

openreach

ISIS practice  
For Openreach and Contract Partners

AEI/ACC/S012

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# ***FTTP MDU Survey***

## ***About this document ...***

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### **Content approval**

This is the Issue 8 of this document.

The information contained in this document was approved on 17-May-2023  
by Vanessa Hilton, Accreditation professional

## Version History

Version No.	Date	Author	Comments
Issue 8	17-May-2023	Quality Standards & Accreditation	Questions 17 and 24 amended.
Issue 7	05-May-2023	Quality Standards & Accreditation	Change of author & approver details. Full questionnaire review and re write to include new components and methods
Issue 6	05-Jan-2023	Quality Standards & Accreditation	Questionnaire re written to include new Discrete Façade Policy and X-Y Cable Policy. Now 42 questions. 7 sections of the modular guidance updated.
Issue 5	01-Aug-2022	Quality Standards & Accreditation	Document review. new questions added, to include new policy rule
Issue 4	23-Aug-2021	Quality Standards & Accreditation	Prerequisite AEI/ACC/S013 Network Regulations Accreditation for Surveyors added
Issue 3	03-Aug-2021	Quality Standards & Accreditation	Document review. Author/Approver/Publisher details amended. Change of author & approver details New craft added, new questions added, modular guidance added
Issue 2	19-Aug-2020	Quality Standards Accreditation Network Engineering	Document review. Author/Approver/Publisher details amended. Change of author & approver details
Issue 1	21-Aug-2019	Accreditation Standards Network Engineering Chief Engineer	New module created

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# 1 *Introduction*

This ISIS is reviewed and updated annually. Between reviews any changes are communicated using Access Engineering Communications (AEC).

Links to ISIS documents, accreditation modules and all reference material can be found in:

- [Technical Library](#), [Bookstore](#) or Policy & Build App for Openreach.
- CANDID for Contract Partners.

Answers for all modules are available via the Author of this document (see above).

In order to comply with the requirements of this accreditation module the Assessor must follow the procedure below:

- Allow the time shown for the Delegate to complete.
- Explain that reference documentation can be used.
- The criteria for **all** sections **must** be fulfilled in order to meet the requirements for this module.

# 2 *Scope*

The target audience for this accreditation is anyone working on the Openreach network including Contract Partners.

This module is essential for anyone carrying out Fibre to the Premises (FTTP) Multiple Dwelling Unit (MDU) Survey. The overall content is covered in the following Description and Method sections, in more detail.

# 3 *Description*

This module consists of two parts, a questionnaire and a practical assessment.

**Prerequisites:** The Delegate must have successfully completed the below:

- AEI/ACC/S013 - Network Regulations Accreditation for Surveyors

**Content:** It will check the Delegates understanding & ability to complete the survey of MDU buildings using current working practices and quality standards.

**Duration:** Questionnaire 60 mins    **Practical:** 4hrs

## 4 *Measurement*

**Questionnaire:** The Delegate must achieve **80%** or greater to be successful. For Openreach people the questionnaire can be found on Learning Home as an online course using the code **ORCHK023**

**Practical:** Using the Module Guidance and ISIS documents for reference, the Assessor will check that the Delegate completes the tasks outlined in the Method section.

The Module Guidance outlines where coaching can be provided, highlighted by a Coaching Mark (C) next to each Assessment Pointer. No more than **30%** of the available Coaching Marks can be used.

**Assessor Note:** The exact score required to pass the questionnaire and the allowed number of Coaching Marks can be found in the Delegates Details section.

**Post Assessment:** You **must** enter the results onto the [Skills Passport](#) or Smart Awards for Contract Partners.

## 5 *Safety*

**Caution:** If the Delegate displays a disregard for, or lack of knowledge of safety, then STOP THE ASSESSMENT - re-assessment required - refer to –safety module for guidance

Using their mandatory holding of safety and relevant access equipment, the Delegate will demonstrate to the Assessor, the correct safety practices required to successfully complete this accreditation module. This may include a check of:

- Relevant safety modules on National Operative Passport Scheme (NOPS) card (Partners Only).
- Openreach Construction Design Management (CDM) 2015 Regulations Policy followed.
- Relevant New Roads and Street Works Act (NRSWA) qualification.
- Personal Protective Equipment (PPE).
- Gas testing procedure
- Footway cover lifting
- Water testing
- Use of Telescopic Rods
- Safe use of step ladders, working at height
- Awareness of threats to personal safety, including violence

- Asbestos awareness

## 6 *Method*

**Questionnaire:** Using reference documentation where required, the Delegate will complete the questionnaire. A maximum of **60** minutes is allowed for this exercise.

**Practical:** Using the correct tools, equipment and working practices, the Delegate will carry out a live MDU survey task.

The practical assessment can be completed under live or simulated working conditions using one of the below methods:

- On site - During a new survey.
- Simulated - in an approved Skill Centre or site

The Assessor will then use the Module Guidance to verify their understanding and ability to carry out the task.

## 7 *Delegate Details*

Module No	AEI/ACC/S012
Title	FTTP MDU Survey
Date	
Delegate's Name	
Delegate's UIN	
OUC	
Assessor's Name	
Assessor's UIN	
Questionnaire	PASS/FAIL
Practical	PASS/FAIL
Notes	

**Questionnaire Scoring:**

Total Possible Score	Score Achieved	Required Score to Pass
41		33

**Practical Scoring:**

Total Coaching Marks Available	Total Coached	Total Coaching Marks Allowed
12		4

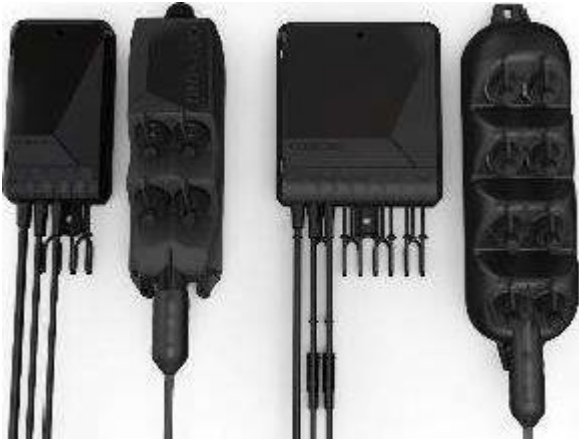
## 8 Questionnaire

No.	Question	Mark(s)
1	Multi Dwelling Units (MDU) buildings have been classed as small, medium and large. If a building had 33 premises what size of MDU would this be?  A. Small B. Medium C. Large	
		1
2	If an MDU is fed from a duct and has 4 premises, what action would you take when planning the build?  A. Plan for a Connectorised Block Terminal (CBT) in the nearest Underground structure (UG) as long as it's within 150m B. Plan for an internal CBT in the service cupboard C. Plan for a new pole at the rear of the building, making sure the span length is within 75m	
		1






3	<p>The MDU you are surveying has a Total Homes Passed (THP) of 27, where is the allocated splitter located?</p> <p>A. The splitter will be sited on-site within the MDU</p> <p>B. The splitter will be off-site and the network pick up point will be 150m from the MDU</p> <p>C. No splitter will be allocated at the survey stage, this will be allocated after the job pack has been created</p>	
		1
4	<p>Openreach is required to have the correct wayleave in place whenever we intend to install apparatus on private property. Why do we need this?</p> <p>A. The Private Holdings Committee require each building has one in place before any changes are made to the fabric of a building</p> <p>B. It meets the requirement set out in the Electronic Communications Code (our legal permission to site and maintain out apparatus). It also helps safeguard our network where appropriate.</p> <p>C. All Local Authorities have this as a minimum requirement to install new plant</p>	
		1
5	<p>We can use an existing wayleave, as long the upgrade doesn't have a materially adverse impact on the property and the wayleave was granted on or after which date?</p> <p>A. 15<sup>th</sup> of April 2010</p> <p>B. 1<sup>st</sup> of January 2020</p> <p>C. 28<sup>th</sup> December 2017</p>	
		1
6	<p>What do wayleaves granted under the new code mean when planning to build MDU?</p> <p>A. It gives us the right to upgrade our network, but we must engage with the building owner</p> <p>B. We can install new equipment within 50m of our existing plant without informing the building owner</p> <p>C. We can only replace the existing plant, we must remove all the copper first before we install fibre</p>	
		1
7	<p>If the MDU that you are surveying has a Grade 1 or Class A listed status, what would you be required to do? Select all that apply.</p>	

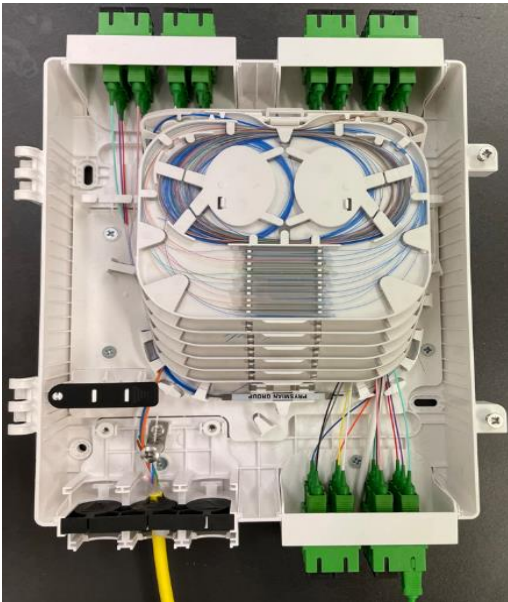
	<p>A. Contact the Local Planning Authority (LPA).</p> <p>B. Liaise with relevant historic body.</p> <p>C. Speak to the building owner if work is internal to see if the listed status is relevant to internal structures.</p> <p>D. Contact the Local Roads Department for permission to set up a site.</p> <p>E. Select all.</p>	
		1
8	<p>If an internal copper Distribution Point (DP) already exists in the MDU but no wayleave can be found, can we install new apparatus?</p> <p>A. Yes, as copper exists in the MDU already no wayleave is required.</p> <p>B. Yes, if we have engaged with the property owner and they are happy for us to do so but a must arrange a wayleave to secure tenure and maintenance protection.</p> <p>C. No, not without a wayleave.</p>	
		1
9	<p>When proving a duct into an MDU at survey stage, what must be sealed after?</p> <p>A. The ducts must be sealed with bags expanding from the Underground (UG) structure that feeds the MDU</p> <p>B. All ducts connected to the Openreach duct network which terminate inside any structure, irrespective of ownership, must be sealed against the egress (exit) of gas or water from the duct into the structure.</p> <p>C. The UG box lid that feeds the MDU must be sealed to prevent crime</p>	
		1
10	<p>When undertaking your Building Risk Assessment, what register must you ask for if the building was completed before the year 2000?</p> <p>A. The Asbestos Register</p> <p>B. The Rare Insects and Birds Register</p> <p>C. The Residents Occupancy Register</p>	
		1
11	<p>The survey is the most important part of the Plan and Build (P&amp;B) stage. What must we consider when planning an MDU? Select all that apply</p> <p>A. The cost of the build, if we plan in excess cost the building may not be in scope for the project</p>	

	<p>B. The location of each MDU component, have they been placed in the best location for that particular MDU</p> <p>C. We must remember the ultimate goal is for the Lead 2 Cash (L2C) journey to be achievable on the day of provision.</p>	
		1
12	<p>MDU Policy states we have different methods of deployment, can you name them? Select all that apply</p> <p>A. External build on the wall</p> <p>B. Internal build</p> <p>C. Combination of Internal and External</p> <p>D. Pole fed using Single Dwelling Unit (SDU) methods</p> <p>E. Underground with a CBT within 150m for up to 4 premises</p>	
		1
13	<p>When an MDU can be built fully externally, what policy covers external build?</p> <p>A. ISIS: NWK/LNK/C321 – FTTP – External MDU - Policy</p> <p>B. ISIS: NWK/LNK/C598 – FTTP – Discrete Façade - Policy</p> <p>C. ISIS: NWK/LNK/C542 – FTTP – MDU External Build - Policy</p>	
		1
14	<p>When planning for external build on a wall, it is now mandatory we use the new smaller block terminals. As you can see in this picture they greatly reduce our footprint on a building. What are they called?</p> 	

	A. Discrete CBT B. Pushlock Miniature CBT C. SC/APC Mini CBT	
		1
15	When planning to install CBT's on the wall, what rules must you follow?  A. You must not cluster the CBT's in one location and the maximum distance from the CBT to customer is 30m B. As per the MDU policy, you can only install 4 port CBT's on a wall C. The CBT must be placed within 1m of the copper DP	
		1
16	What is the maximum ladder height the L2C journey can be completed from?  A. 3.5m B. 4.8m C. 6m	
		1
17	When surveying externally accessed flats, with no internal riser, which components should we deploy?  A. Internal 4 port CBT, Cable Optical Fibre (COF) 951, Point of Entry (POE) Box B. External 4f EZ-bend, Basement Box C. Mpack Cable, Nexans Wall Box & Slim Box	
		1
18	Mpack cable comes in 200m lengths and also in black and white. Which fibre counts are available for this cable? Select all that apply  A. 4f B. 8f C. 12f D. 24f E. 48f	
		1

19	<p>This is a picture of the Nexans Wall Box, what is the primary function of the box?</p>  <p>A. The box is an external Fibre Distribution Point (DP)          B. The box is the point where an Overhead (OH) or UG fibre cable will transition to the Mpack cable.          C. It's used as a gas seal when the external cable enters a building</p>	
		1
20	<p>Mpack cable cannot be introduced into a Termination Multi-Function (TM) Joint, however, what advantage does the cable have over existing cables?</p> <p>A. It comes with a self-adhesive system, meaning quicker installation          B. It has the new fibre core, allowing faster speeds          C. It can be run internally and externally, stopping the need to transition the cable at both ends</p>	
		1
21	Can you identify the closure in the picture	

	 <p>A. Fat box is the storage point for any spare fibres in the Mpack cable  B. Slim box is the point where the Mpack cable is cut into and where the fibres will be spliced to a connectorised pigtail  C. Skinny box is the test point for L2C on each floor in an MDU</p>	
		1
22	<p>This is a picture of a basement box, can we splice customer feed cables in here?</p>  <p>A. No, this is only to be used at a transition box from external to internal cable  B. Yes, the basement box has capacity for one input cable and 10 output cables. The output cables can be a mixture of EZ-bend and Invisilight</p>	

	cables. C. No, only high fibre count cables can be introduced into this closure	
		1
23	<p>We have introduced a new fibre enclosure, the Universal Fibre Solution (UFS). What can it be used for? Select all that apply</p>  <p>A. It can be used as a Splitter Node (SPN) B. It can be a transition node for external cables entering a building C. It can be a distribution point on individual floors. D. It can be a POE Box</p>	
		1
24	<p>At the P&amp;B stage a UFS closure containing a splitter, is installed in the lowest floor of the building. If the THP requires multiple splitters, which method is used to install additional UFS closures?</p> <p>A. All extra UFS closures need to be cabled from the building service area / building ingress point. B. If a building requires multiple splitters the UFS closure cannot be used C. The build should be daisy chained using either a COF 950 or a COF</p>	

	401	
		1
25	<p>When cabling from external to internal we must transition the cable. What is the maximum distance we can enter a building with external cable?</p> <p>A. 1m. B. 2m. C. 3m.</p>	
		1
26	<p>When cables are passed through walls or floors what must we do?</p> <p>A. Record the cable route on the building register B. The cable pass through guide must be used C. All cables must be fire stopped</p>	
		1
27	<p>When planning to install cables via risers, trunking or cable trays, what rule must we follow to be complaint with the fire safety standard?</p> <p>A. We must install fibre warning labels on the cables every 2m B. We must ensure there is 100mm of separation from power cables C. We must maintain a minimum of 30mm separation from power cables at all times</p>	
		1
28	<p>When planning a new cable route, we can use existing trunking but only in which circumstances?</p> <p>A. The cables in the trunking have a maximum voltage of 180v B. We can only share trunking if the cables have AC voltage below 120v C. There are no cables with AC voltage present in the trunking and cables with DC voltage are below 120v</p>	
		1
29	<p>If you need to cross cable trays with power cables running along them, what must you provide?</p> <p>A. Pictures for the building owner B. Fire Retardant Trunking or Kopex provided at 90° to the direction of the power.</p>	



	C. COF 9001 is the only cable we can use when crossing power tray	
		1
30	Internal MDU builds are classed as above ceiling or below ceiling, which cable is used for the below ceiling build?  A. Invisilight cable B. COF 730. C. COF 201.	
		1
31	Invisilight cable is available in different variants, what are they? Select all that apply  A. 4f B. 8f C. 12f	
		1
32	Can a POE box be located in a riser if it's near to the premises?  A. Yes, as long as the L2C journey has been considered and at least one conduit has been proven into the customers premises B. No, all POE's need to be above the door. C. No, risers must only be used for cabling between floors.	
		1
33	When surveying the location of the POE box, on an Invisilight installation, where must it be located?  A. It must be installed in the centre, directly over the door B. There is no specific location that it should be installed, however the best location should be determined at the P&B stage C. It must be installed no higher than 1.8m	
		1
34	If the MDU is being served with an above ceiling solution, where must the POE box be installed?  A. The POE box needs to be brought down through the ceiling and placed above the door. B. The POE box needs to be installed above the door in the ceiling void.	

		1
35	<p>Can Invisilight 12f cable be installed in the ceiling space?</p> <p>A. Yes, as long as it is installed following current Fire Safety Standards.  B. No, Invisilight cable must not be deployed above the ceiling.  C. Only if no other space is available and the planner agrees.</p>	
		1
36	<p>Can a UFS closure being used as a Floor DP (FDP) be shared over multiple floors?</p> <p>A. Yes, if the fabric of the building or THP lends itself to this deployment.  B. No, it is mandatory to feed only one floor per UFS.  C. No, UFS closures are designed so that only address points on the same floor are fed from each one.</p>	
		1
37	<p>If a small MDU is fed via a pole, what can be done to avoid the need for multiple drops to be erected?</p> <p>A. Duct solution from pole to the building.  B. Locate CBT on the building and span the feed to the pole.  C. Nothing, the CBT must be installed on the pole.</p>	
		1
38	<p>The maximum number of splitter legs per splitter to be used will remain as 30 from 32. In what circumstance would we use all 32 legs?</p> <p>A. If the building has a maximum of 32 Total Homes Passed (THP)  B. When the splitter has faulty outputs, we can use the spare capacity.  C. If the building owner submits a 100% THP build request form.</p>	
		1
39	<p>When confirming the address points on each floor you notice that there is one that has not been included, what action should you take?</p> <p>A. List all address points on your survey return.  B. Ignore it as it was left off the planned build project.  C. Ask the customer if they want service and leave it off of the build.</p>	
		1
40	If the MDU has been surveyed to be an internal build and the POE box	

	location is at the customer's door, which Survey Network Note (SNN) would you select?  A. MDU possible access issues B. MDU possible wayleave issues C. MDU no anticipated issues	
		1
41	If the MDU has been surveyed to be externally fed from a pole in a location that is not freely accessed, what SNN would you select?  A. Overhead access to CBT restricted B. OH issues, survey required C. OH Issues, wayleave required	
		1
	Total	

## 9 *Modular Guidance (Practical)*

The below table should be used as a guide for the Assessor to accurately assess the Delegates knowledge and ability during the practical assessment.

Coaching Marks 'C' are explained in the Measurement section and the total allowed can be found in Delegate Details.

If an Assessment Pointer is followed by an 'X' then not only is no coaching allowed, but failure to meet the standard on the Assessment Pointer means that the standard has not been met for the accreditation as a whole.

Task Assessment	Assessment Pointer		Document Guidance
<b>Prerequisites</b>	Successfully completed.	X	AEI/ACC/S013
<b>Questionnaire</b>	Completed 80% or above.	X	
<b>Trained /Skilled</b>	Is the Delegate experienced and craft competent in this skill?	X	

<b>Safety</b>	All safety procedures followed, and safe working practices adopted.	X	<u>EPT/ANS/A022</u>
	LSBUD (Line Search Before you Dig) process followed.	X	<u>SFY/HSB/D053</u>
<b>Risk Assessment</b>	An on-site risk assessment should be carried out.	X	
	Asbestos register checked if the building was built before the year 2000	X	
<b>Personal Protective Equipment (PPE)</b>	Correct PPE held, in good condition and used where necessary.	X	
<b>Environment</b>	Weather conditions considered before commencing work.	X	
<b>Equipment Available</b>	Delegate has the correct tools and they are in good condition to complete the task to the current work practices and quality standards.	X	<u>EPT/UGP/B009</u>
	Tools used correctly and safely.	X	
<b>Survey Process</b>	Delegate understands job documentation and plans.	X	
	Delegate understands current FTTP MDU Policy.	X	<u>NWK/LNK/C563</u>
	Delegate understands current FTTP Discrete Facade Policy	X	<u>NWK/LNK/C598</u>
<b>Underground Network</b>	Correct underground structure types identified.	C	
	Delegate understands correct use and requirements for underground structures when siting equipment.	X	<u>NWK/LNK/C573</u>
	Duct space limitations identified and considered.	X	
	MDU ducted lead ins correctly identified.	C	
	Joint boxes assessed correctly to accept new duct.	X	
<b>Basement box / UFS</b>	External duct can be accessed for the build, if not civils solution required.	X	
	Basement box only deployed if no room for UFS	C	
	Safe area identified for cable transition, max 2m.	X	

	First splitter location preferred location is the ground floor	C	<u>NWK/LNK/C563</u>
<b>Floor Distribution Point / UFS</b>	Survey considers best location for UFS when location them for distribution. One closure can feed multiple floors	C	
<b>Cabling</b>	Above ceiling or below ceiling method selected.	C	
	POE box location the ultimate consideration when planning cable routes.	X	
	Agreement with building owner/factor for the whole build, including L2C journey.	X	
<b>Overhead Network</b>	Delegate can demonstrate knowledge of pole loadings.	X	
	Delegate understands overhead height requirements and climb heights.	X	
	Delegate understands Tree Cutting requirements and use of Protector Cable Abrasion.	C	
	D Poles considered and understood, can explain PIDOC.	C	
	Delegate understands EL joint user rules for fibre.	X	
	Delegate understands polling rules and restrictions.	X	
	Maximum span length considered.	X	<u>EPT/ANS/A011</u>
	Clear line of sight looked for at customers premises.	C	
	Platform access (if required).	C	
	Clearance when passing under or over EL cables.	X	<u>EPT/PPS/B026</u>
	Not attaching to EL joint user poles with no Licence for fibre.	X	
<b>CBT</b>	Delegate understands CBT dimensioning and limitations.	X	
	Wall mounted CBT's must be the new Pushlock kind	X	
	Wall mounted CBT's maximum distance from customers 30m	X	
	Delegate understands the correct height limitations of a wall mounted CBT. Maximum amount of floors the CBT can feed. L2C ladder height is 6m	C	

<b>Survey Return</b>	Correct NAD's captured in survey.	X	
	Correct Survey Marker and Survey Network Note's used if CBT left outside in UG structure.	X	<u>NWK/LNK/C563</u>
	A55 clearly showing the work required and meets A55 standards.	X	
	Permission to work paper work complete.	X	
	L2C journey is the ultimate consideration when planning the build and deciding the POE location	X	
	POE location agreed with building owner/tenants.	C	
	Good quality pictures of work positions and cable routes.	X	
<b>Regulatory</b>	Permissions identified where planning restrictions apply e.g. conservation areas, sites of scientific interest, and areas of outstanding natural beauty, National parks, Ancient monuments and Grade 1 / Category A Listed buildings Regulations.	X	<u>EPT/OAM/F026</u>
<b>Wayleaves</b>	All line plant requiring a wayleave clearly identified on survey return. Wayleaves must comply with current Network Regulation Briefings.	X	613 Network Regulations Policy Briefing  648 Network Regulations Policy Briefing

## 10 *References*

All the documents below are available through the sites and systems described in the Introduction section. If you require access to external sources within them, then please contact the Author (see above) of this accreditation module.

**Assessors Note:** All Openreach people should have access to the Policy & Build App via their work mobile phones. Please make sure that this app is accessed during the accreditation.

- EPT/ANS/A022 - Health & Safety Handbook (Openreach only).
- CPE/NNS/V060 - Guide to Health & Safety Minimum Standards.

- SFY/HSB/C031 - Openreach Construction Design Management (CDM) 2015 Regulations Policy.
- SFY/HSB/D043 - Working in Vicinity of O/H Power (LV & HV) and Joint User Poles
- EPT/ANS/A040 - One Fibre Network – Build Quality Manual for Engineers  
Additional reference material is available via the Author of the document (see above)
- SFY/HSB/D053 - Planning Excavations Including Hazardous Pipeline and Zone of Interest Process (HPP & ZOI)
- NWK/LNK/C563 - FTTP – Multi Dwelling Unit (MDU) and Multi Occupancy Unit (MOU) – Policy
- NWK/LNK/C598 – FTTP – Discrete Façade - Policy
- EPT/ANS/A068 - Survey Network Note's & Survey Markers
- EPT/ANS/A011 - Specification for Dropwire Work
- EPT/ANS/A014 - Specification for Overhead Route Stability
- NWK/LNK/C517 - JUP - Joint User Poles - Policy
- EPT/OHP/C031 - Working On D Poles, Including Joint User Poles
- AEI/AEC/B311 - Attachment of Plant to "D" and "SD" Poles
- EPT/ANS/A003 – Specification for UG Copper Cabling
- Network Policy Briefing No:898
- Network Policy Briefing No: 881
- Network Policy Briefing No: 883

<b>END OF DOCUMENT</b>
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