

Telecommunications Connectivity

Fixed Network and Mobile Coverage Assessment

Switchback Office Park
Gardner Road
Maidenhead
SL6 7RJ



FIXED NETWORK SERVICES

| BUILDING ENTRIES | | CARRIERS | |
|---------------------|------------------------------|--------------|--------------------|
| DUCT ENTRIES | YES TO ALL BUILDINGS | BT OPENREACH | IN BUILDING |
| LOCATION | RISERS IN EACH BUILDING | VIRGIN MEDIA | IN BUILDING 6 ONLY |
| SECURITY | EXCELLENT | | |
| OWNERSHIP | BT / LANDLORD / VIRGIN MEDIA | | |
| DIVERSITY AVAILABLE | YES – ACROSS CARRIERS | | |
| STATUS (CAPACITY) | SPARE CAPACITY AVAILABLE | | |

| SERVICES | |
|--------------|---|
| BT OPENREACH | COPPER + FIBRE SERVICES – TYPICALLY IN CENTRAL RISER ADSL BROADBAND AT 4-8Mbps |
| VIRGIN MEDIA | FIBRE SERVICES (TO BE CONFIRMED) |
| | |

| ADDITIONAL SERVICES | |
|---------------------|---|
| LANDLORD | MANAGED FIBRE SERVICES AVAILABLE TO ALL BUILDINGS / AREAS |
| OTHERS | N/A |

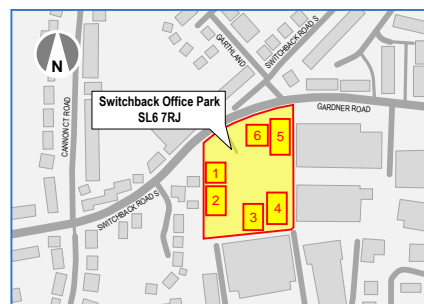
| BUILDING DISTRIBUTION | |
|-----------------------|--|
| RESILIENCE | EXCELLENT, SECURE SITE ACROSS ALL EXTERNAL INFRASTRUCTURE |
| RISERS | SECURE RISERS AVAILABLE – RESTRICTED ACCESS |
| SECURITY | EXCELLENT SECURITY THROUGHOUT, INTAKE POSITIONS IN RESTRICTED ACCESS AREA. |
| TENANT FLOOR SPACE | EXCELLENT CONNECTIVITY/EASE OF INSTALL FROM RISER VIA RAISED FLOORS/CEILINGS |

MOBILE NETWORK SERVICES

| | |
|--------------------|--|
| OPERATOR SERVICES | THREE, VODAFONE, O2, EE - 2G, 3G, 4G (THREE - 3G/4G ONLY) |
| COVERAGE SUMMARY | GOOD/VARIABLE COVERAGE ACROSS ALL OPERATORS (NO 5G SERVICES IN BUILDING AT THIS TIME) |
| BUILDING SOLUTIONS | NO COVERAGE SOLUTIONS IN PLACE AT THIS TIME |



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Fixed Network Services

| | |
|-----------------------|-----------|
| BT Services | Excellent |
| Other Carriers | Good |
| Building Distribution | Excellent |

Mobile Network Services

| Operator | Voice | Data |
|----------|-------|------|
| Three | Good | Good |
| Vodafone | Good | Good |
| O2 | Good | Good |
| EE | Good | Good |

STRUCTURE

Switchback Office Park is an established commercial development affording six self contained offices over three buildings around a landscaped courtyard to the north of Maidenhead town centre on Gardner Road. The offices each extend to two floors affording up to 12,800 sq ft (1,190 sqm) of high quality office accommodation over a variety of floor plates. The buildings are traditionally constructed with brick and glass facades under tiled roofs. The park is situated in a mixed environment of residential premises with a number of commercial buildings to the south and east of similar height.

TOPOGRAPHY

Location Plan

BT Exchange Locations

Routes and distances are indicative only

BT Exchange Information

| | |
|---------------------------|-------------------------|
| Primary Exchange | MAIDENHEAD (THM) |
| (2,250m approx) | SL6 1RG |
| Secondary Exchange | LITTLEWICK GREEN (THLG) |
| (5,100m approx) | SL6 3QR |

BT SUMMARY

Switchback Office Park is located approximately 2,250m from the BT Maidenhead Exchange, which is situated to the south east of the site. This exchange provides excellent services including ADSL, ADSL+, SDSL, 21CN WBC and FTTC (to some areas) plus the availability of LLU services from Sky, Talk Talk, Vodafone and Zen Internet over BT infrastructure. Based on the standard copper services, Maidenhead Exchange can only offer ADSL broadband speeds of around 4-8Mbps at this time due to distance constraints. This exchange has been enabled to provide BT Infinity services over FTTC technology with speeds of up to 80Mbps download and 20Mbps upload. However, the buildings are noted as currently 'exploring solutions' in respect of FTTC technology delivery but provides no timescales for deployment at this time (Data via the BT website). Littlewick Green Exchange to the south west affords a lesser range of services, but could provide a level of diversity and resilience across BT business services if required.

TELECOMS CARRIERS

Telecommunications carriers with owned infrastructure located adjacent to the site are listed below for information. In addition to these, there are a number of alternative carriers that can provide service, albeit over a third party network such as BT. It must be noted that the presence of infrastructure within the search area does not constitute availability of service.

British Telecom Tel: 0800 800 152 www.bt.com
Virgin Media Tel: 0800 953 0180 www.virginmedia.com

SUMMARY

The BT copper and fibre services available at Maidenhead Exchange, and added resilience of a second exchange afford Switchback Office Park an excellent level of services to meet today's business needs with the added advantage of potentially good diversity and resilience opportunities. The physical presence of alternative carriers infrastructure to BT from Virgin Media outside and in the local environs and potentially in one of the buildings affords a good choice of alternative carrier to provide fibre services to any incoming tenant. However, this will be dependant on new infrastructure requirements to any specific building.

| RATING | BT | OTHERS |
|--------|----|--------|
| BT | 4 | 1 |
| OTHERS | 3 | 2 |

| | | | |
|---|---|---|--|
| 1 | Low (Copper only) | 1 | None (No alternative carriers adjacent to site) |
| 2 | Fair (Copper internal / fibre in environs) | 2 | Fair (Carrier services in local environs) |
| 3 | Good (Copper internally / fibre externally) | 3 | Good (Carrier services adjacent to building/site) |
| 4 | Excellent (Copper/fibre internally) with diversity | 4 | Excellent (Carrier services in building/site) |

GLOSSARY OF TERMS

ADSL (Asymmetric Digital Subscriber Line) Asymmetric line speed, the speed from the internet to the user, and the user to the internet are different. Feed over copper cable, governed by distance from exchange to user. (co-exists with voice services)

ADSL+ (Asymmetric Digital Subscriber Line+) Asymmetric line speed as above, but with faster connections both downstream and upstream over similar distance following roll-out of BT's 21CN Wholesale Broadband Connect (WBC).

SDSL (Symmetric Digital Subscriber Line) Symmetric line speed, the speed between the user and the internet are the same in both directions but cannot co-exist with voice services over the same line.

FTTC (Fibre to the Cabinet) Provides fibre to the cabinet, shortening copper cable length requirements to enhance speed

FTTP (Fibre to the Premises) Provides fibre direct to the premises at a lower cost than that of standard lease line products

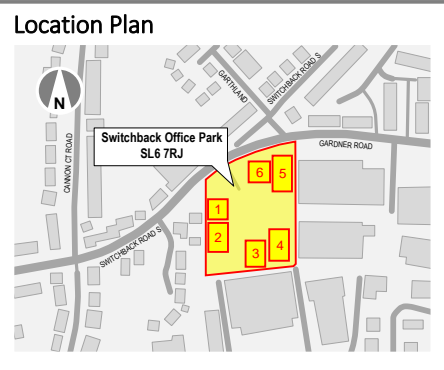
LLU (Local Loop Unbundling) Is the process by which third party network operators are able to install equipment into BT exchanges in order to deliver their own services without having to utilise BT's network.

BT Infinity (British Telecom) Fibre to the cabinet/premises delivered services from enabled exchanges providing broadband speeds of up to 80Mbps download (subject to conditions) at a lower cost to that of traditional leased fibre services.

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TOPOGRAPHY

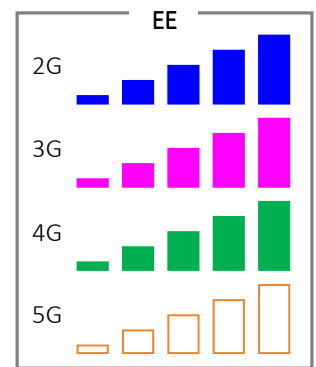
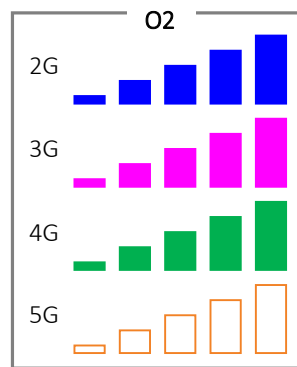
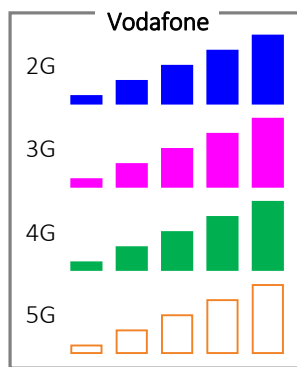
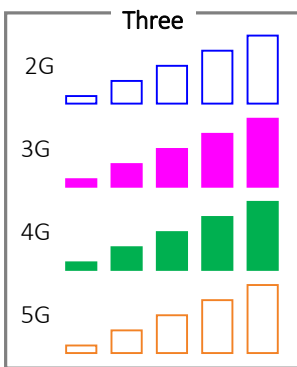


- Building Observations**
- Buildings sit in an open business park type environment
 - Adjacent buildings of varying height in all directions
 - Building fabric consists of brick and glazed facades
 - No noted mobile equipment located on roof tops
 - No noted in-building coverage solutions in place

Building Environment



STREET LEVEL COVERAGE



OBSERVATIONS

Following our review of the mobile operators coverage details it is clear that Switchback Office Park affords an excellent level of macro coverage from all operators for 2G, 3G and 4G services. The availability of 5G services across all operators is in early stages of roll-out across the country and is not currently available at this location. Based on this information it is considered to be a location that affords an excellent level of overall coverage across all operators at street level for 2G, 3G and 4G services at this time. Any high concentration of users within the building may impact on the capacity available especially if this is confined to any one single network operator.

COVERAGE KEY - Street Level

- No coverage at this location
- Limited external coverage, indoors unlikely
- External coverage variable with limited indoor capability
- External coverage most areas, variable indoor capability
- Good external coverage, indoor coverage in small buildings
- Excellent external coverage, good indoor coverage in most buildings

PREDICTIONS

Surrounding buildings, the distance and direction of the serving cells and building construction can all impact on the penetration of signal throughout a building. Based on the location and serving cells, it is envisaged that a good/variable level of coverage will be present throughout the buildings for 2G, 3G and 4G services. In-building coverage across 5G services is not available at this time. In cases of coverage issues, each of the operators can provide solutions to enhance their service of which we can provide details and assist in their procurement and installation should they be required. This extends to full in-building coverage, or specific areas or floors by means of Femto Cell technology. Further to the coverage levels, the availability of service is dependant on capacity. This is the volume of data and simultaneous voice calls the macro cell can accommodate at any one time. Capacity issues result in 'network busy' messages or dropped calls. The level of capacity can be addressed by the operators should the building be populated with a high number of users on a single network which will impact on both them and others using the same cell.

INDOOR SUMMARY

| OPERATOR | 2G | 3G | 4G | 5G |
|----------|----|----|----|----|
| Three | 0 | 4 | 4 | 0 |
| Vodafone | 4 | 4 | 4 | 0 |
| O2 | 4 | 4 | 4 | 0 |
| EE | 4 | 4 | 4 | 0 |

Three operates a 3G/4G/5G network only ■ 5G Services are currently in roll-out across the UK in selected cities

COVERAGE KEY - Indoor prediction

- 0 NONE (No indoor coverage at this location)
 - 1 POOR (Indoor coverage unlikely)
 - 2 LOW (Limited indoor coverage)
 - 3 FAIR (Variable coverage in all buildings)
 - 4 GOOD (Good to small buildings, variable in larger buildings)
 - 5 EXCELLENT (Good coverage in most buildings and areas)
- It should be noted that the location, building fabric / materials, surrounding environs impact on the ability of RF penetration and these predictions are for guidance only

Fixed Telecoms Appraisal Summary

In addition to the Fixed Network carrier study completed, a review by survey of the park was undertaken on the 19th February 2020. The purpose of this survey was to clearly identify the presence of all fixed telecommunications carrier's infrastructure on the park, adjacent to or within the local environs.



SITE AERIAL VIEW (Site highlighted in red)



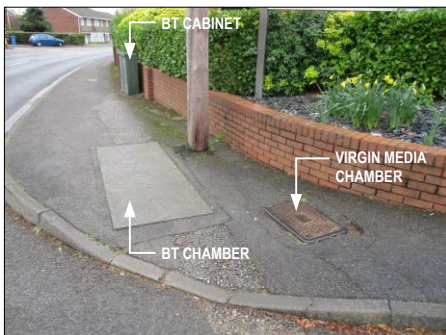
LOOKING WEST ALONG GARDNER ROAD



LOOKING EAST ALONG SWITCHBACK ROAD SOUTH

Local Carriers

Switchback Office Park has access from the public highway via Gardner Road to the north. The survey located a good number of telecommunications chambers owned and operated by BT and Virgin Media in Gardner Road and Switchback Road South in close proximity to the site (See **Photographs 1 to 6**). This infrastructure extends along Gardner Road and Switchback Road South in both directions where further chambers were located for both carriers. An existing BT and Virgin Media chamber are located in the footway at the east side of the entrance with a BT cabinet located adjacent to the boundary wall. Additional chambers owned and operated by BT and Virgin Media were also located in the footway to the west and east of the entrance in various locations. The BT infrastructure extends into the park with a number of chambers present highlighting a ducted network connecting all buildings to deliver copper and fibre services to the buildings. Typically the chambers are located outside of the office buildings with further chambers in the general car parking areas. In addition, are aware that a duct run had been installed as part of previous Building 6 refurbishment to provide access for Virgin Media in the future. This was located within the grass verge adjacent to the boundary wall on Gardner Road, ideally suited to connect into the Virgin Media duct route in the footway if and when required.



PHOTOGRAPH 1
 EXISTING BT CABINET AND CHAMBER PLUS VIRGIN MEDIA CHAMBER ADJACENT TO PARK ENTRANCE



PHOTOGRAPH 2
 EXISTING BT AND VIRGIN MEDIA CHAMBERS IN FOOTWAY ON GARDNER ROAD TO WEST OF ENTRANCE



PHOTOGRAPH 3
 EXISTING BT CHAMBER IN CAR PARK AREA ADJACENT TO BUILDING 1/2



PHOTOGRAPH 4
EXISTING BT CHAMBER IN CAR PARK AREA
ADJACENT TO BUILDING 5/6



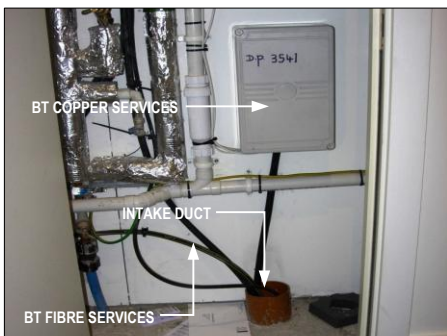
PHOTOGRAPH 5
EXISTING BT CHAMBER IN PAVED AREA OUTSIDE
ENTRANCE TO BUILDING 5



PHOTOGRAPH 6
EXISTING BT CHAMBER IN PAVED AREA OUTSIDE
ENTRANCE TO BUILDING 4

Building Presence

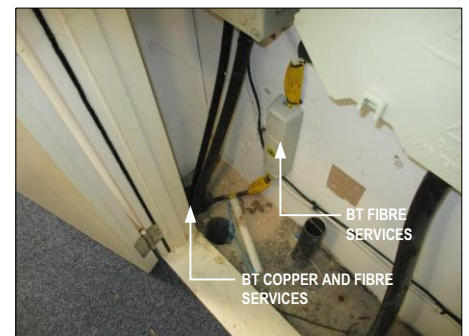
By inspection it is clear that the buildings all currently have good access from BT via the ducted network as detailed above (See **Photographs 7 to 12**). We accessed three buildings as part of the survey to understand the current level of services and availability of space for equipment and cabling. Building 3/4 was accessed and the BT entry point was located in the ground floor riser cupboard in the landlords demise. This extends to a single duct which contained a total of four cables including two 50 pairs (approx) and one 20 pairs (approx) copper cables. One of these terminated within an existing distribution point (DP) DP3541, with the other running from the riser into other parts of the building. A single incoming fibre cable (multiple tubes/fibres) is present terminated in a gas seal, with outgoing blown fibre tubes up the riser. Based on the cable we consider that a total of 4No. blown fibre tubes with a capacity of 4/12No. fibres per tube (16/48No. fibres total) are present at this time, albeit subject to confirmation from BT. This entry point affords good access into the riser which extends to the first floor. The available space for future cabling, equipment and containment is excellent and could be provided within minimal timescales. Further copper and fibre services of similar magnitude were located in the riser at the entrance to Building 2 affording similar services to the building. The BT duct entry in Building 6 was observed in the ground floor riser cupboard alongside an additional duct for future use by Virgin Media. In addition to the findings of the survey, we are aware that a good level of BT fibre is present within the confines of the park with direct access into each of the buildings from an existing joint to meet both existing and future tenant demand for such services. We are also aware that a Landlord managed fibre service is available to the tenants across all buildings with backhaul provided by BT at this time. Further details are included in the Landlords Managed Service section of this report.



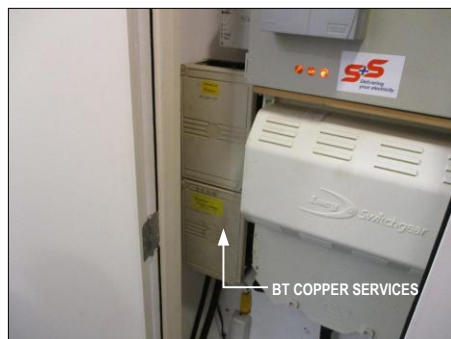
PHOTOGRAPH 7
TYPICAL GROUND FLOOR RISER CUPBOARD WITH
BT COPPER AND FIBRE SERVICES (BUILDING 4)



PHOTOGRAPH 8
BT FIBRE GAS SEAL IN GROUND FLOOR
RISER IN BUILDING 4



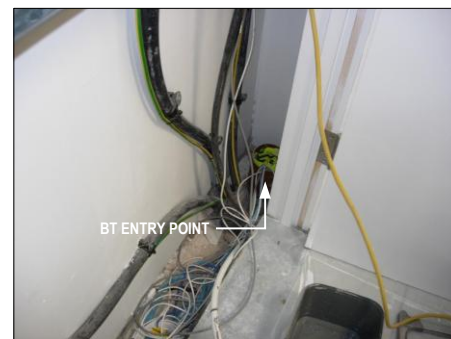
PHOTOGRAPH 9
BT DUCT WITH COPPER AND FIBRE SERVICES IN RISER
ON GROUND FLOOR TO BUILDING 2



PHOTOGRAPH 10
BT COPPER SERVICES IN GROUND FLOOR RISER
ON GROUND FLOOR TO BUILDING 2



PHOTOGRAPH 11
VIRGIN MEDIA DUCT ENTRY TO GROUND FLOOR
RISER IN BUILDING 6



PHOTOGRAPH 12
TYPICAL VIEW OF DUCT ENTRY POINT IN GROUND
FLOOR RISER IN BUILDING 6

Risers and Cable Routes

Access from the telecoms intake points across all buildings are provided via the vertical risers, ceilings and raised access floors. Based on our inspection we consider access is excellent across all buildings and floors.

Landlord Managed Services

In addition to the copper and fibre services available direct from the carriers, all buildings have access to a full managed fibre service available to all tenants both fixed and over WI-FI. This allows a number of fibre based services to be provided to any incoming tenant within very short timescales of order across all floors with no requirements for building wayleaves. Typical services available include internet connectivity from 100Mbps to 1Gbps, choice of circuit and contract lengths, links to data centre co-hosting with cross connects to all major data centres, SIP and other voice services etc.

Service Availability

The standard services afforded by BT over its existing copper networks can only offer ADSL broadband speeds of around 4-8Mbps at this time due to distance constraints. Maidenhead Exchange has been enabled to provide BT Infinity services over FTTC technology with speeds of up to 80Mbps download and 20Mbps upload. However, the building is noted as currently 'exploring solutions' in respect of FTTC technology delivery but provides no timescales for deployment at this time (Data via the BT website). The level of copper services available from BT and other companies that can utilise the BT network will be able to provide enhanced speeds by use of bonded ADSL products where required to increase speed. Typically two 8Mbps ADSL lines bonded can increase speed to 16Mbps, increasing with the number of lines bonded accordingly. In addition to the copper services, it is clear that an excellent level of fibre based business tariff services will be available from BT to provide any level of speed and bandwidth required over fibre products. For example, the introduction of a 100Mbps fibre bearer can be delivered over the existing ducted network affording un-contended upload and download port speeds from 10Mbps to 100Mbps based on the tenants requirements. These are also scalable from initial requirements up to the maximum available speeds in respect of the bearers. Higher bearer capacities are available to suit typically 500Mbps to 1Gbps and beyond where required. Furthermore, there are a host of companies that can provide enhanced products over the existing infrastructure potentially providing smaller businesses a more affordable level of service if so required. The presence of the other carrier (Virgin Media) outside of the site, with existing access into Building 6 and in the local environs affords a good level of alternative service should it be required, affording similar products to that of BT. However, procurement of services to other buildings will be subject to confirmation of the current building entries being in place to suit where required. Furthermore, the Landlord managed fibre service is available across all buildings providing both internet access and telephony services. This level of service will permit the connection and provision of services in minimal timescales to all new and existing tenants where required.

Summary

Based on the level of infrastructure and the availability of services from BT's local exchange we consider Switchback Office Park has an excellent/good level of connectivity with the ability to enhance this by means of fibre services where required in minimal timescales from order in respect of BT and the Landlords managed service. The delivery of services from Virgin Media will be subject to the viability of service provision and suitable building entries, but their location and existing connection into Building 6 greatly enhances the connectivity of the park at this time.