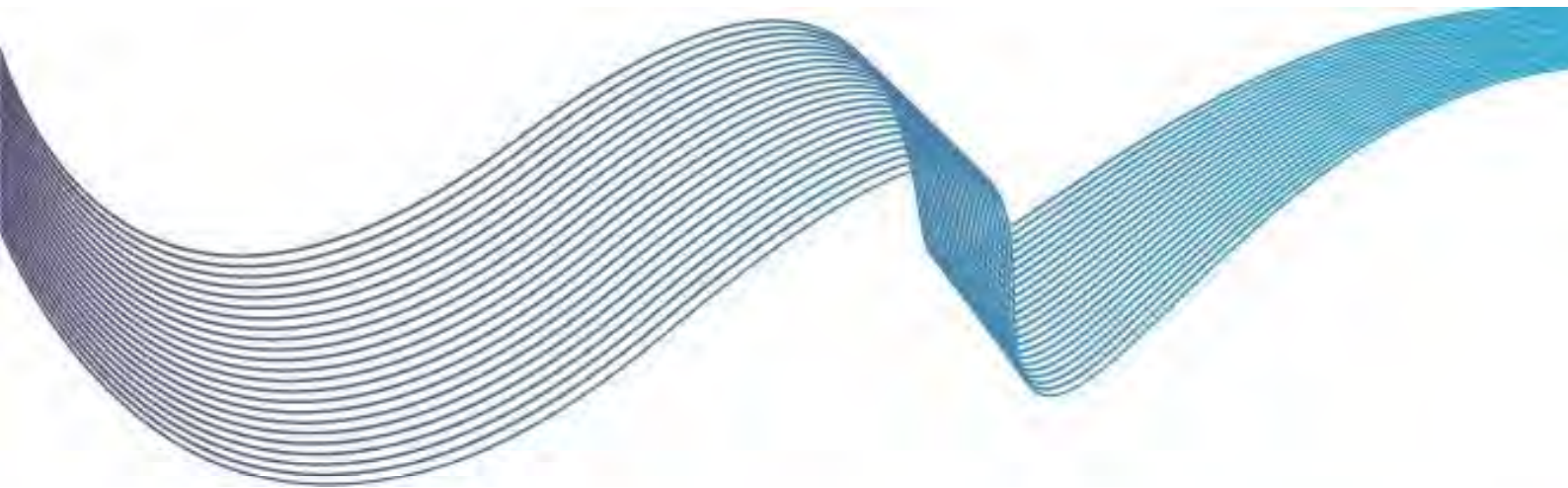




Installation Design Document

Victoria House

Manchester



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Project Details

Site Address	Victoria House Manchester M4 7DB
Hyperoptic Site ID	3278005765
Initial Issue Date	29/01/2020
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The Hyperoptic installation

Overview

The Hyperoptic Fibre to the Premises (FTTP) solution offers a future proof cabling and service solution for multiple dwelling and single dwelling environments. An optical fibre solution allows for the advancement of technology and broadband speeds without major disruption to the cable infrastructure of your development.

Hyperoptic will deliver a fibre connection from our network directly to a Parent Fibre Demarcation Point (FDP-1) within the development. This cable will be routed through the existing/planned incoming communications duct feeding the development.

If necessary, the Parent FDP-1 will be connected to strategically located Child FDPs within the development.

If multiple FDPs are required, then this will be identified during the desk top survey. Hyperoptic will build a fibre optic cable backbone (spine) from the Parent FDP-1 to each strategically located Child FDP within the development. It is from the Child FDPs that we will provide service into each property via a fibre optic cable.

We work with developers to ensure that each property has a fibre optic cable wired connection and an Optical Network Termination (ONT) installed and connected ready for service prior to residents moving in. Whilst we do retrofit existing developments, in the case of a new build developments, we would specify the necessary fibre enclosure positions and cabling for the developer to install.

The Incoming Backhaul Fibre

The incoming Backhaul fibre circuit is the circuit which is routed from the nearest Openreach exchange or optical fibre node and linked back to the Hyperoptic Data Centre.

The Hyperoptic incoming Backhaul fibre from the exchange to the Parent FDP-1 cabinet is an Ofcom regulated product which is owned by Hyperoptic. BT Openreach are required to install the Backhaul fibre within their own street side ducting infrastructure to the Parent FDP-1 location within your development.

The Hyperoptic incoming Backhaul fibre is a totally independent product which is separate to any BT requirements that the development may have.

- The Incoming Backhaul fibre from the exchange is one of Hyperoptic's priorities and it is required to be installed to ensure network connectivity is in place prior to residential first occupancy date.
- The Parent FDP-1 will be fed from the Incoming Backhaul Fibre that will be routed into the site via the incoming Lead-In Comms ducts.
- Hyperoptic suggest that the incoming lead-in Comms duct is installed at the earliest possible time from the site boundary to the point of entry identified by the development's M&E consultants and the Openreach New Sites representative.
- Hyperoptic suggest that the Parent FDP-1 location is confirmed and made available at the earliest opportunity.

- It is also requested that the containment/duct route from the lead-in Comms duct entry point to the Parent FDP-1 location is installed at the earliest opportunity.
- The installation of the Incoming Backhaul Fibre will be undertaken by the 3rd party contractor or Hyperoptic engineer teams responsible for delivering the circuit.
- The contractor will be working on behalf of Hyperoptic and all arrangements will be made via Hyperoptic and the site management team to facilitate access.
- It is requested that at the time of fitting and testing of the Backhaul Fibre, into the Parent FDP-1 cabinet, that either the permanent power supply or temporary 230v power is made available.

External Ducting and Chambers: Guideline

Where possible Hyperoptic will utilise, development owned duct and chamber infrastructure to link buildings and dwellings. This could include the sharing of development owned Comms/CCTV/Door Entry/IRS ducting and chambers.

The Hyperoptic incoming Backhaul fibre from the exchange to the Parent FDP-1 is an Ofcom regulated product which is owned by Hyperoptic. BT Openreach and Hyperoptic are required to install the Backhaul fibre within the Openreach ducting infrastructure and site Comms containment to the Parent FDP-1 location.

ISPs now have the ability to utilise the BT Openreach PIA product to utilise existing BT Openreach duct and chamber infrastructure connect buildings. This will be subject to approvals.

Physical Infrastructure Access (PIA) was introduced in 2010 by Ofcom as a remedy in the Wholesale Local Access Market Review and its aim is to enable Internet Service Providers (ISPs) to build high-speed broadband networks by using access to Openreach ducts and poles between an end-user and an appropriate Next Generation Access (NGA) node (or similar) in the Openreach network.

With the duct sharing product, it means ISPs are granted the licence to install sub duct in BT's access duct within which ISPs can then install their cable.

The PIA product can be utilised specifically for the following:

1. Linking external fibre nodes to new developments.
2. Linking buildings to the Hyperoptic Parent cabinet within a development.
3. Linking phases of large developments to the Hyperoptic network.
4. Providing Fibre to the Home (FTTH), especially to houses within a development.

To allow Hyperoptic to develop a PIA plan for your development, it will be necessary for you to forward all Incoming Comms services, Site wide Comms services and the Openreach proposal drawings, in PDF format, to your Hyperoptic point of contact.

If the developer is to provide duct and chamber infrastructure, Hyperoptic recommend:

- The main duct route through the site be a minimum 96mm, in diameter, rigid duct.
- All duct routes must be as straight as possible.
- Pre-formed bends should be used. Not to be used if linking into connecting chambers.
- That the connecting duct for houses be 54mm duct to the property.
- A Swept "Tee" is to be installed with 96mm to 54mm reducer. From the external wall of the property to the main duct.

- The Swept Tee should be installed to the direction of the allocated enclosure. The "Property to enclosure" schedules and drawings are provided within this design document.
- Draw ropes to be installed during the construction of the ducts and chambers within the ducting to chambers.
- All ducting must be laid to a minimum depth of 350mm (450mm under soft surface).
- If road crossings are required then the duct should be install to a minimum depth 600mm from the top of the finished surface.
- The duct should be separated by 600mm from other services ducts. 150mm if the duct is installed at right angles.



Example 96mm and 54mm rigid ducting



Example 96mm to 54mm Swept "Tee" reducer

Hyperoptic will require a duct chamber of the following INTERNAL dimensions as a minimum: 445mm (w) x 915mm (l) x 600mm (h): based on the Openreach JBF 104 B specification.

Hyperoptic recommend that chamber construction follow the same design and construction

Internal Cabinets

Depending on the type, number of units and the site location, there may be a requirement for an active OLT network switch to be placed within the Parent FDP-1. This switch will require a power supply. The cabinet type and power requirements are described within this chapter.

The Hyperoptic desk top survey will identify the internal wall mount cabinet locations and types, best suited to the development. These cabinets will house all cable terminations and other Hyperoptic equipment. The cabinets are referred to as Fibre Demarcation Point 1, or FDP-1 locations.

The internal wall mounted cabinet and the size chosen will be determined by the amount of cables and equipment to be installed within.

The standard Cabinet sizes are: 600mm (w) x 450mm (d), 9U, 12U, 15U, 18U and 21U wall mounted varieties.



Example of FDP internal wall mounted cabinet 600mm (w) x 450mm (d) with combination lock

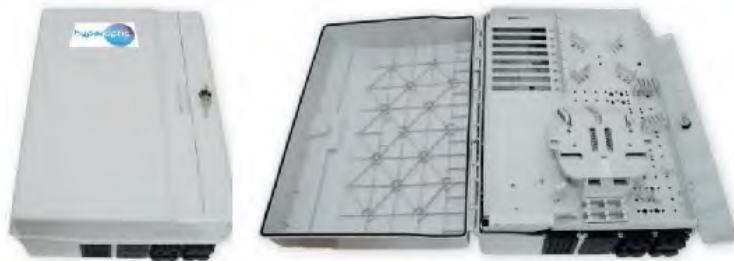
Internal cabinet power requirements

- Each internal cabinet will require a 13-amp, un-switched fused spur.
 - Hyperoptic will free issue a Power Distribution Unit (PDU) with multiple 3 pin sockets.
 - It is requested that free issued PDU is connected to the un-switched fused spur by the developer's appointed electrical engineers.
 - The average loadout for each cabinet will be 2.99 kVA.
- guidelines as set out by BT Openreach. Specification sheets can be supplied on request.

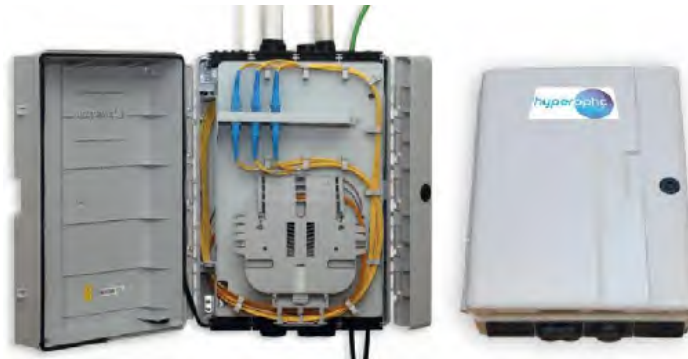
Internal Fibre Enclosures

- Where possible, Hyperoptic will provide fibre enclosures to mitigate space constraints.
- Hyperoptic uses a range of internal fibre enclosure sizes. The type and size of enclosure are determined by the site-specific design requirement.
- Typically, these are to be located within risers or suitable, secured locations within the development.
- The enclosures can be used to distribute drop cables to properties and, therefore can be classed as a Fibre Demarcation Point or FDP.
- The enclosures will channel the Hyperoptic service from the Parent FDP-1 to the Hyperoptic service point within the property.
- The fibre enclosures do not require a power supply.

Typical enclosure types and sizes are set out below:



Example of 96 User Internal/External Wall Mounted Fibre Enclosure
500mm (h) x 182mm (d) x 376mm (w)



Example of 32 User Internal/External Wall Mounted Fibre Enclosure
368mm (h) x 114mm (d) x 275mm (w)



Example of 16 User Internal/External Wall Mounted Fibre Enclosure
300mm (h) x 80mm (d) x 220mm (w)



144F Multi-Drop Wall Mounted Fibre Splice Enclosure
395mm (h) x 130mm (d) x 130mm (w)



Example of 24 Way Internal Fibre Splice Enclosure
260mm (h) x 120mm (d) x 360mm (w)

Fibre Optic Cable Infrastructure Specification

All cabling installed within buildings will be a minimum of Low Smoke Zero Halogen (LSZH) thermo-plastic and guard against fire propagation. All cables will comply with all current European safety standards.

Fibre is not subject to electro-magnetic interference and therefore can be installed next to electrical cabling.

All Hyperoptic fibre optic cabling will be terminated at the FDP locations

Fibre Drop cables are routed from the FDPs and terminated into a Hyperoptic Customer Splice Point (CSP) box at each property.

All installed fibre optic cables will be tested to industry standard using calibrated test equipment. All results will be recorded and submitted to Hyperoptic.

Hyperoptic use the following fibre optic cable specifications:

Single mode (9/125 μm) OS2 fibre optic cable.

Fibre Spine

These cables are used to link Child FDPs to the Parent FDP-1 within a development.

All spine cabling installed will be a minimum of Low Smoke Zero Halogen (LSZH) thermo-plastic and guard against fire propagation and are rodent resistant. All cables will comply with all current European safety standards.

It is the fibre spine cables which provide the passive network connectivity to each Hyperoptic service point within a development via the strategically located FDPs. The fibre spine cables are linked to a dedicated cable to each property from the allocated FDP.

Fibre spine cables are routed from the Parent FDP-1 location to each Child FDPs by utilising the development's installed or planned Comms ducting and containment routes within a site.

All installed fibre optic cables will be tested to industry standard using calibrated test equipment. All results will be recorded and kept by Hyperoptic.

Hyperoptic use the following fibre optic cable specifications:

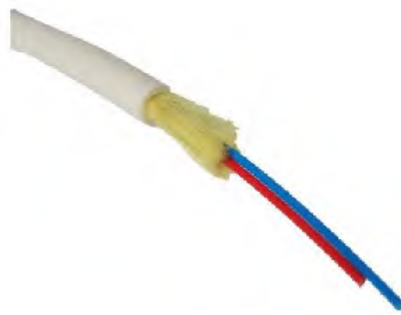
Single mode (9/125 μm) OS2 fibre optic cable.

Internal Ruggedised Drop Cable

The internal ruggedised cable is an installer friendly solution that can be used directly in various harsh environment without additional protection. The stainless-steel tube prevents the optical fibre from getting damaged and allows for ease of installation without additional considerations and improves the stability of the system. The internal cable is white in colour.



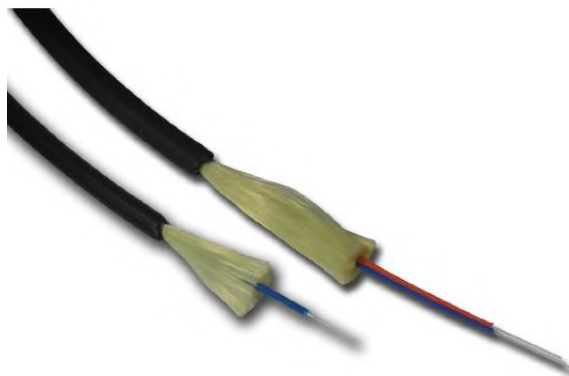
Pre-terminated ruggedised cable
Supplied in pre-determined lengths



Unterminated ruggedised cable
Supplied on drums

External Ruggedised Drop Cable

Specifically used within ducting or on external containment routes, this cable is also an installer friendly solution that can be used directly in various harsh environments without additional protection. The UV non-metallic and crush resistant jacket prevents the optical fibre from getting damaged and allows for ease of installation without additional considerations and improves the stability of the system. The external cable is black in colour.



Unterminated ruggedised cable
Supplied on drums

The HyperHub Router



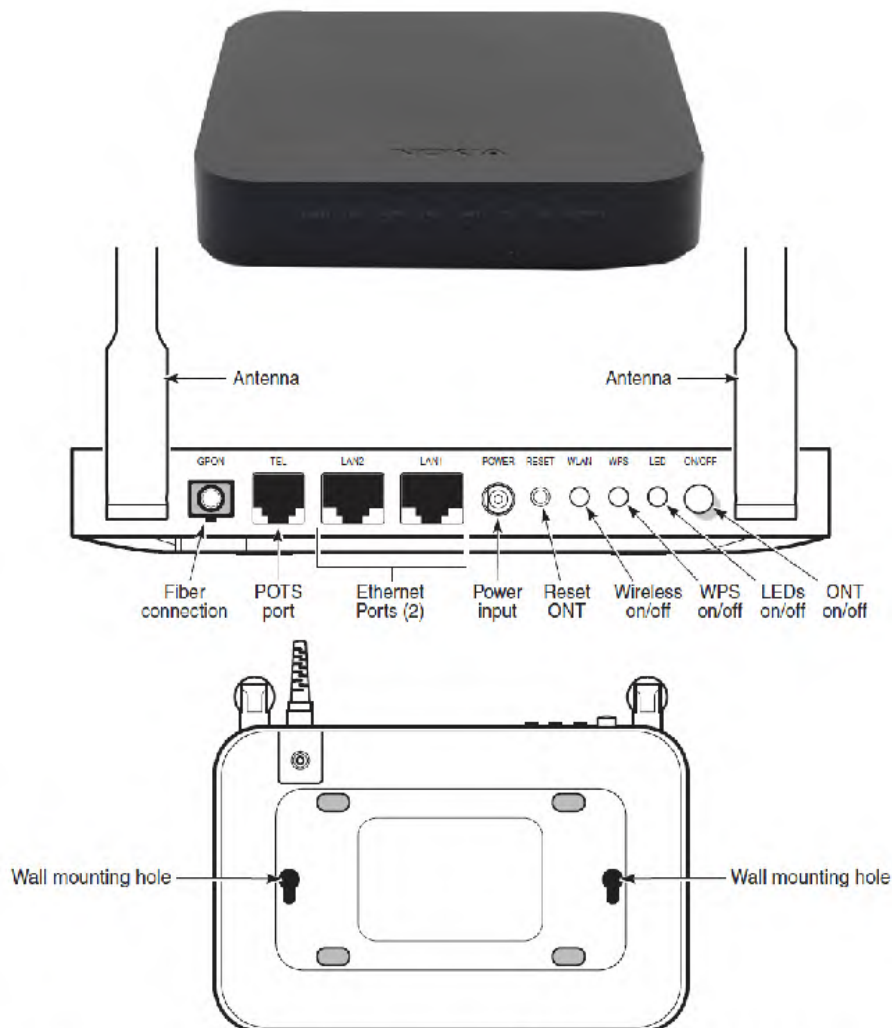
View of right side panel



View of top side port layout

Dimensions : 140mm (h) x 210mm (w) x 32mm (d)
Wifi Standard: 802.11ac
Key Features: Dual-band Wifi (2 channels) 2.4Ghz and 5Ghz.
2x RJ-11 telephone ports.
Power Supply: Input: AC 100V ~ 240v, 50/60Hz.
Output: DC 12V, 1.5A.

Optical Network Termination ONT



Dimensions: 100mm (h) x 155mm (w) x 21.6mm (d)

Wall Mounted or Desk Mountable

Safety: IEC EN 60950
IEC EN 60825-1:2001-08

Laser Safety: IEC EN 60824-1: Class 1 laser product.

Power Supply Voltage: 12V DC using external AC/DC adapter

Power Consumption: Max <12W

Optical Fibre Cable to the Property

The 2F core fibre optic drop cable for each property will emanate from the allocated FDP as shown within the site-specific design.

The fibre optic cable to each property is to be routed through the development's installed/planned Comms containment and duct routes.

The drop cable will be presented and terminated within an internal Customer Splice Point box within each property at the agreed location.

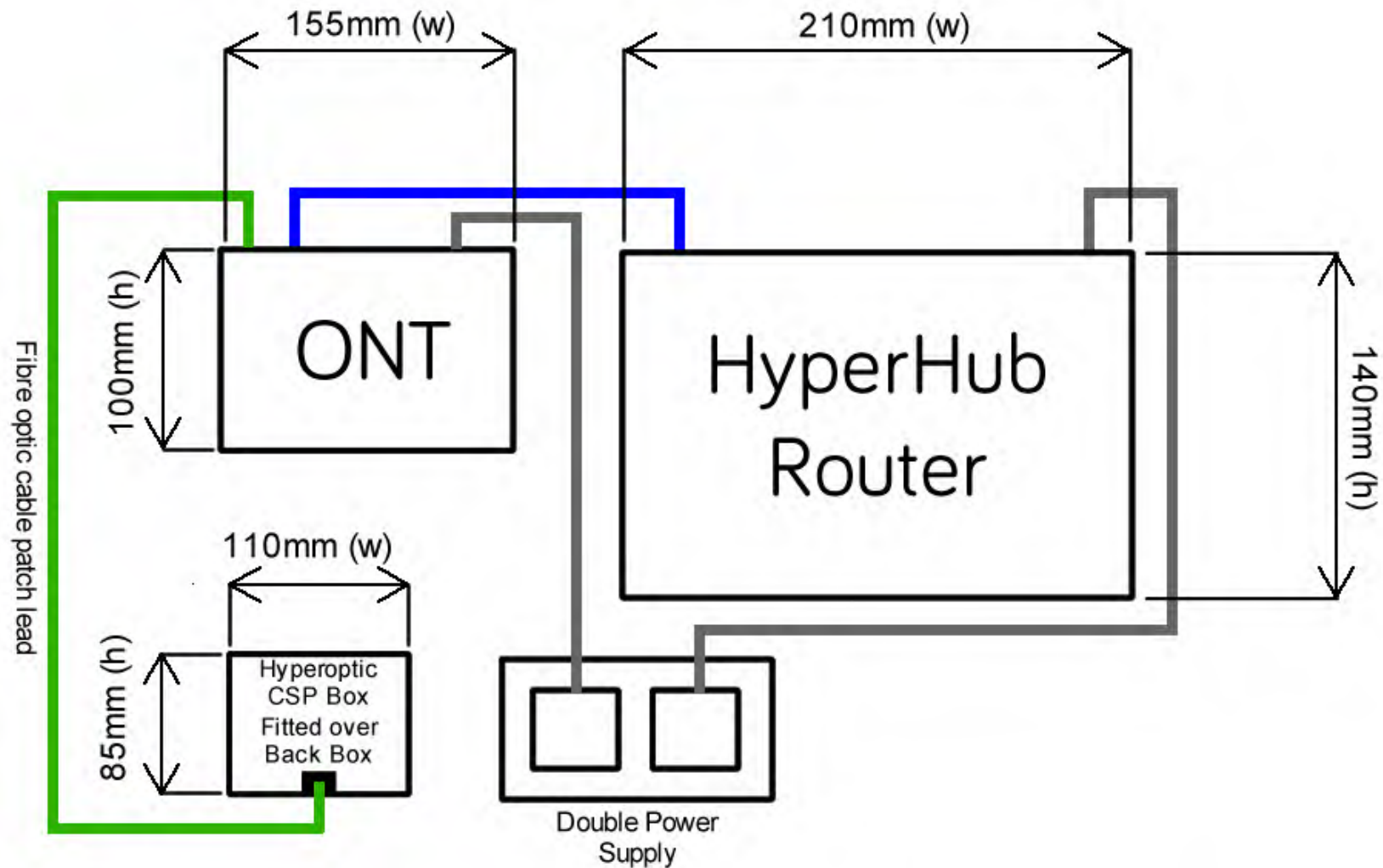
Internal Customer Splice Point (CSP) Box

The CSP box is a compact residential outlet in which the dedicated 2F core fibre drop cable is presented and terminated within each property. It is wall mounted with screw fixing points and fits comfortably over a single gang back box. It is made of ABS plastic material and has a white gloss finish.



Internal Customer Splice Point Box
85mm (h) x 25mm (d) x 110mm (w)

Hyperoptic Typical Service Point Layout within a Property



Wiring Guidelines for Multi Dwelling Unit (MDU) Properties

The incoming Backhaul fibre is routed into the building via the Openreach duct and containment route. This is usually terminated within the building's Comms intake, dedicated Comms room or allocated services riser and is presented in the Hyperoptic Parent FDP-1.

The Parent FDP-1 location should be a safe and secure area that will allow access for installation and future maintenance work.

Additional Child FDP locations may be required, depending on site layout and unit totals. These will be linked to the Parent FDP-1 via the Hyperoptic fibre spine cables which will be free issued by Hyperoptic and to be installed by the developer, utilising the provided in-building Comms containment and ducting.

Hyperoptic will free issue the fibre drop cable for the developer to install. The fibre drop cable to each property is to be routed from the allocated FDP as set out within the site-specific design document.

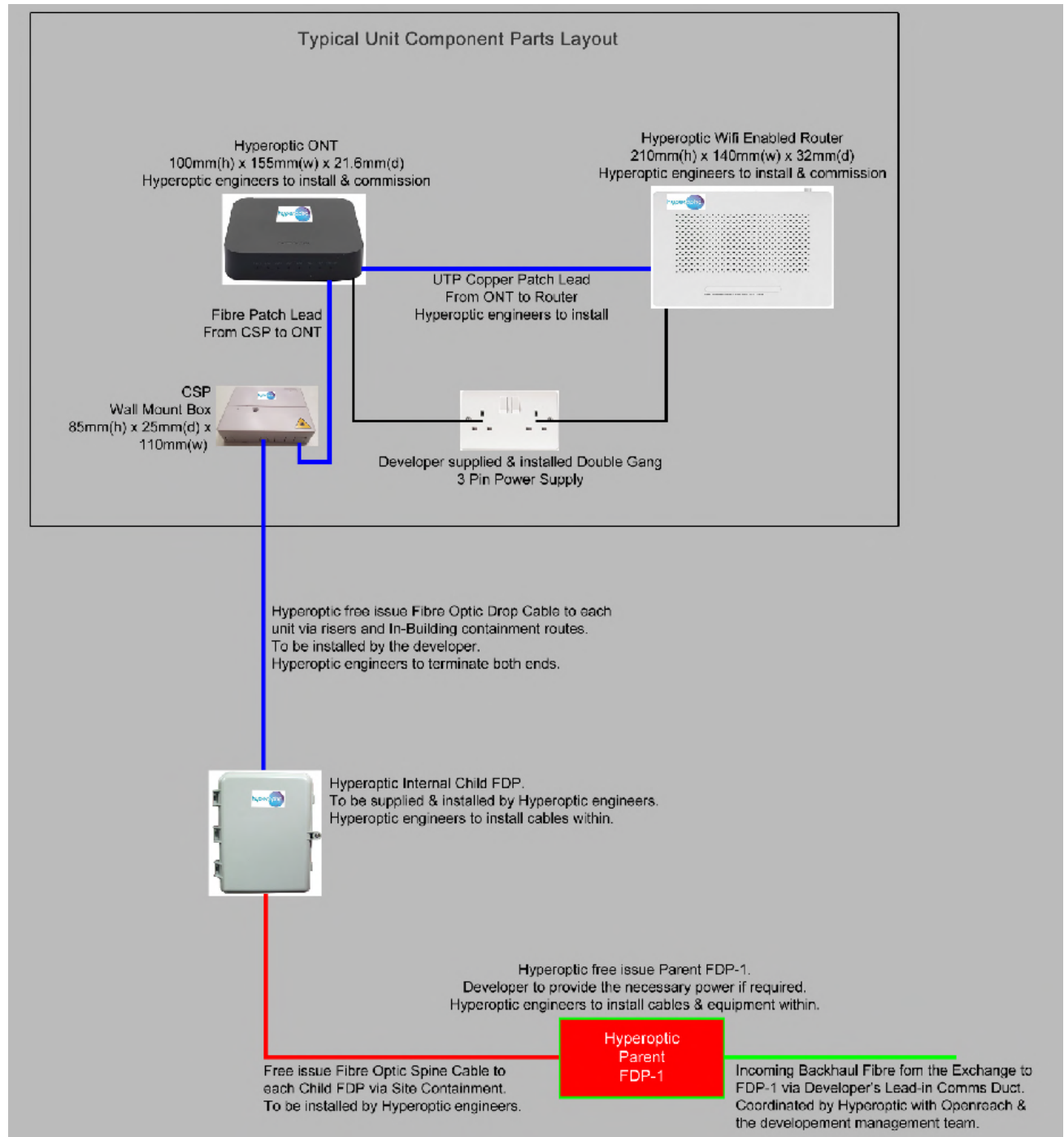
The drop cable to each property is required to be routed through the development's in-building Comms containment and duct routes. (see Developer Guidelines for Cable Installation within MDUs).

The drop cable will be presented and terminated within a Customer Splice Point box CSP within each property at the agreed location.

Cabling End equipment within MDU properties

- An OS2 single mode drop fibre optic cable will be routed to each property from the allocated FDP.
- These cables will be routed utilising site installed Comms ducting and containment routes within the building by the developer's fitout team.
- The drop cable will be terminated within each property's Hyperoptic CSP and connected to the ONT at the agreed location by the Hyperoptic engineering team.
- The opposite end of the internal drop cable will be terminated within the allocated FDP by the Hyperoptic engineering team.
- The Hyperoptic CSP will become the Hyperoptic service point within each property.
- The ONT is wall mountable or free standing.
- The ONT will require a 3-pin power supply provided by the developer at the agreed location.
- To enliven the Hyperoptic service within a property, a Hyperoptic router is required to be installed next to the Hyperoptic ONT by the Hyperoptic engineer team.
- The ONT will be connected to the Hyperoptic router via a UTP data patch cable by the Hyperoptic engineering team.
- The router can be wall mounted with the use of a fixing device or free standing; this will need to be confirmed prior to installation.
- The router will require a 3-pin power supply.

MDU Component Parts Schematic



Developer Guidelines for Cable Installation within MDUs

For properties where services enter from inside a building such as apartment blocks.

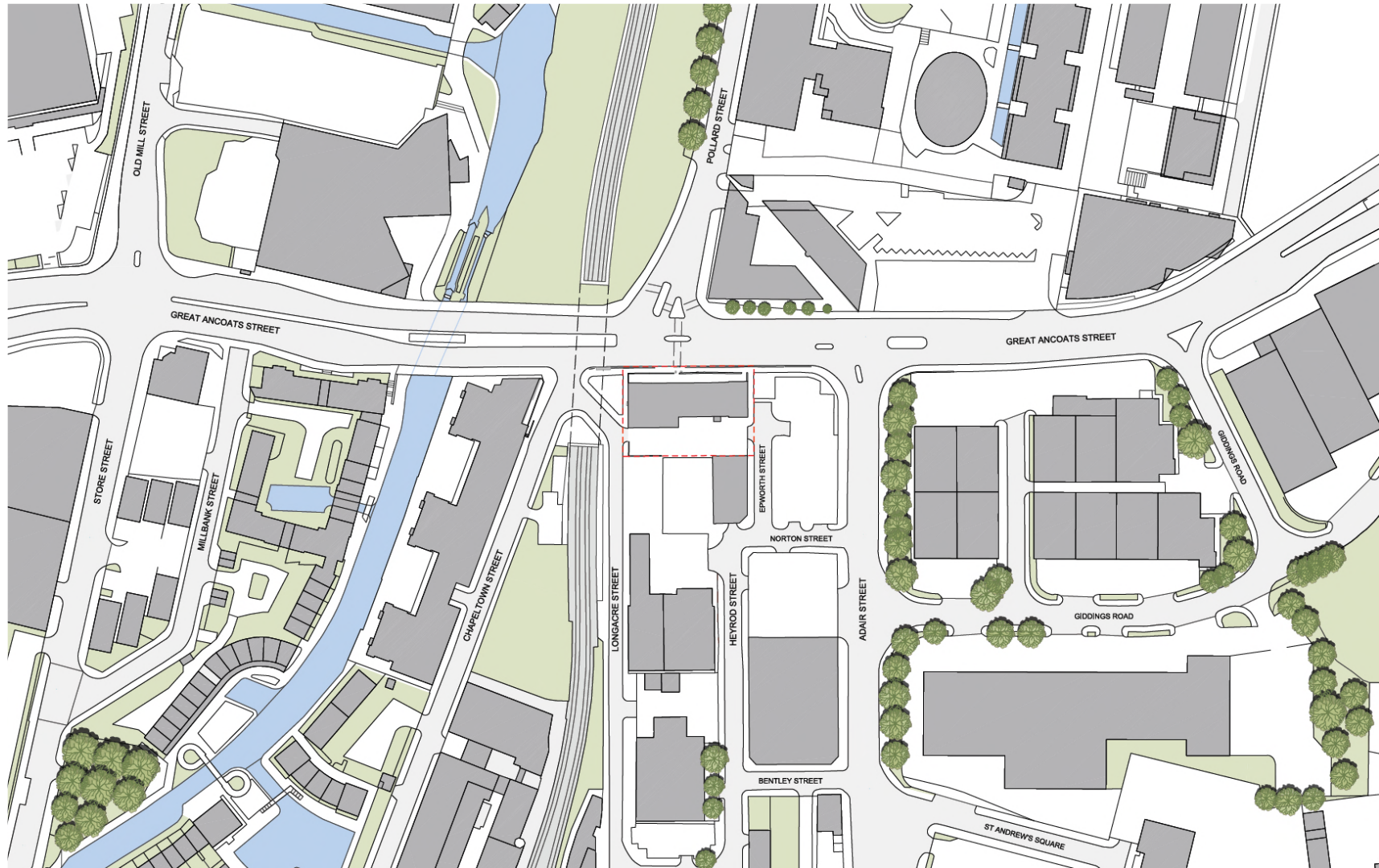
1. It is required that an internal fibre optic drop cable be installed to the Hyperoptic termination point within the property. The termination point is usually within the services cupboard or next to the TV location.
2. Hyperoptic will free issue the installer friendly internal fibre optic drop cable for the development's electricians or appointed installers to fit.
3. The internal ruggedised cable is an installer friendly solution that can be first fixed without additional protection, provided due care and attention has been used when installing to avoid damaging, crushing or snapping the fibre.
4. The Hyperoptic internal drop cable is to be run in parallel with the BT Openreach cable or other Comms cable infrastructure.
5. The free issued internal drop cable is to be routed from the allocated FDP as shown within the site-specific design document, to the Hyperoptic termination point within the property.
6. It is required that a 3-metre cable coil is left at the allocated FDP. The coil is to be labelled "Hyperoptic".
7. It is required that a 3-metre cable coil is left at the Hyperoptic termination point within the property. The coil is to be labelled "Hyperoptic".
8. All cabling is to be securely fixed to the containment routes provided, by loose cable ties or by an appropriate fixing method to avoid the risk of crushing or damage to the fibre cable.
9. No cable slack is to be left within the ceiling and wall voids within the property. However, all bends should be, loose 90-degree sweeps.
10. It is recommended that a 20mm sized flexible tube be installed to contain the fibre cable at the entry into each property, should this be in keeping with the development's install method. The tubing is not part of the Hyperoptic free issued materials.
11. It is recommended that a single gang backbox be provided at the Hyperoptic termination point to allow for a clean finish to the termination of the fibre and the secure fixing of the internal CSP box.
12. 10 days' notice for delivery of materials will be needed.
13. All installations are to be carried out to industry best practice. Strict adherence to cabling standards (TIA/EIA-568, BS EN 50174, ISO/IEC 11801 and IEC 60794).

Hyperoptic Task & Responsibilities at the MDU Property

1. Hyperoptic will free issue all internal fibre cabling. Including spine cables and internal drop cables
2. The Hyperoptic Area Deployment Manager (ADM) is the point of contact for all cable delivery requirements.
3. The Hyperoptic ADM will allocate engineer resource for the following tasks:
 - A. Fitting of the internal CSP box at the agreed location.
 - B. Fitting of the ONT at the agreed location.
 - C. Fitting of the Hyperoptic router at the agreed location.
 - D. Termination of the internal cable within the media converter.
 - E. Termination of the internal cable within the FDP enclosure.
 - F. Testing of the Hyperoptic fibre optic cable link to the Parent FDP-1.
 - G. Patching together and commissioning of the Hyperoptic router and media converter at the agreed location.

Please see Appendix A for further guidance to Developer & Hyperoptic Tasks & Responsibilities

Site Plan



Site Specific Design

Considerations on the installation of this site

- The site consists of 1 block building.
- There are a total of 182 service points consisting of 177 residential units, 2 commercial units, 1 Residents Gym, 1 Residents Lounge, 1 Post & Welfare Room.

Hyperoptic FDP-1 fibre enclosure location will be as follows:

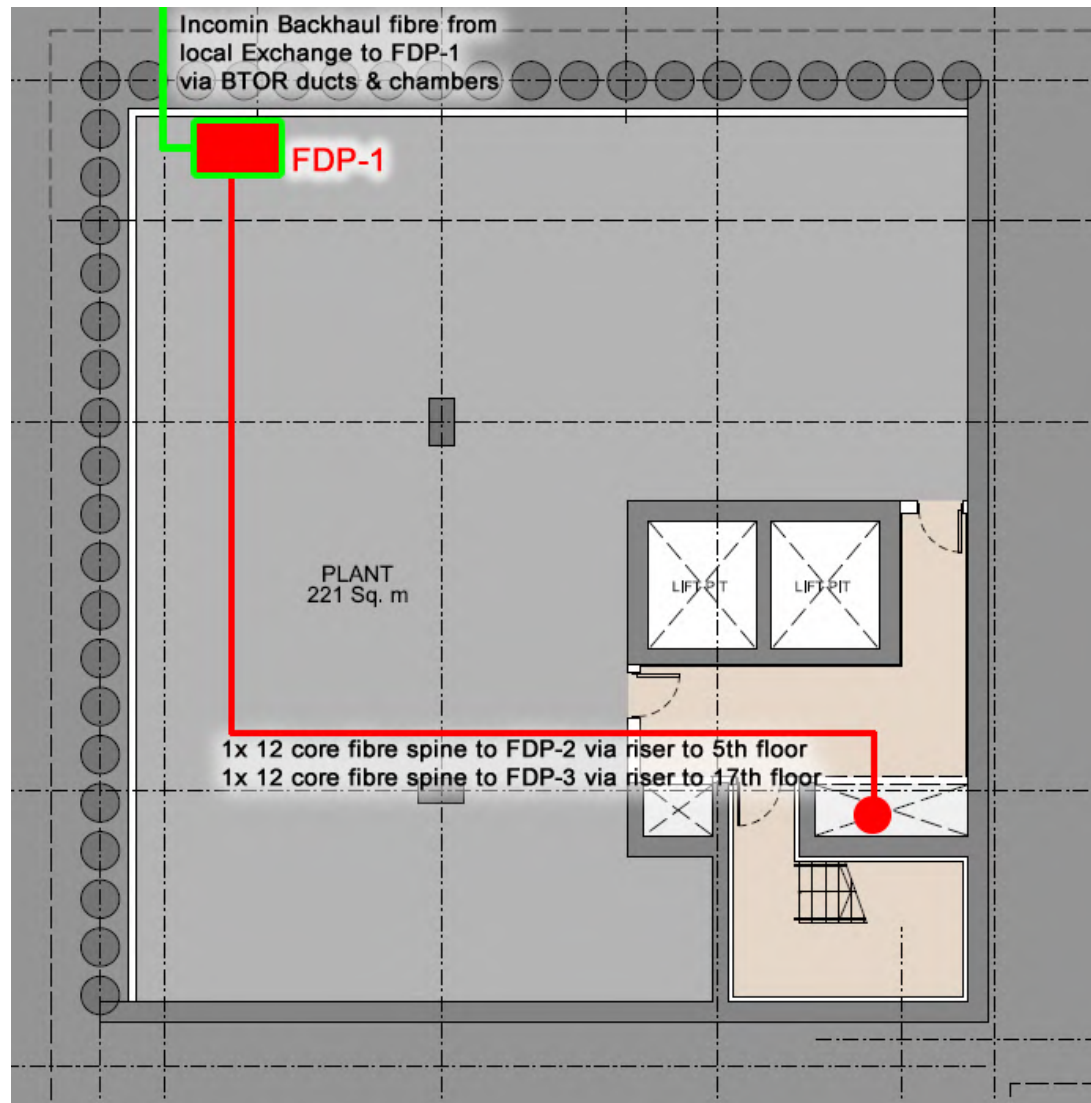
- FDP-1 – This enclosure will be installed within Plant Room Level B1.
- There is no requirement for a power supply at this location.
- This enclosure size will be a 320mm (h) x 100mm (d) x 240mm (w) Internal wall mounted variety.
- The FDP-1 enclosure location is to be confirmed by the developer. Once confirmed, the location will remain fixed.

Additional Hyperoptic FDP fibre enclosure locations will be as follows:

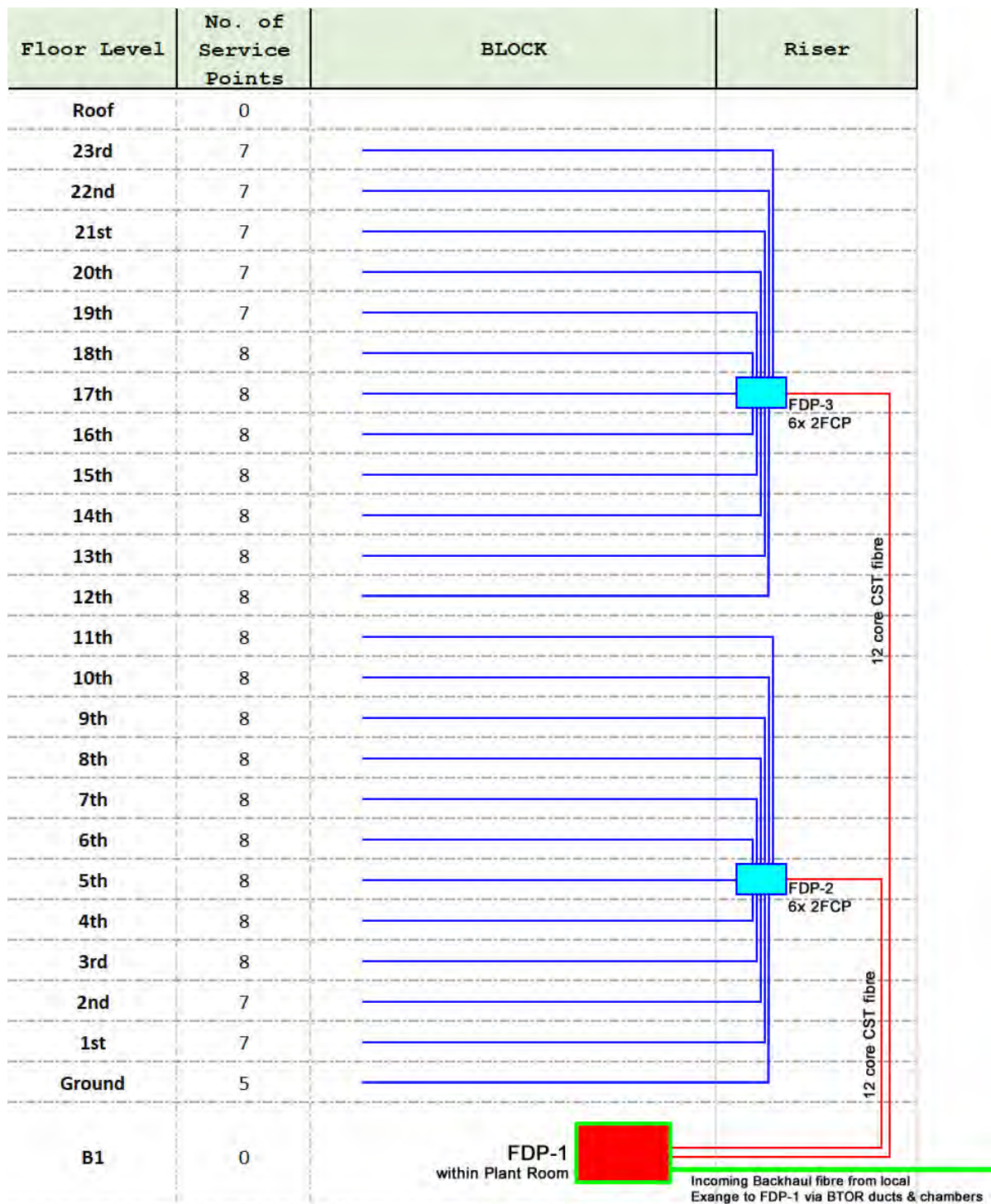
The developer is to confirm the following enclosure locations and dimensions as suitable.

- FDP-2 – This enclosure will be installed within Comms Riser Level 5.
- There is no requirement for a power supply at this location.
- This enclosure size will be a 320mm (h) x 100mm (d) x 240mm (w) Internal wall mounted variety.
- FDP-3 – This enclosure will be installed within Comms Riser Level 17.
- There is no requirement for a power supply at this location.
- This enclosure size will be a 320mm (h) x 100mm (d) x 240mm (w) Internal wall mounted variety.

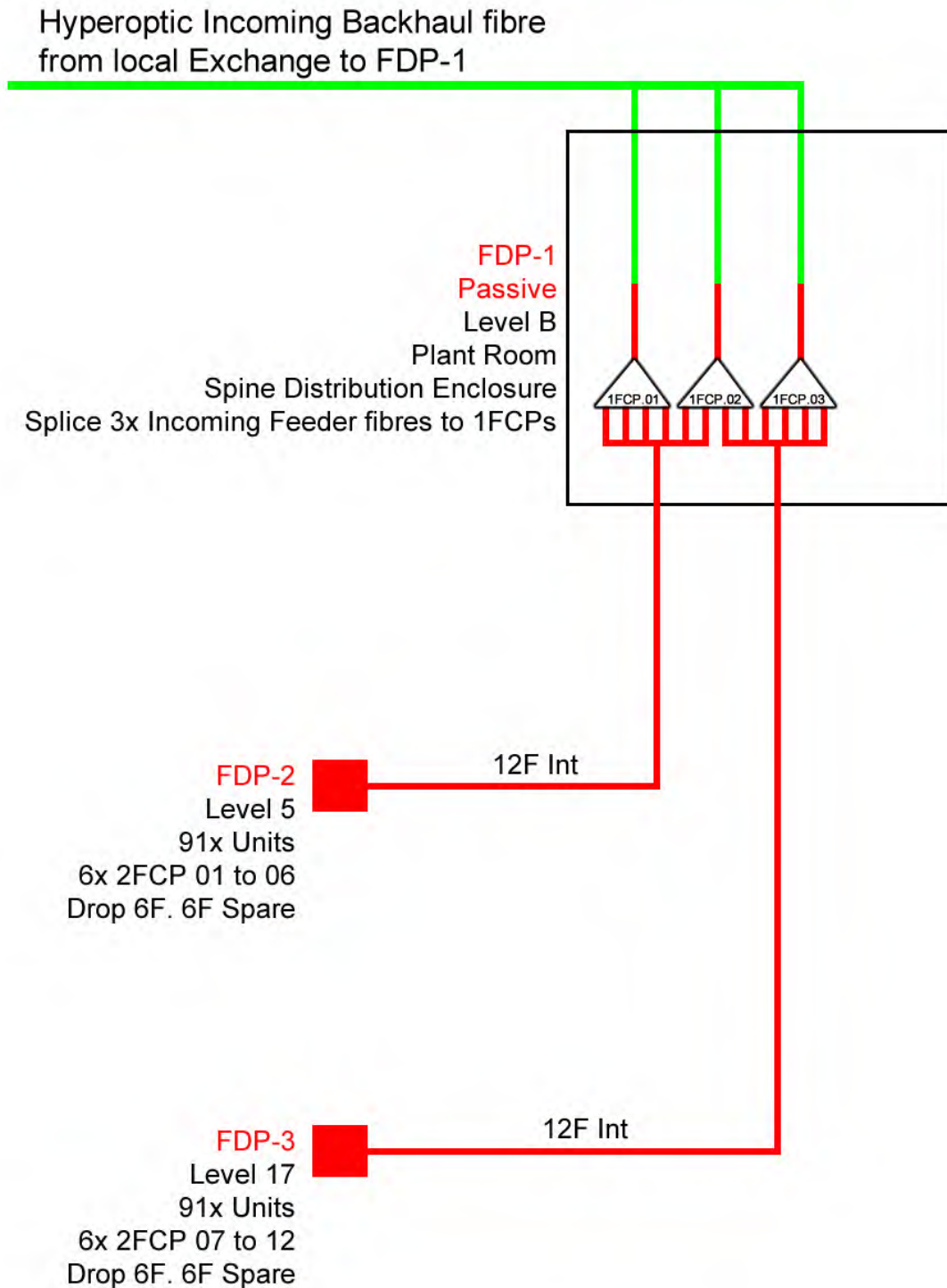
FDP-1 Enclosure Location & Incoming Backhaul Fibre Route: Level B1



Block Cabling Schematics



Site Wide Fibre Topology



Accommodation schedule and cabinet catchments.

Floor Level	No. of Units	Plot Nos.	FDP No.
B1	0	Fibre Distribution & Primary Split	FDP-1

Floor Level	No. of Units	Plot Nos.	FDP No.
Ground	5	1xResidents Gym, 1xCo-Work, 1xRetail unit, 1xPost & Welfare, 1xResi Lounge	FDP-2
1st	7	Flat 001 to 007	FDP-2
2nd	7	Flat 008 to 014	FDP-2
3rd	8	Flat 015 to 022	FDP-2
4th	8	Flat 023 to 030	FDP-2
5th	8	Flat 031 to 038	FDP-2
6th	8	Flat 039 to 046	FDP-2
7th	8	Flat 047 to 054	FDP-2
8th	8	Flat 055 to 062	FDP-2
9th	8	Flat 063 to 070	FDP-2
10th	8	Flat 071 to 078	FDP-2
11th	8	Flat 079 to 086	FDP-2

Floor Level	No. of Units	Plot Nos.	FDP No.
12th	8	Flat 087 to 094	FDP-3
13th	8	Flat 095 to 102	FDP-3
14th	8	Flat 103 to 110	FDP-3
15th	8	Flat 111 to 118	FDP-3
16th	8	Flat 119 to 126	FDP-3
17th	8	Flat 127 to 134	FDP-3
18th	8	Flat 135 to 142	FDP-3
19th	7	Flat 143 to 149	FDP-3
20th	7	Flat 150 to 156	FDP-3
21st	7	Flat 157 to 163	FDP-3
22nd	7	Flat 164 to 170	FDP-3
23rd	7	Flat 171 to 177	FDP-3
Roof	0	N/A	
Total	182		

Development Overview of Tasks & Responsibilities

Contractor/Developer Tasks and Responsibilities

Site Containment, Ducts & Chambers

- Provision of any containment & ducts required for the route of the backhaul fibre from the site lead-in Comms duct entry to the Parent FDP-1 location.
- Provision of the site-wide external duct routes and chambers, if not being provided by Openreach. To include the duct route to the property at the agreed location.
- The installation of draw ropes within the duct routes, from the property demise to the allocated FDPs within the allocated duct chambers
- The installation of draw ropes to link all chambers via the main duct route back to the allocated FDP as shown within the design document.

Ordering of Hyperoptic Materials & Requesting Engineer Resource

- To provide Hyperoptic with 10 working days' notice for:
 - The ordering and delivering of **materials to site**.
 - For arranging a suitable time and date for the ADM to attend site.
 - Allocating engineer resource to carry out termination, testing and commissioning of the Hyperoptic cables and equipment.

Internal Cabinets (if design requires)

- If active internal cabinets are required.
- Installation of the wall mounted FDP cabinets at the agreed locations.
- **Power for internal cabinets:** Provide a dedicated 13 Amp un-switched fused spur electrical power unit to the latest European and British electrical installation and safety regulations to each of the cabinet locations. The supplied Hyperoptic PDU unit is to be connected to the un-switched fused spur.

Internal cable Infrastructure within MDUs

- The installation of the fibre optic spine cables between the Parent FDP-1 and the Child FDPs.
- The installation of the ruggedised drop fibre cables from the allocated FDP to the final termination point within each property.
- Installed cables to be identified and clearly marked at each end.

Internal Cable Infrastructure for Street Fed Houses & Apartments

- The installation of the internal ruggedised drop cable to each property's Hyperoptic termination point to the external location of the Customer Splice Point box of each property.
- Provide a 12mm diameter wall penetration from internal to external of each property at the agreed external Customer Splice Box location.
- Installed cables to be identified and clearly marked at each end.

Power Supply within Properties

- The provision of a double gang dedicated Hyperoptic 3 pin power supply at the agreed Hyperoptic router location.
- **Notify Hyperoptic of any changes to the scheme any changes to Completion and Handover dates at the earliest opportunity.**

Hyperoptic Tasks and responsibilities

The Incoming Backhaul Fibre

- Installation of the Backhaul fibre optic cable from the external network to the Parent FDP via an appointed 3rd party contractor or Hyperoptic engineer team.
- Termination, testing and commission of the Backhaul fibre via the appointed 3rd party contractor or Hyperoptic engineer team.

Installation of the Fibre Spine Cables & Equipment within the Openreach Ducts & Chambers

- Installation of the fibre spine cables from the FDP-1 to the Child FDPs.
- Installation of the external UG FDPs within the allocated duct chambers. (if required).
- Installation of the fibre drop cables from the allocated FDP to the individual properties.
- Termination of all fibre spine cables from the Parent FDP-1 to the Child FDPs.
- Termination of all fibre cables into the patch panels and/or splice trays in the allocated FDPs.
- Installed cabling to be tested to prove continuity from patch panel and/or splice trays to the termination point within each property.

Internal cable Infrastructure within Blocks

- Termination of all fibre spine cables from the Parent FDP-1 to the Child FDPs.
- Termination of all fibre drop cables to the CSP box installed within each of the individual properties.
- Termination of all fibre cables into the patch panels and/or splice trays in the allocated FDP.
- Installation of the wall mounted FDPs.
- Installed cabling to be tested to prove continuity from patch panel and/or splice trays to the termination point within each property.

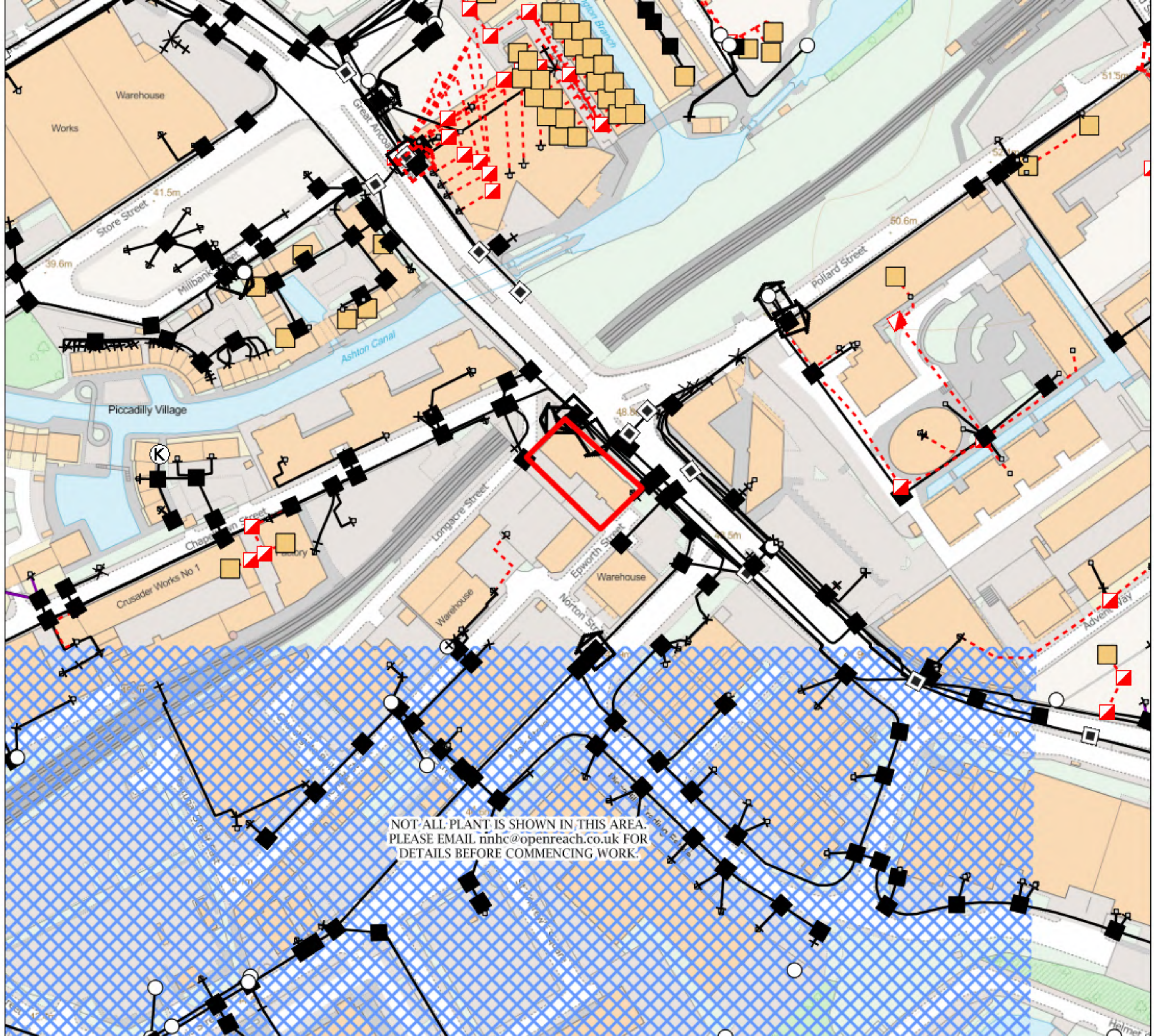
The External Customer Splice Point

- The installation of the Customer Splice Point Box above the incoming duct exit location and where the internal to external wall penetration is to be located.
- Installation of the composite capping and duct cover from the duct exit point at each property to the external Customer Splice box.
- Joining of the internal to the external fibre cables within the external Customer Splice Point Box.

The Site Wide Tasks

- A cable map configuration sheet to be provided for each FDP location, stating the cable location on the patch panel and/or splice trays regarding the unit number.
- Installation of the internal CSP box.
- Termination of the fibre drop cable within each property's internal CSP box.
- Calibrated test completed, and the results compiled of the fibre cables from the allocated FDP to the individual CSP box within each of the properties.
- Patching of all fibre cables from the internal CSP box to the ONT installed within each of the individual properties.
- Installation of the Hyperoptic router within the individual property at the agreed location.
- Installation of the Hyperoptic ONT.
- Patching of all UTP data cables from the router to the ONT installed within each of the individual properties.
- Install the Hyperoptic switches, if required, within the Parent FDP locations.
- Install the fibre patch cables connecting the fibre network to the switches, if required.

The agreement of who will complete these tasks within the installation will need to be confirmed and an installation agreement compiled and signed.



IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.



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CLICK BEFORE YOU DIG

FOR PROFESSIONAL FREE ON SITE ASSISTANCE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS INCLUDING LOCATE AND MARKING SERVICE

email cbyd@openreach.co.uk

ADVANCE NOTICE REQUIRED
(Office hours: Monday - Friday 08.00 to 17.00)
www.openreach.co.uk/cbyd

Accidents happen

If you do damage any Openreach equipment please let us know by calling 0800 023 2023 (opt 1 + opt 1) and we can get it fixed ASAP

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KEY TO BT SYMBOLS

	Planned	Live	Change Of State	+	Hatchings	
PCP			Split Coupling	X	Built	
Pole			Duct Tee	▲	Planned	
Box			Building		Inferred	
Manhole			Kiosk	K	Duct	
Cabinet			Other proposed plant is shown using dashed lines. BT Symbols not listed above may be disregarded. Existing BT Plant may not be recorded. Information valid at time of preparation. Maps are only valid for 90 days after the date of publication.			
	Pending Add	In Place	Pending Remove	Not In Use		
Power Cable						
Power Duct				N/A		

BT Ref : VUQ09547V

Map Reference : (centre) SJ8531098079

Easting/Northing : (centre) 385310,398079

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WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk