

# Telecommunications Connectivity

## Fixed Network and Mobile Coverage

### Assessment

Scott House  
The Custard Factory  
Gibb Street  
Birmingham  
B9 4AA



## FIXED NETWORK SERVICES

BUILDING ENTRIES		CARRIERS	
DUCT ENTRIES	No. UN-CONFIRMED	BT OPENREACH	IN BUILDING
LOCATION	GROUND FLOOR	M247	IN BUILDING
SECURITY	EXCELLENT	VIRGIN MEDIA	OUTSIDE BUILDING
OWNERSHIP	BT	VODAFONE	LOCAL ENVIRONS
DIVERSITY AVAILABLE	UN-KNOWN	VERIZON	LOCAL ENVIRONS
STATUS (CAPACITY)	SPARE CAPACITY AVAILABLE	INTERROUTE	LOCAL ENVIRONS

SERVICES	
BT OPENREACH	COPPER + FIBRE SERVICES – GROUND FLOOR / FIRST FLOOR RISER ADSL BROADBAND AT 10-19Mbps FTTP AT 300Mbps
M247	FIBRE SERVICES AVAILABLE ACROSS BUILDING

ADDITIONAL SERVICES	
LANDLORD	MANAGED INTERNET SERVICE AVAILABLE ACROSS THE BUILDING (BT BACKHAUL)
OTHERS	N/A

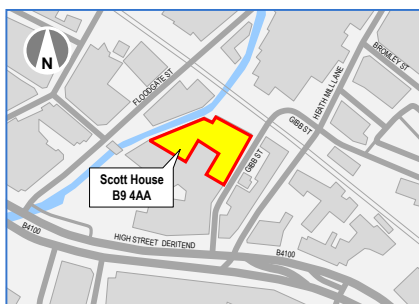
BUILDING DISTRIBUTION	
RESILIENCE	SECURE INTAKE LOCATION (GROUND FLOOR)
RISERS	SECURE RISER AVAILABLE – RESTRICTED ACCESS
SECURITY	GOOD SECURITY THROUGHOUT, INTAKE POSITION IN RESTRICTED ACCESS AREA
TENANT FLOOR SPACE	GOOD CONNECTIVITY/EASE OF INSTALL FROM EXPOSED HIGH LEVEL CABLE ROUTES

## MOBILE NETWORK SERVICES

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



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The Custard Factory, Gibb Street  
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### Fixed Network Services

BT Services	Excellent
Other Carriers	Good
Building Distribution	Good

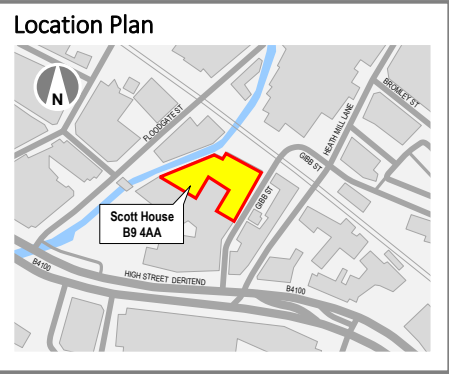
### Mobile Network Services

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

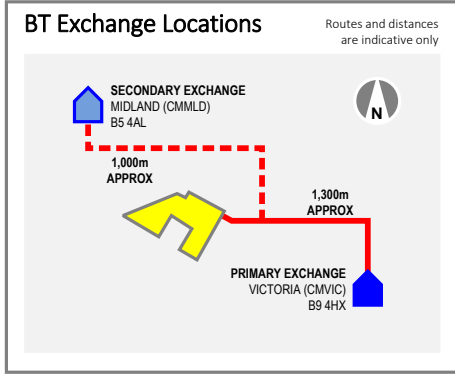
STRUCTURE

Scott House is an established commercial property located on Gibb Street in the Digbeth area of Birmingham. The building extends to ground and three upper floors affording approximately up to 12,000 sq ft (1,115 sqm) of office accommodation over a mixture of fitted out and open floor plates and exposed and suspended ceilings throughout. The building is of typical frame construction with a mixture of brick and glazed facades and sits within a city centre environment with other commercial and residential properties of varying heights in all directions.

TOPOGRAPHY



**BT Exchange Information**  
**Primary Exchange** VICTORIA (CMVIC)  
 (1,300m approx) B9 4HX  
**Secondary Exchange** MIDLAND (CMMLD)  
 (1,000m approx) B5 4AL



BT SUMMARY

Scott House is located approximately 1,300m from the BT Victoria Exchange, which is situated to the south east of the building. This exchange provides excellent services including ADSL, ADSL+, SDSL, 21CN WBC, FTTC and FTTP (to some areas) plus the availability of LLU services from Sky, Talk Talk and Vodafone all over BT infrastructure. Based on the standard copper services, Victoria Exchange can offer ADSL broadband speeds of around 10-19Mbps at this time. This exchange has been enabled to provide BT broadband fibre services over FTTP technology with speeds of up to 300Mbps to the building indicated at this time (Data via the BT website). Midland Exchange to the north west affords a similar range of services, and 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 building 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  
**Vodafone** Tel: 020 7111 0047 www.vodafone.co.uk  
**Verizon** Tel: 0800 018 1818 www.verizonenterprise.com/uk  
**Interoute** Tel: 020 7025 9100 www.interoute.com  
**M247** Tel: 0808 253 6517 www.m247.com

SUMMARY

The BT copper and fibre services available at Victoria Exchange, and added resilience of a second exchange afford Scott House 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 of the building with Vodafone, Verizon and Interoute in the local environs affords a good choice of alternative carrier to provide fibre services to any incoming tenant at this time all be it subject to network extension and new building entries. In addition, this building is M247 connected and can provide a variety of internet connectivity services to all tenants.

RATING		BT		OTHERS	
BT	4	1	Low (Copper only)	1	None (No alternative carriers adjacent to site)
OTHERS	3	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

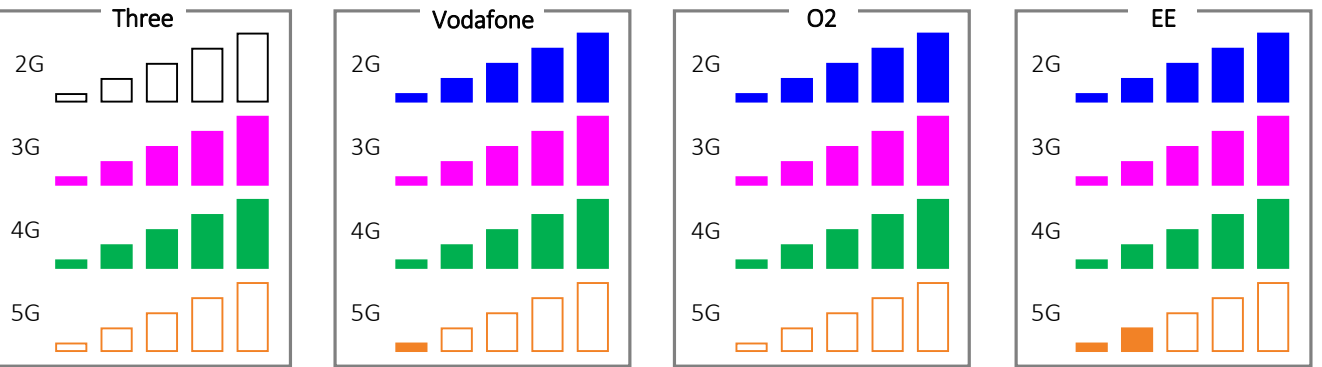
### Location Plan

**Building Observations**

- Building sits in a city centre environment
- Adjacent buildings of varying height in all directions
- Building fabric consists of brick and glazed facades
- No noted mobile equipment located on roof top
- 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 Scott House 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 UK and currently provides only minimal external services from both Vodafone and EE to this area. 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 building for 2G, 3G and 4G services with some potential degradation in the lifts and lower floor areas across all operators and technologies. 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

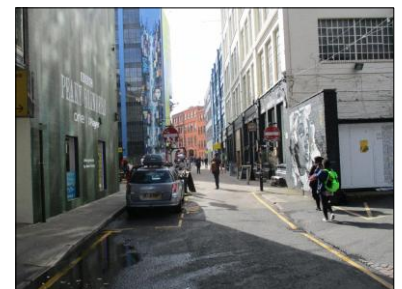
In addition to the Fixed Network carrier study completed, a review by survey of the building was undertaken on the 26<sup>th</sup> September 2019. The purpose of this survey was to clearly identify the presence of all fixed telecommunications carrier's infrastructure in the building, adjacent to or within the local environs.



SITE AERIAL VIEW (Building highlighted in red)



VIEW LOOKING NORTH ALONG GIBB STREET



VIEW LOOKING SOUTH ALONG GIBB STREET

### Local Carriers

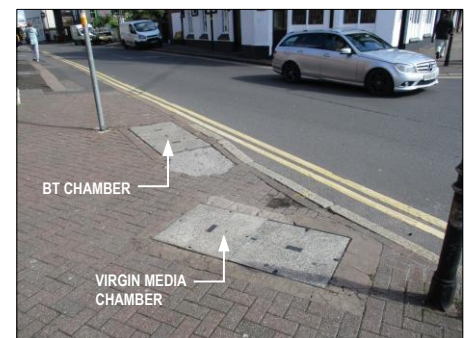
Scott House has existing telecommunications access from Gibb Street on the east elevation of the building. The survey located a good level of telecommunications chambers and infrastructure owned and operated by BT and Virgin Media along Gibb Street in the footway and carriageway passing the building (See **Photographs 1 to 6**). The level of infrastructure from BT is extensive in this area, albeit with many historic connections to the existing buildings. The Virgin Media infrastructure follows a similar path to that of BT, with a noted cabinet cluster located at the north end of Gibb Street. In addition, we were made aware of a potential Virgin Media connection, but this was not in place, albeit with a recent installed duct up to the building line adjacent to the main entrance on Gibb Street. The presence of Vodafone was noted at the south end of Gibb Street at its junction with High Street Deritend extending along Heath Mill Lane, but was not found to extend to the building at this time. The other noted carriers including Verizon and Interoute were found to be more confined to the west of the river along Floodgate Street and Liverpool Street at this time. Any future connections opportunities would be subject to consideration by the carriers to suit. .



**PHOTOGRAPH 1**  
 EXISTING BT CHAMBER IN FOOTWAY  
 ON GIBB STREET OUTSIDE BUILDING



**PHOTOGRAPH 2**  
 EXISTING BT CHAMBER IN FOOTWAY ON GIBB STREET  
 ADJACENT TO BUILDING ENTRANCE



**PHOTOGRAPH 3**  
 EXISTING BT AND VIRGIN MEDIA CHAMBERS AT JUNCTION  
 OF HEATH MILL LANE AND HIGH STREET DERITEND





**PHOTOGRAPH 4**  
 EXISTING VIRGIN MEDIA CABINETS AND CHAMBERS  
 IN FOOTWAY AT NORTH END OF GIBB STREET



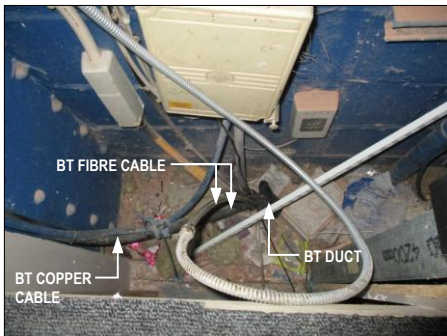
**PHOTOGRAPH 5**  
 EXISTING VIRGIN MEDIA DUCT AND TEE OUTSIDE  
 BUILDING ENTRANCE ON GIBB STREET



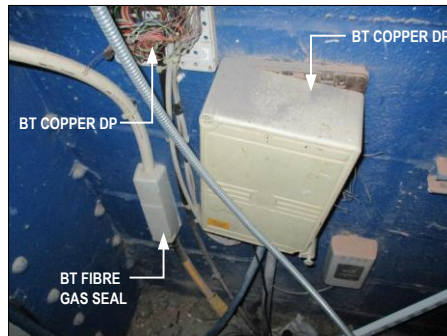
**PHOTOGRAPH 6**  
 EXISTING VODAFONE CHAMBER IN FOOTWAY AT JUNCTION  
 OF HEATH MILL LANE WITH HIGH STREET DERITEND

## Building Presence

The telecommunications intakes for the building are historic and were difficult to locate due to the nature of the building. An intake was identified in the ground floor area of the 'Mockingbird Cinema and Kitchen' (See **Photographs 7 & 8**). This location provides access over an existing duct for both BT copper and fibre services. The copper is presented over three incoming cables terminated in two distribution points (DP) on the wall, plus a further into the riser. Based on the sizes and DP's we consider this extends to approx 120 copper pairs, albeit subject to confirmation from BT. The fibre is provided over a single incoming cable (multiple tubes/fibres) terminated in a gas seal with outgoing blown fibre tubes to the first floor. In addition, a further cable is present terminated into a steel conduit, but the destination is unknown. Based on the cable size we consider that a total of 8No. blown fibre tubes with a capacity of 4/12No. fibres per tube (32/96No. fibres total) are present at this time, albeit subject to confirmation from BT. The next visible location of the incoming services was on the first floor in the main riser (See **Photographs 9, 10 & 11**). The copper services are terminated in a DP on the wall (DP3106) with a number of outgoing services and additional equipment. Based on this DP, we consider further incoming copper cables are present, but their intake location could not be identified at the time of survey. The fibre services were found to be located in the same riser where a splice enclosure is present with outgoing blown fibre tubes. All outgoing services from this location run around the wall at high level into each tenants demise as and where required, typical across all floors (See **Photograph 12**).



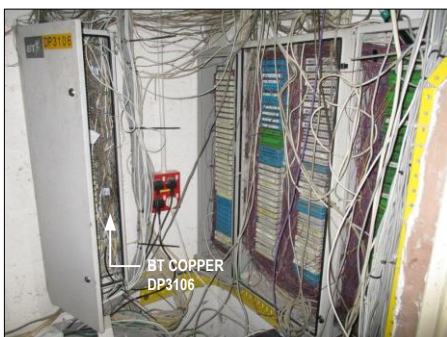
**PHOTOGRAPH 7**  
 TYPICAL VIEW OF INCOMING BT DUCT AND SERVICES ON  
 GROUND FLOOR OF 'MOCKING BIRD CINEMA AND KITCHEN'



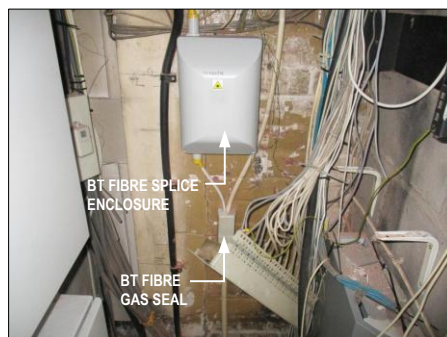
**PHOTOGRAPH 8**  
 TYPICAL OF BT COPPER AND FIBRE SERVICES AT INTAKE ON  
 GROUND FLOOR OF 'MOCKING BIRD CINEMA AND KITCHEN'



**PHOTOGRAPH 9**  
 TYPICAL VIEW OF MAIN BUILDING RISERS ON FIRST FLOOR  
 OF BUILDING WITH BT COPPER AND FIBRE SERVICES



**PHOTOGRAPH 10**  
 TYPICAL VIEW OF BT COPPER DP3106 AND ASSOCIATED  
 CABLING AND HISTORIC NETWORK EQUIPMENT



**PHOTOGRAPH 11**  
 TYPICAL VIEW OF BT FIBRE SERVICES IN FIRST FLOOR RISER  
 INDICATING EXISTING GAS SEAL AND SPLICE ENCLOSURE



**PHOTOGRAPH 12**  
 TYPICAL VIEW OF MAIN BUILDING RISERS ON FIRST FLOOR  
 OF BUILDING WITH BT COPPER AND FIBRE SERVICES

### Risers and Cable Routes

Access from the BT intake duct locations is predominantly from the ground floor into the first floor riser. All connections from this point are at high level around the wall into the tenant demises at this time. Based on the location of the main BT services we consider access is good across all floors based on our initial inspection.

### Service Availability

The standard services afforded by BT over its existing copper networks can offer standard ADSL broadband speeds of around 10-19Mbps at this time. Victoria Exchange has been enabled to provide BT fibre broadband services over FTTP technology with speeds indicated of up to 300Mbps to the building indicated at this time (Data via the BT website). 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. In addition to the BT services, a managed internet service is afforded by the Landlord across the building based on a BT backhaul. This is delivered by their supplier (CoreSpeed) and is available to all tenants in short timeframes. Furthermore, the building is M247 enabled, with antennas and equipment located on the roof of an adjacent building to suit. M247 can provide a range of business solutions such as scalable internet connectivity with speeds of 10Mbps to 2Gbps available in short timescales to all floors.

### Summary

Based on the level of infrastructure and the availability of services from BT's local exchange, we consider Scott House has an excellent/good level of connectivity with the ability to enhance this by means of additional fibre services where required in minimal timescales from order in respect of both BT, M247 and the Landlords managed service. The availability of services from the other highlighted carriers including Virgin Media, Vodafone, Verizon and Interoute are all subject to network extension and new building entry requirements. However, their location does enhance the connectivity of the building at this time.