to 18 Mbps.	Information currently unavailable for this address on Virgin Media availability checker. Consultation with Virgin Media previously has indicated that the Virgin Media network is available throughout the centre of Manchester. See Section 4.3 for obtaining superfast services from Virgin Media.

Location	Address	Openreach	BT (Openreach network)	Sky (Openreach network)	Virgin Media
3.	3 St Mary's Parsonage, Manchester M3 2RD.	Information currently unavailable for this address on Openreach availability checker. Superfast services may not be available based upon the download speed results for BT and Sky. See Section 4.2 for obtaining superfast services from Openreach.	Results showed that typical download speeds in practice average from 8 Mbps to 16 Mbps.	Results showed that typical download speeds in practice average from 12 Mbps to 18 Mbps.	Information currently unavailable for this address on Virgin Media availability checker. Consultation with Virgin Media previously has indicated that the Virgin Media network is available throughout the centre of Manchester. See Section 4.3 for obtaining superfast services from Virgin Media.
4.	27-29 King St W, Manchester M3 2PN.	No fibre service available. Superfast services not available (i.e. ADSL only). See Section 4.2 for obtaining superfast services from Openreach.	Results showed that typical download speeds in practice average from 8 Mbps to 16 Mbps.	Results showed that typical download speeds in practice average from 11 Mbps to 17 Mbps.	Information currently unavailable for this address on Virgin Media availability checker. Consultation with Virgin Media previously has indicated that the Virgin Media network is available throughout the centre of Manchester. See Section 4.3 for obtaining superfast services from Virgin Media.

Location	Address	Openreach	BT (Openreach network)	Sky (Openreach network)	Virgin Media
5.	55-57 Bridge St, Manchester M3 3BQ.	No fibre service available. Superfast services not available (i.e. ADSL only). See Section 4.2 for obtaining superfast services from Openreach.	Results showed that typical download speeds in practice average from 7 Mbps to 16 Mbps.	Results showed that typical download speeds in practice average from 14 Mbps to 19 Mbps.	Information currently unavailable for this address on Virgin Media availability checker. Consultation with Virgin Media previously has indicated that the Virgin Media network is available throughout the centre of Manchester. See Section 4.3 for obtaining superfast services from Virgin Media.
6.	67 Bridge St, Manchester M3 3BQ	No fibre service available. Superfast services not available (i.e. ADSL only). See Section 4.2 for obtaining superfast services from Openreach.	4G Home broadband with maximum download speed of 30Mbps is also available.	Results showed that typical download speeds in practice average from 5.9 Mbps to 12 Mbps.	Typical speeds at an average of 1130 Mbps are available.

Location	Address	Openreach	BT (Openreach network)	Sky (Openreach network)	Virgin Media
7.	Manchester House, Tower 12, 18-22 Bridge St, Manchester M3 3BZ.	No fibre service available. Superfast services not available (i.e. ADSL only). See Section 4.2 for obtaining superfast services from Openreach.	Results showed that typical download speeds in practice average from 8 Mbps to 16 Mbps.	Results showed that typical download speeds in practice average from 11 Mbps to 17 Mbps.	Information currently unavailable for this address on Virgin Media availability checker. Consultation with Virgin Media previously has indicated that the Virgin Media network is available throughout the centre of Manchester. See Section 4.3 for obtaining superfast services from Virgin Media.
8.	People's History Museum, Left Bank, Manchester M3 3ER.	No fibre service available. Superfast services not available (i.e. ADSL only). See Section 4.2 for obtaining superfast services from Openreach.	Results showed that typical download speeds in practice average from 8 Mbps to 16 Mbps.	Results showed that typical download speeds in practice average from 11 Mbps to 17 Mbps.	Information currently unavailable for this address on Virgin Media availability checker. Consultation with Virgin Media previously has indicated that the Virgin Media network is available throughout the centre of Manchester. See Section 4.3 for obtaining superfast services from Virgin Media.

Location	Address	Openreach	BT (Openreach network)	Sky (Openreach network)	Virgin Media
9.	29 New Bailey St, Manchester, Salford M3 5GN.	FTTP is available. Supports speeds of up to 1Gbps.	Results showed that up to 900 Mbps download speeds are available. The guaranteed download speed is 700 Mbps.	Results showed that typical download speeds in practice average from 780 Mbps to 930 Mbps. The guaranteed download speed is 600 Mbps.	Services confirmed as not available. Consultation with Virgin Media previously has indicated that the Virgin Media network is available throughout the centre of Manchester. See Section 4.3 for obtaining superfast services from Virgin Media.

Table 1 Assessment of current availability

4.2 Openreach - Facilitation of Superfast Internet Services

The proposed development will benefit from the option of FTTP from Openreach. The benefit of FTTP over FTTC is that internet speeds are typically faster, and the network has a greater capacity for higher speeds in the future, whilst considered to be more reliable and consistent¹¹. The process and the cost of doing this varies depending on the development type and size. For developments comprising more than 19 plots, Openreach will install FTTP for free. A 'plot' in this context is defined as *an individually Council Addressed property paying full residency council tax*¹². The proposed development therefore qualifies for free facilitation of the fibre network from the exchange to the properties themselves. This requires registration of the site, specifically:

- Registration is required 6 months before provision of the service to the first property and eight weeks before development commences on site;
- The dates of commencement on site and required service must be provided;
- A description of the development including the number of plots, whether it is part of a larger development and associated phases;
- Contact details for the company building the properties and the person managing any queries from Openreach must be provided;
- Plans of the development must be provided including:
 - Location;
 - Site plan at a minimum of 1:500;
 - Schedule of accommodation that show how many plots per floor and their connection to a riser in cases of multiple cores.
- Registration is undertaken online¹³, whereupon it will be assessed by the Openreach team. The timescale for this assessment is not defined, the customer service team advised that this varies according to the number of applications being processed at any given time, however a response from the assessment team should be received within five working days from submission of the registration form;
- Following assessment of the registration documents, an agreement will be provided by Openreach which must be signed and returned so that the application can be progressed by Openreach. This stage is not required if a framework agreement between the developer and Openreach has already been signed;
- Once the agreement has been signed it will be processed by the Openreach planning team, who will coordinate the connection process based on the development timescales.

¹¹ Internet latency is typically lower for FTTP and internet speeds are usually more consistent.

¹² The definition was provided during an engagement with Openreach customer support carried out in 2018 it can also be found at the following link: <https://www.openreach.com/fibre-broadband/fibre-for-developers/registering-your-site>.

¹³ <https://www.developers.openreach.co.uk/developerportal/index>

4.3 Virgin Media - Facilitation of Superfast Internet Services

The proposed development may benefit from at Superfast services from Virgin Media. Although the review of locations near to the proposed development location did not reliably confirm that superfast service was currently available from Virgin Media, this does not necessarily mean that Virgin Media's infrastructure is not in place at nearby access points and ducts. Consultation with Virgin Media previously has indicated that the Virgin Media network is available throughout Manchester.

If Virgin Media are contacted within a sufficient time frame and notified of the site plans^{14,15} it is possible that the proposed development will benefit from either FTTP or cable broadband supplied by Virgin Media.

¹⁴ <https://www.virginmediapartners.com/developersnetworkexpansion>

¹⁵ <https://www.virginmedia.com/content/dam/virginmedia/dotcom/images/shop/downloads/New-Build-Handbook-v1-63.pdf>

5 CONCLUSIONS

5.1 Conclusions

Suitable superfast broadband download speeds, understood to mean a minimum of 24 Mbps, is not currently available at seven of nine assessed addresses checked near to the proposed development location. Therefore, superfast services may not currently be available to the proposed development under baseline conditions.

Openreach typically provide Fibre To The Cabinet (FTTC) infrastructure, and this is leased by BT and Sky who provide internet services, amongst other retail providers. Fibre services are not available at eight of the nine addresses near to the proposed development location. Therefore, FTTC infrastructure may not currently be available for the proposed development from Openreach. The review has shown that for majority of the assessed addresses near to the proposed development location, there is no superfast services from BT and Sky.

Virgin Media provide superfast services with of an average download speed of up to 1130Mbps; however, information was unavailable for seven of the nine addresses and was confirmed as unavailable at one of eight addresses near to the proposed development location. The remaining address did have access to superfast services from Virgin Media. Consultation with Virgin Media previously has indicated that the Virgin Media network is available throughout the centre of Manchester.

5.2 Next Steps

The proposed development consists of more than 19 plots. Therefore, Fibre To The Premises (FTTP) infrastructure is available free of charge for this development subject to application to Openreach. This would ensure internet speeds are maintained and is recommended for the proposed development. If the installation of FTTP were to be pursued, the application must be done at least six months before provision of the service to the first property is provided. The site registration process is discussed in Section 4.2. The details that must be included within the registration are:

- Site start date and required service date.
- Site address and coordinates.
- Description of development including type, phases and capacity.
- Contact details.
- Location plan, site plan (1:500) and schematic or schedule of accommodation.

The proposed development may benefit from superfast services from Virgin Media. Although the review of locations near to the proposed development location did not reliably confirm that superfast service was currently available from Virgin Media, this does not necessarily mean that Virgin Media's infrastructure is not in place at nearby access points and ducts. Consultation with Virgin Media previously has indicated that the Virgin Media network is available throughout Manchester.

If Virgin Media are contacted within a sufficient time frame and notified of the site plans^{16,17} it is possible that the proposed development will benefit from either FTTP or cable broadband supplied by Virgin Media.

Other internet service providers can be contacted in advance¹⁸. Provided one or more of these processes are followed, superfast services can be made available for the proposed development.

¹⁶ <https://www.virginmediapartners.com/developersnetworkexpansion>

¹⁷ <https://www.virginmedia.com/content/dam/virginmedia/dotcom/images/shop/downloads/New-Build-Handbook-v1-63.pdf>

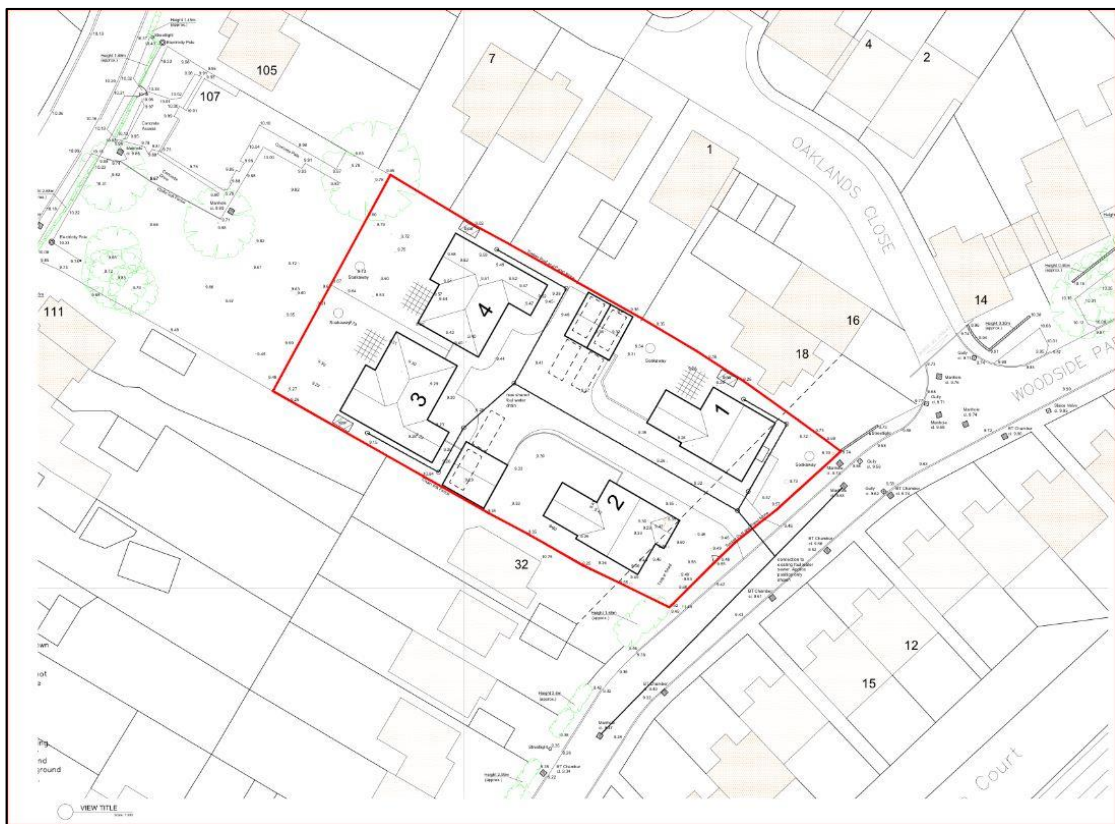
¹⁸ For example, Hyperoptic is a fibre to the building internet provider in many town and city centres in the UK.

APPENDIX A – EXAMPLE DOCUMENTS FOR SITE SUBMISSION

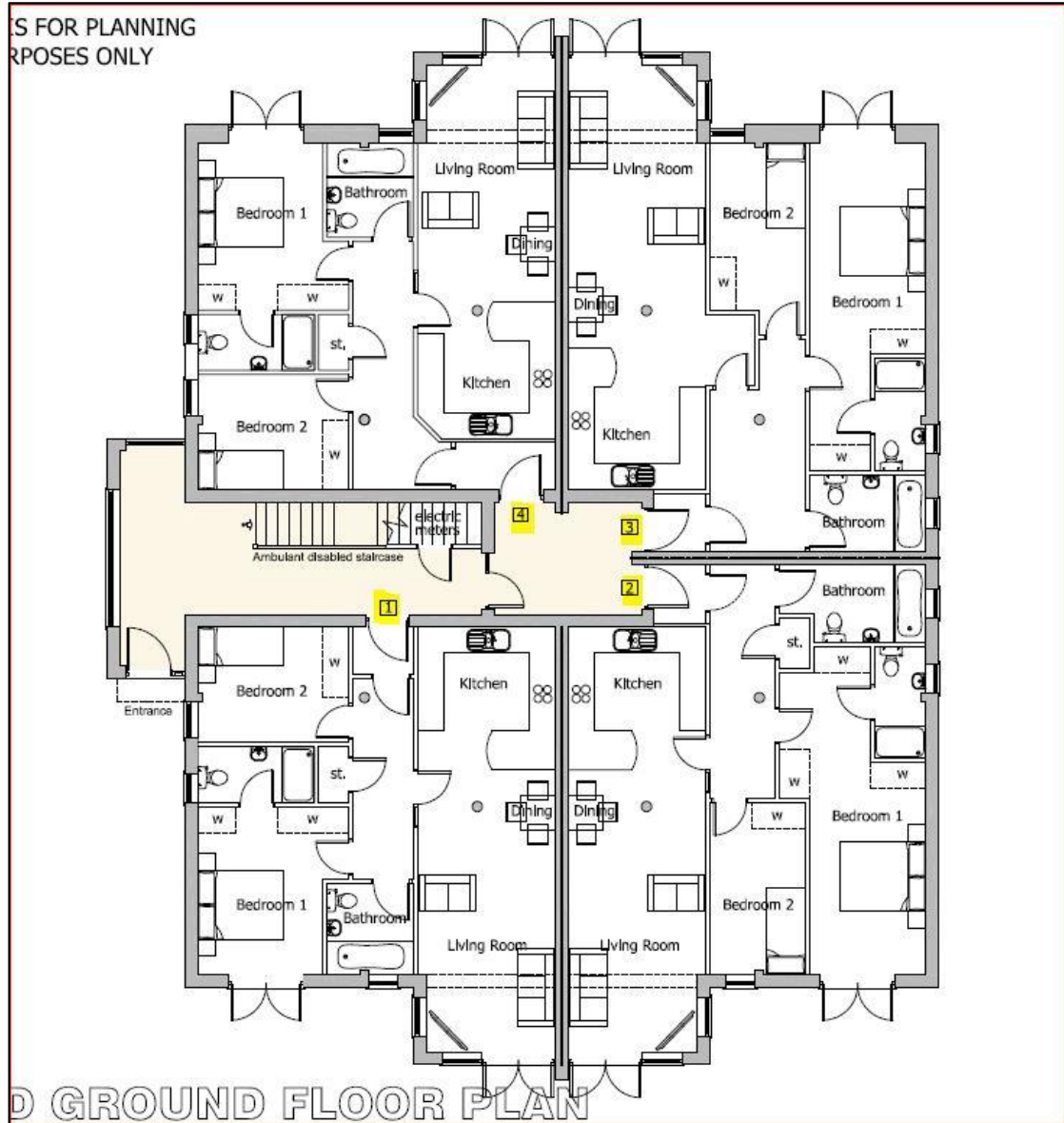
Purpose

Openreach have provided examples of good documentation to facilitate the site registration process. These are shown below for reference.

Example Site Plan



Example Site Plan with Plot Numbers



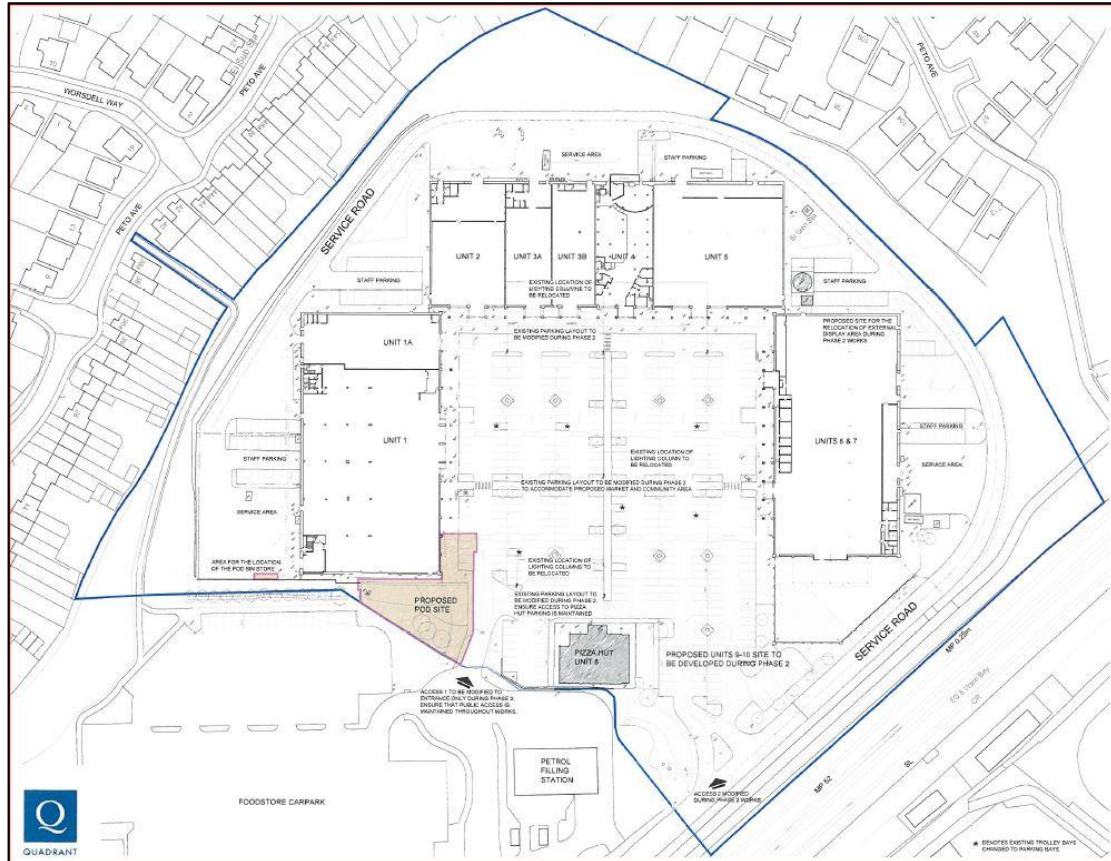
Example Flat Floor Plan with Plot Numbers



Example Site Plan for Business Unit



Example Site Plan for Business Unit Plots





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