



# Specification for Poling Work

Access Network Policy



**DOCUMENT NO :**  
ACC/SPC/C001

**PUBLISHED :**  
19/06/23

# Version History

DATE	Version NO.	Comments/ Revision	Author Details	Approved By
19/04/2022	1	Initial Version	Frank Brankin	John Roden
9/5/2022	1.1	Revision	Frank Brankin	John Roden
19/06/2023	1.2	Document layout, Use of reflective strips for poles positioned on corners, Pole numbering process, Grammar and textual changes, Pole alignment/ stability check updated, Pole sign off process	Claytan Milligan	Frank Brankin



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# 1. Fibrus Poling Policy

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Fibrus Poling Policy defines a set of requirements / standards for direct labour, Poling Contractors and their people (operatives) when building the Fibrus telecommunications network. This Policy has been benchmarked against Openreach and other CPs' poling policies, to ensure uniformity of quality and safety standards across the telecoms industry.

Fibrus expect contractors to have suitable expertise, competence and resources for poling works as defined in this specification. No attempt should be made to carry out the work if such expertise, experience and resources are not available.

It is the operatives' responsibility to carry out Risk Assessments before starting, and during, any poling work.

At all times adherences must be paid to the guidelines as detailed in HSG47 - Avoiding Danger from Underground Services.

At all times adherences must be paid to the guidelines as detailed in HSE – Avoiding Danger from Overhead Power Lines Guidance note GS6 (4th Edition).

Pole locations should be in accordance with Department of Transport guidelines, so that they avoid creating safety hazards to physically and visually disabled people.

Consideration should also be given to the following aspects which may impact on the installation and maintenance of the pole:

- Safe access including Ladder positioning
- Pole testing
- Access by Elevating Platform
- Surface reinstatement requirements following pole testing
- Pole replacement
- Adherence to minimum cable heights
- Distance from High Voltage (Underground and Overhead)
- Separation distances from other poles and cables.
- Proximity to open water (reservoirs/lakes)

Poles shall not be modified on site by the operative without prior approval from Fibrus Works Originator. Any additional drilling of poles should be done as per manufacturer's specification.

All operatives working in the Fibrus Network must adhere to the OFCOM Code of Practice relating to Electronic Communications Code and the Electronic Communications Code (Conditions and Restrictions) Regulations 2003 and Part 16 of Schedule 2 to the Town and Country (General Permitted Development) (England) Order 2015 (GPDO) and the guidelines and safe working practices outlined in Section 4 of this document.

These requirements ensure Fibrus achieves the required outcomes in terms of meeting the strategic direction, architectural design, financial targets and quality standards for the Fibrus network.

This document forms a part of the authorised portfolio of Fibrus' Network Policy documentation. Adherence to these standards and policy is mandatory. Any deviation presents a risk to the required outcomes and will be subject to future compliance audit / checking.

Poling installations which do not meet this policy, will fail any audit, and remedial action will be at the contractors' expense. Delays will also ultimately jeopardise Fibrus' ability to provide service to our customers in a timely manner.

Caution: Policies are liable to change therefore you must ensure you are using the most recent copy from a controlled source i.e., the Fibrus Library

## 2. Introduction

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This Document forms part of the Access Network Specification range of Technical Documents and is applicable to both Fibrus Direct Labour and External Contractors. The information below details the installation requirements to meet the policy for the provision of Poles within the Fibrus network. Practices and items of plant are only detailed where necessary to ensure that the Fibrus Network and plant is not compromised.

The reference section of this document is not an exhaustive list of legislative and industry documents to be adhered to when erecting poles, however as a minimum requirement , all poles should be erected to meet the standards required in the documents listed.

Poles in the Fibrus Network are classed as: -

CP (Carrier Pole) – pole carrying fibre cable with or without fibre joint.

DP (Distribution Pole) – pole carrying fibre cable with fibre ODP/MPT (Optical Drop Point/Multi-Port Terminal) for distributing fibre to customers.

## 3.0: SCOPE

This document details the Fibrus Poling policy for the fibre delivery from the Fibrus Cabin / Cabinet through the Fibrus network to the ODP/MPT that will be used to provide a connection point to the end user.

This document will cover: -

**Pole Siting**

**Pole Dressing/Furniture**

**Pole Excavation/Erection**

**Pole Reinstatement**

**Pole Post-Installation checks**

## 3.1 Pole Siting

Poles shall be of the correct size and type as detailed in Fibrus Planning documents (CLD – Construction Level Design) and for the specific site circumstances.

The operative may move a CP pole by up to 5 metres, without authorization, if the span distances between poles does not exceed 68 metres.

If there is a requirement to re-site a DP pole for more than 2 metres, they should seek authorization from the Work Originator before starting any excavation. This is especially important as it may impact the number of premises which can be cabled from the pole.

The new Pole shall be positioned such that a Pole Test can be completed. If less than 50% of the pole circumference can be accessed, the works originator will need to approve the siting.

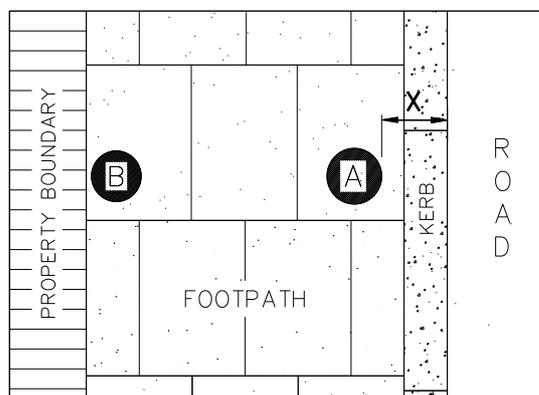
All poles need to be sited such that:

- Required minimum distances from High Voltage to pole and attached cables are met.
- Wires that are attached to the pole will have the required clearance distances between other poles and cables and clearance height from ground.
- There are no other hazards within 1metre of pole.
- Distance to open water (lake / reservoir) is more than 5 metres.
- The clearance distances as stated in The Electricity Network Association Technical Specification PO5 Issue 5 + Amendment 2020 are met when siting a pole.

Note Also that The Overhead Power Glove Box Guide should always be referred to when working on a pole that is in close proximity to power.

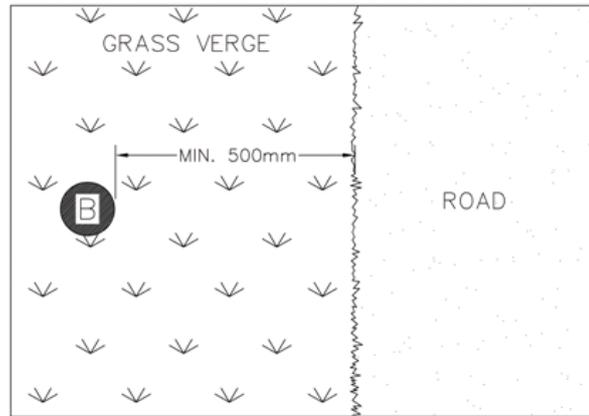
- Only poles supplied by an authorised Fibrus Supplier shall be used.
- Poles must always be handled with due care to prevent damage.
- Poles must never be dropped during the installation process.
- Poles which suffer mechanical damage, or which have been dropped must not be used unless they have been examined by an assigned Fibrus Engineer and approved for deployment into the Fibrus network.
- Where a Pole is to be provided in Verge, Footway, Kerbed areas, the following considerations apply: -
  - The preferred position for Poles is on the Property boundary side of the Footway.(See "B" in Fig 1)
  - Wherever possible / practical, a minimum of 1.2 metres clearance should be maintained in the footway for pedestrian access.
  - Wherever possible, on made up Footpaths or Grass Verge, the Pole position should be a minimum of 500mm from the Kerb Stones or other edges (See "A" in Figure 1). On very wide footpaths this may be increased depending on the position of other utilities. The 1m Footway clearance takes precedence over this requirement.

Figure 2 below shows the minimum distance to road when there is no footpath.



**Figure 1:**

- A = Minimum Distance for Pole from kerb edge
- B = Preferred Pole position for Poles in Footway (Note X = 500mm)



**Figure 2:**

B = Where no Footpath x=500mm min.

In cases where the 500mm distance to the road cannot be achieved, the works originator should be consulted to determine course of action.

## 3.2 Pole Dressing – Furniture/ Fittings

Provide and fit pole furniture as detailed in this document.

### Wood Poles

#### Ring, Pole Head – DP poles only

This is the current standard fitting used to support wires at the pole top. It should be secured by a single bolt. The lock nuts must be fitted. The Ring, Pole Head shall be located into a hole pre-drilled at approximately 200 mm from the pole top.

If no hole exists, then a hole should be bored to accommodate a 16mm bolt, 200 mm down from the top of the pole.



Fibrus Part No: 500120

#### Universal Pole Bracket – CP poles

Universal Pole Bracket (UPB) should be fitted to all new CP poles



Fibrus Part No: 500098



Fibrus Part No: 500126

**Pole Steps**

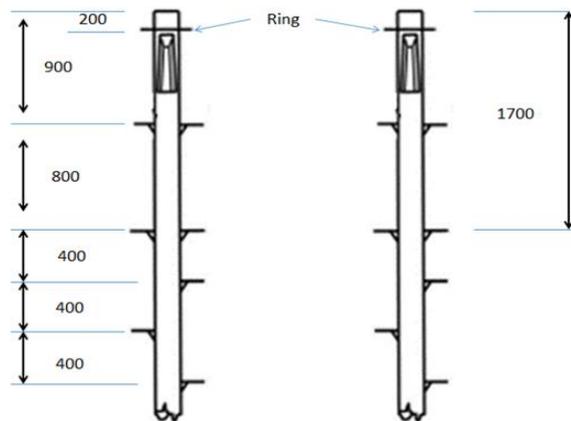
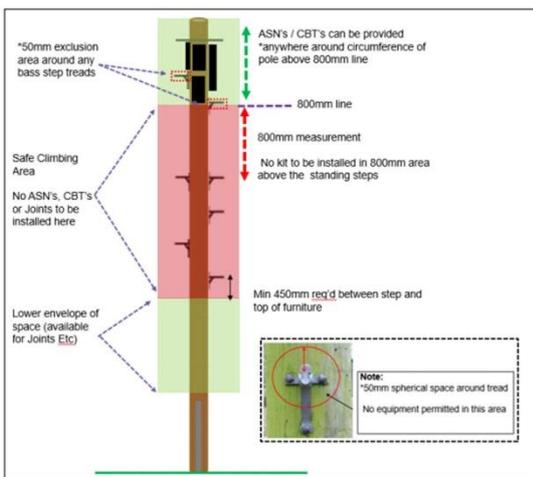
A set of galvanized steel steps is to be provided in accordance with the Specification.  
(Pole steps are not to be fitted on hollow poles).



Fibrus Part No: 500097

The pole steps shall be positioned as follows: - (see example diagram below)

The pole climbing steps shall normally continue to within 4.5m of the ground, lowest step to be 4.5m from the ground level, or in the case of sloping ground, to a height above ground level detailed by the Fibrus Planner. Only working steps should be fitted at positions less than 4m from the ground.



**Standard Stepping**

*Special attention should be given to the alignment of steps relative to the road position, and consideration given to the likely location where a ladder will be placed to allow climbing of the pole. This is to allow the ladder, used to climb the pole, to be placed on the footway or path without blocking it or encroaching towards the road. The Steps on Angle poles should be fitted to bisect the angle, so that it is possible for all work to be done from outside the angle. Where Universal Pole Brackets (for Fibre Cable) are to be fitted (Fibrus Part No: 500098) remember that access to both sides of the cable will be required. Wherever possible allow for safe turning on the pole to avoid the necessity of descending and ascending the pole.*

**The above process is the standard practice. However, this may be modified if an on-site safety risk assessment indicated that another layout would be beneficial in terms of safer access or other working arrangements.**

The pole steps shall be secured to the pole using screws coach (Fibrus Part No: 500100), which are designed to be driven in with a hammer, for all but the last 12 mm.



Fibrus Part No : 500100

**IT IS ESSENTIAL FOR SAFETY REASONS THAT THE LAST 12 MM OF THE COACH SCREW BE SCREWED HOME.**

The coach screws shall be driven into the pole so that the head of the coach screw beds firmly on the pole step, when finally screwed home the final 12 mm. When fully installed, the heads of the coach screws shall bed firmly on the step, with a minimum of one flat edge hard against the metalwork.

The coach screws must be fitted in sound timber. They must never be driven into cracks or other minor flaws or where old steps have been removed from poles in service. Holes left by the removal of coach bolts must be plugged with Plugs Creosoted.

**Pole depth verification**

**Conduit 20 (Fibrus Part No 500087) & Plug Conduit 20 (Fibrus Part No 500070)**

*All wood poles shall be installed with a length of conduit down the side to allow for confirmation of compliance to depth and integrity regulations.*



*Conduit 20 is supplied in 2.3m lengths. Before attaching to the pole, this should be cut to length using a hacksaw so that approximately 150mm will be showing above the reinstatement.*

*The conduit 20 shall be fitted making sure that the bottom end is flush with the butt of the pole and the top end is accessible and will not interfere with any cable/duct feeding the pole or the plugs which are fitted top and bottom.*

*Five Staples Galvanized 65mm (Fibrus Part No 500071), equally spaced, should be used to secure the conduit to the pole. The top staple should be located 100mm from the end to allow removal of the plug. Care should be taken, when driving in the staples, not to crush or damage the conduit.*



### Hollow poles

*Hollow poles may be used only when directed by or agreed with the works originator.*

*Hollow poles are available in Light and Medium weight and compare directly to Light and Medium*

*wooden poles*

### Cap Pole 1A

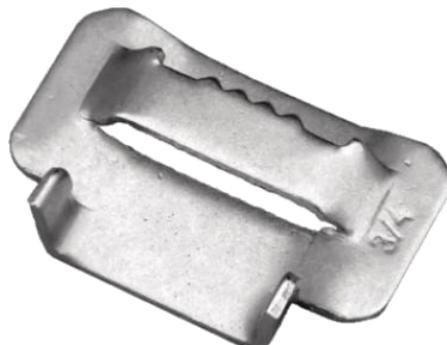
A mushroom shaped Glass Reinforced Plastic moulding shall be fitted to the top of hollow poles. No special tools are required to fit the Cap and unnecessary force should not be used. The cap should be offered to the pole head and pushed home by hand only. **DO NOT USE HAMMERS.** Where the cap is loose on the pole it should be packed out with adhesive tape.

### Universal Pole Bracket

The range of poles are available in 'Light' and 'Medium' gauge with lengths of 9 & 10 Metres and equate directly to the Light & Medium wooden poles. A Universal Pole Bracket can be fitted using stainless steel banding and buckle. A Ratchet pole banding tool such as Mills part Number S83-1699 or equivalent should be used for tightening the band to the pole.



**Fibrus part number for Banding :500402**



**Mills Ratchet Pole Banding Tool S83-1699**

**Fibrus Part Number for Banding Buckle : 500403**

**Poles positioned on road corners**

At times Fibrus poles may have to be positioned on the corner of roads. As this poses a potential safety risk these poles must be fitted with reflective pole strips so that they are clearly visible to road users and pedestrians.

Depending on pole visibility or position the stripes should be positioned so that a road user can identify it as soon as possible.

A vertical reflective strip should be attached to the pole (mounted approx 100mm below the 3M mark on the pole)



## 3.3 Pole Excavation/Erection

Pole Excavation: - Operatives to carry out all necessary excavations in connection with this specification, and to remove and dispose of all excess spoil from the site. Operatives to follow guidance as referenced in New Roads and Street Works Act or the Code of Practice: Titled Specification for the Reinstatement of Opening in Highways.

The preferred method of digging is to use an auger. If another digging method is employed, then authorisation should be sought from works originator. This will enable a follow up inspection to be performed.

Before excavating the operatives must have carried out the necessary Safe Digging practices. The operatives must ensure to have searched thoroughly for the presence of any buried services.

Pole Erection: - Operatives to erect pole following all Health and Safety guidance as referenced in New Road and Street Works Act or the Code of Practice: Titled Specification for the reinstatement of Opening in Highways

At all times care must be paid to follow the guidelines as detailed in

HSG47 - Avoiding Danger from Underground Services

HSE - Avoiding Danger from Overhead Power Lines Guidance note GS6 (4th Edition)

### Pole Depths

The depth at which a pole is to be set in the ground varies with the characteristics of the soil. Under average conditions (i.e., all soil conditions except poor), poles **must** normally be set to a depth of 1.2 metres to 1.8 metres according to their length (i.e., 6 m 1.2, 15 m 1.8, all pole lengths in-between in proportion).

Pole Length	Carrying Pole (CP)		Distribution Pole (DP)	
	Good/ average soil	Poor soil	Good/ average soil	Poor soil
6	1.2	1.5	1.5	1.8
7	1.3	1.6	1.6	1.9
8	1.35	1.65	1.65	1.95
9	1.4	1.7	1.7	2.0
10	1.5	1.8	1.8	2.1
11	1.55	1.85	1.85	2.15
12	1.6	1.9	1.9	2.2
13	1.7	2.0	2.0	2.3
14	1.75	2.05	2.05	2.35
15	1.8	2.1	2.1	2.4
<b>For Poor Soil see definitions below</b>				

**Table 1: Standard Planting Depths for wood poles**

Poles classified as DPs are planted deeper than route poles. This is to allow for any unplanned out of balance loading. It is usually 300mm in normal or good soil, and 600mm in poor soil – however refer to table (1) above for specific depths.

*Poor soil is: Soft clay, clay loam, poorly compacted sand, clay containing a large amount of silt and vegetable matter, made up ground etc. Poor soils often have poor drainage and may be wet.*

In "made up ground" or where the soil is exceptionally loose (poor ground), increased depths must be allowed.

Poles which were classified as carrier poles at the time of installation, but which are subsequently changed to DPs do not require to be re-installed at greater depth. If the pole has an excessive out of balance load, which subsequently leads to lean beyond 5°, then the pole should be reported to the Fibrus Work Originator.

Poles must be set at adequate depth to ensure stability of the pole in the ground with the following aspects taken into consideration:

Site conditions at the pole hole location.

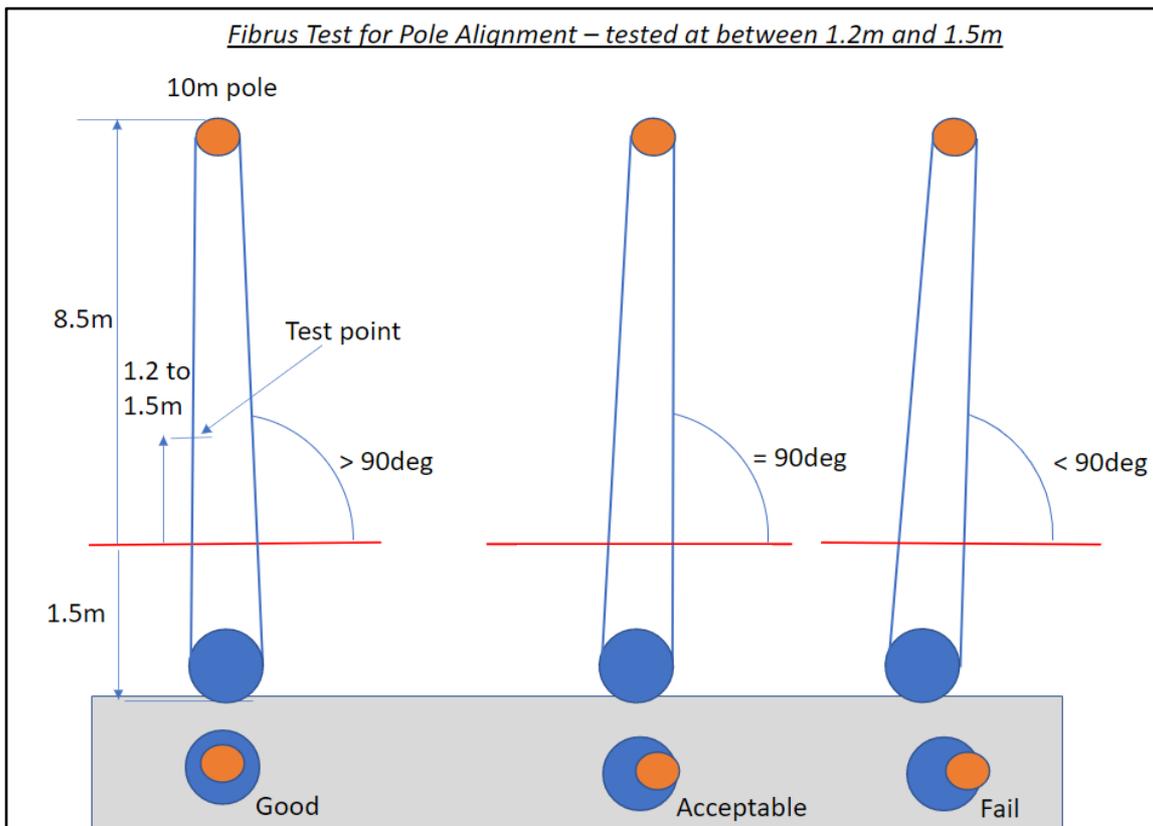
Changes in ground level adjacent to the Pole.

If the pole is still unstable when inserted in the ground to the depths in the table above, then any additional depth should be agreed with the Fibrus Work Originator.

**Pole Alignment**

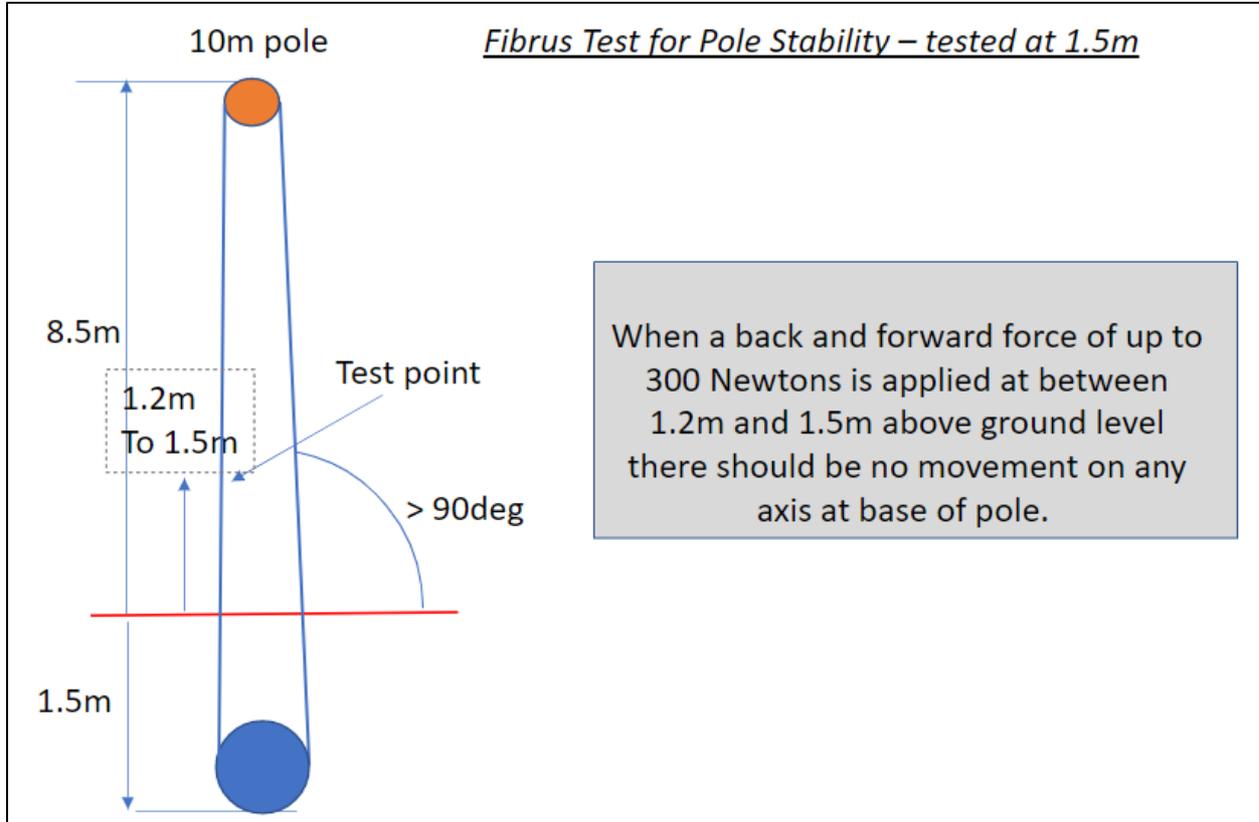
All measurements to be taken at 1.5 metre above ground level.

Poles must not deviate in any vertical plane (N-S & E-W) to less than 90 deg. (refer to diagram below)



**Pole Stability**

When a force of up to 300N is applied at a height between 1.2 - 1.5 metres above ground, there should be no movement at ground level.



Document ACC/SPC/C002 details how Fibrus will carry out test of pole stability.

To satisfy the requirements of pole installation all poles must be inserted at the required depth and external factors considered such as the poles location and ground conditions that the pole is being installed in.

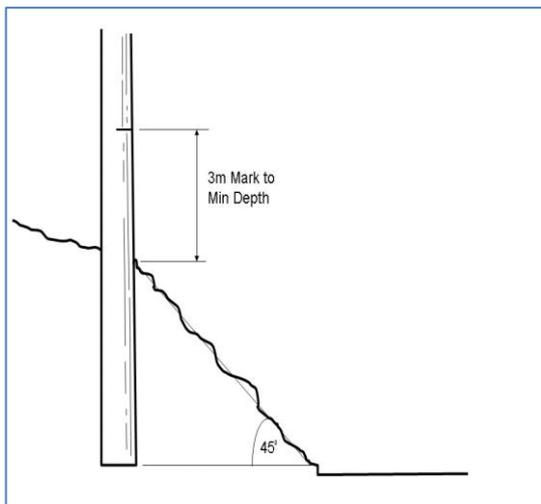
**Poles in Banks/Slopes**

Increased depths must also be allowed where poles are set in banks, since there would be a liability of the side of the bank giving way under heavy stresses.

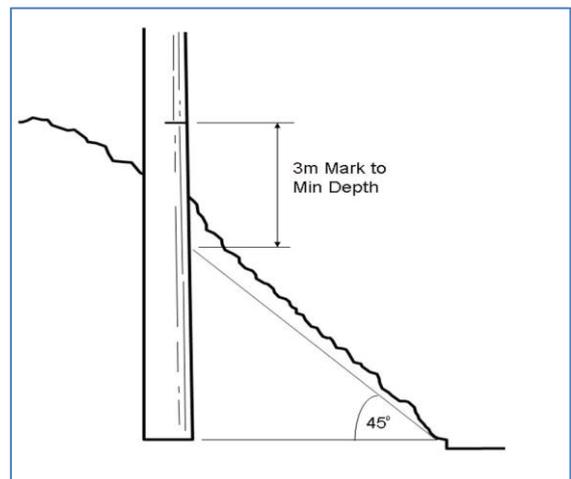
Poles should be set to the depths identified in this document. However, when poles are set into the side or near the edge of banks or ditches it should be ensured they are set at adequate depth by additionally considering the slope and nature of the ground.

As a guide, when a pole is set at adequate depth, a line drawn from a point on the pole at ground level, to a position of no more than 45° to a horizontal line from the pole butt would always be contained in the undisturbed soil of the bank (see Figure 4, 5 and 6).

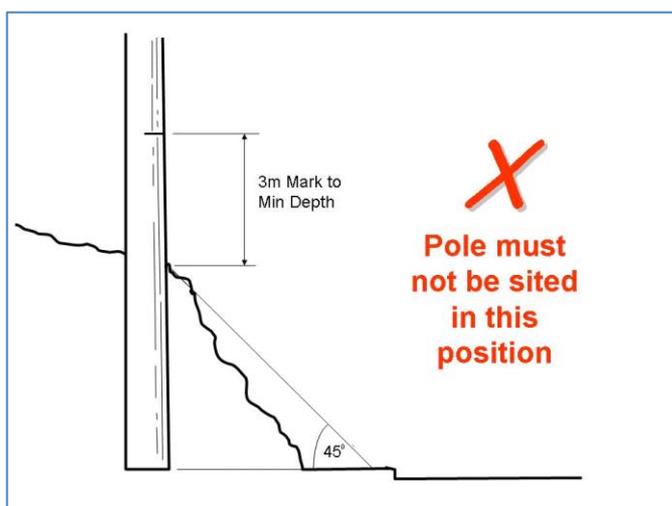
A 1:1 base to height ratio would achieve this. This assumes the pole is in reasonably drained, well compact, undisturbed ground.



**Figure 4: Pole set on 45deg of bank**



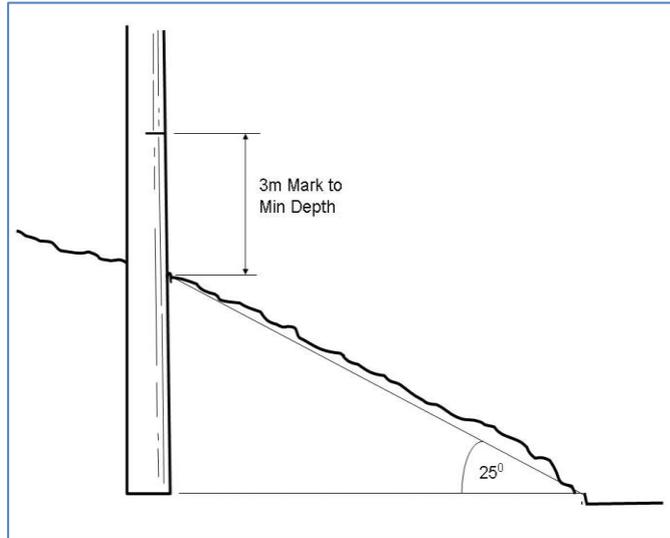
**Figure 5: Pole set within 45deg of bank**



**Figure 6: Poles set greater than 45deg of bank**

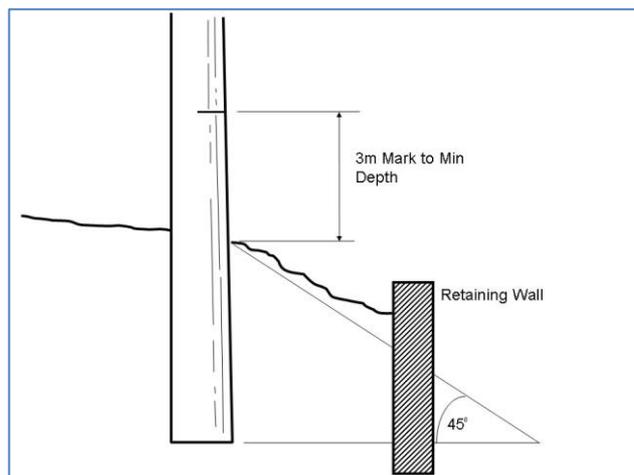
Additionally, the following should be considered when assessing the slope and stability of the bank.

If the pole is in soft or wet ground or a bank or ditch has been dug out and backfilled the maximum slope angle should be much less than 1 in 1 (see Figure 7). A maximum of 1 in 2 (25°) is a guide; and for soft or very wet ground (for example marshy) it may have to be as low as 1 in 4 (15°).



**Figure 7: Pole set in soft or wet ground**

If the pole is set in long established undisturbed, very stable soil, or the bank/ ditch side is supported in some way (see Figure 8), then the angle may be greater than 45°. For example, some steep banks in rural lanes are old and very stable.



**Figure 8: Bank supported by retaining wall**

Do not allow for any stability from cables or stays when assessing the planting depth of a new pole.

Particular attention should be paid to any features which may change, such as ditches which may be dug out.

The ladder position of anyone climbing the pole cannot be assumed to add to the stability of the pole. The person may turn on the pole and tension wires away from the ladder.

Any unsupported pull-on-pole may decrease the stability of a pole set in a slope by causing gradual failure of the supporting soil over time due to fluctuating loads. This may be made worse if the pull is trying to lever the top of the pole out of the bank.

## Standard Planting Depths for Wood Poles

For audit purposes the depths in Table 1 will be taken as the minimum. The depths should not be exceeded by more than 150mm. This is to ensure that cable clearance heights are not affected. If it is necessary to replace spoil in a pole hole prior to planting, to comply with the above, ensure it is fully compacted.

Wood poles which are to be used as distribution points must be set at least 1.5m into the ground.

For hollow poles, the depth in the ground shall be 1.5m (top of door aperture 1.6m above ground level).

**UNDER NO CIRCUMSTANCES SHALL THE BUTT END OF ANY POLE BE SHORTENED OR MODIFIED EXCEPT FOR AN APPROVED SLOT WHEN FITTING A BLOCK.**

### Exceptions to Standard Pole Depths (Hand dug Poles in Urban Area's)

Guidelines for use of alternative planting depths:

The depths detailed here are ONLY applicable where the pole hole has been manually dug.

In ALL instances where the mechanical auger has been deployed, the original depths must be adhered to.

It is necessary to continue to determine the ground/soil conditions, there are three soil classifications "Good", "Average" and "Poor". (See definitions in table 2 below)

Account must be taken of the nature of the buildings, and as these revised depths are only to be used in urban situations, there are only two categories, terraced buildings (i.e., with little or no gaps between) or semi-detached.

#### Definition of urban:

Part of a Town, City or other large conurbation which has a reasonable density of population and is in a generally low lying or unexposed area of the UK.

**Soil / Ground Classifications**

<b>Good</b>	Compact, well graded sand and gravel, hard clay, well graded fine and coarse sand, decomposed granite, rock and soil. Good ground conditions should be well drained and in locations where water will not stand
<b>Average</b>	Compact fine sand, medium clay, compact well drained sandy loam, loose coarse sand and gravel. Average ground conditions should drain sufficiently well that water does not stand on the surface.
<b>Poor</b>	Soft clay, clay loam, poorly compacted sand, clays containing a large amount of silt and vegetable matter and made-up ground. Poor ground conditions will normally be wet and have poor drainage.

**Table 2: Soil / Ground Classifications**

**Poles in Urban back gardens or similar urban locations.**

For Poles in these situations, it is necessary to assess the degree of exposure. Any pole which is considered "exposed" must be planted to the standard depth. These revised depths listed below (table 3) can only be for poles in "normal" or "sheltered" exposure. Again, these revised depths only apply where the pole is manually dug, if the auger is used, then the original depth applies. It is assumed that virtually all poles in these situations will be DPs.

**Definitions :**

Local knowledge of the surrounding country will provide an indication of the appropriate classification to be used. In general, the three degrees of exposure will apply as follows:

1. **Sheltered** – Where nearby hills, buildings, woods or other features protect the line from high winds.
2. **Normal** – Inland situations where there is no significant shelter from winds.
3. **Exposed** – Situations near most of the UK coast and over higher ground, where winds of high velocity and/or icing are more likely to occur.

Where there is doubt as to the class of exposure, use the higher rating.

Pole Size	Light Poles "normal" or "sheltered" only		Medium Poles "normal" or "sheltered" only	
	Up to 40m Garden Length	Up to 50m Garden Length	Up to 40m Garden Length	Up to 50m Garden Length
6	1.3	1.4		
7	1.4	1.5	1.4	1.5
8	1.4	1.5	1.4	1.5
9	1.4	1.5	1.5	1.6
10	1.5	1.6	1.5	1.6
11	1.5	1.6	1.6	1.7
12			1.6	1.7
<b>For poor soil (see definition) add 300mm in all cases</b>				

**Table 3: Revised Pole Depths – Urban "normal" or "sheltered"**

**Poles in Non-Urban Situations – Rural or Exposed**

All poles in non-urban situations must still be planted to the Standard depths. In most cases it should be possible to use the auger, but EVEN IF THIS IS NOT POSSIBLE, then the hole will need to be manually dug to the original depths.

**Other Exceptions to Standard Depth – Restricted Depth**

**Wood Poles**

Wooden Poles set in rock sockets and in stable rock backfilled excavations may be stable when the depth of the pole in the rock is as little as 0.9 m. Reduced planting depths are allowed where the minimum planting depth of 1.2m is achieved, provided the following conditions are met:

A minimum of 0.9m of the pole is in rock,

The type of rock complies with the definitions shown below

Definition of Rock The pole is recorded as restricted depth and the Fibrus Work Originator advised.

**Three types of rock are found:**

- Soft Rock – Means a bed of rock that may consist of a mass of hard stone containing fissures or seams; it not being practicable to excavate by fork and/or spade. Although it may be possible to excavate using an ordinary pickaxe, it would, if so excavated, result in a very uneconomical rate of progress and so necessitate the use of a compressor and pneumatic tools for economical excavation. Notwithstanding the foregoing definition, soft stone (e.g., chalk etc) shall NOT be classed as rock where excavation is by means of a mechanical excavator/digger/pole erection unit.

- Hard Rock - Means a solid mass of rock which may have seams but is virtually unaffected by a blow from a pickaxe and requires a compressor or blasting equipment to execute excavation.
- Boulder rock - Means a solid stone in boulder formation, similar in character to hard rock, having a measurement exceeding 380mm cube or volume exceeding 0.055cubic metre (e.g. (380mm x 380mm x 380mm) or (300mm x 500mm x 390mm) or approximate imperial equivalent measurements (12" x 20" x 16").

## 3.4 Pole Reinstatement

All reinstatements by the operatives will be carried out by following the New Roads and Street Works Act (NRSWA) and the associated Code of Practice titled Specification for the Reinstatement of Openings in Highways (ISBN 0-11-551143-1). This details the materials to be used and standards of workmanship that are to be adopted to achieve the prescribed requirements.

To satisfy the requirements of pole installation all poles must be inserted at the required depth and external factors considered such as the poles location and ground conditions that the pole is being installed in.

Reinstatement backfill and surround should be with the material excavated or as near as possible a match to it. If the material removed cannot be replaced for any reason, match the existing ground as closely as possible.

Where the excavated spoil from around the Pole is too wet to compact, Soil Stabilizing Agent may be mixed with existing spoil to provide a suitable backfill material. Exceptionally, Type 1 Granular Subbase may be used.

If the gap around the pole is insufficient to backfill with GSB Type 1 a smaller 10mm lean mix material can be used.

The pictures below show a newly erected pole that had no overhead connection attached and was installed to provide Fibre to the Premise (FTTP). The backfill used to reinstate was not sufficient and the level of compaction due to the 'POOR' ground conditions could not be reached. The introduction of Type 1 sub-base to the backfill would have allowed greater compaction and would have prevented the ground subsiding.



GSB Type 1

The material excavated whilst coring the hole should only be returned when the ground conditions are ‘Average to Good,’ not too wet and not containing clay. If non mechanical compaction is used, this should be returned in layers at 100mm intervals and continuously hand tamped. If mechanical compaction is used, compaction should be in layers not greater than 300mm.

The condition of the ground is a key element to review and determine the adequate depth to install the pole and required backfill materials to use.

If the spoil is too wet you will not obtain a suitable compacted mix and ‘Sub Base’ type 1 material will be needed to improve the adhesion of this material prior to compaction. The compaction around the pole should ensure all voids are eradicated and the stability of the pole meets the required standards. As referenced in document ACC/SPC/C002.

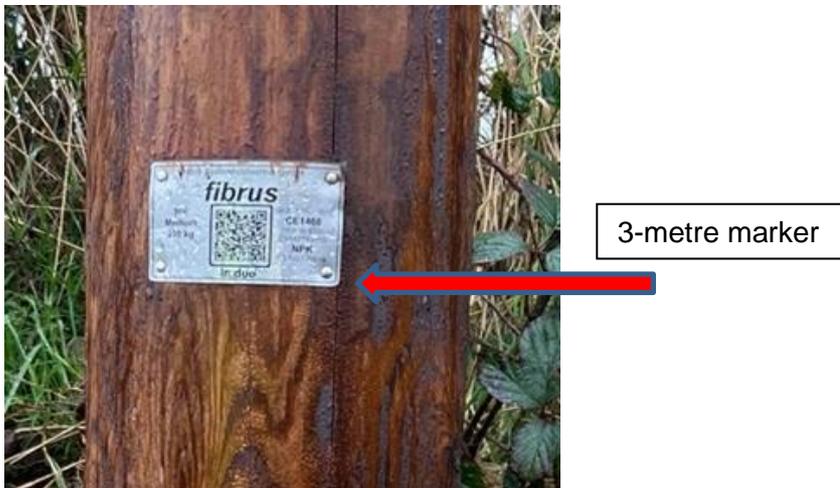
The compaction intervals should be as per the SROH standard for type 1 material (see table A2.2 below)

<b>Table A2.2 - Compacted Lift Thickness - Non-Bituminous Materials</b>			
<b>Material</b>	<b>Compacted Lift Thickness (mm)</b>		
	<b>Minimum at any point</b>	<b>Nominal Lift Thickness</b>	<b>Maximum at any point</b>
<b>CBGM B</b>	75	100 to 150	200
<b>C25/30 Concrete</b>	100	As required	As existing
<b>C32/40 Concrete</b>	100	As required	As existing
<b>GSB1</b>	75	100 to 150	200
<b>Classes A &amp; B</b>	75	100 to 150	200
<b>Classes C &amp; D</b>	75	100 to 150	200
<b>SMF-A &amp; SMF-B</b>	75	100 to 150	200
<b>SMF-C &amp; SMF-D</b>	75	100 to 150	200

## ERECTION OF POLES AND PLANTING DEPTHS

The pole should be inserted as per the guidance in section 3.3 and dependent on the ground conditions, height and type of pole being erected.

If pole has NO engraving showing the 3-metre marker, then for Fibrus poles the bottom of the label is the 3-metre reference marker. See Image of 3-metre marker (bottom of label) to capture correct depth.



## BACKFILL OF THE POLE

Having reviewed the ground conditions select the appropriate backfill material for the reinstatement and select an appropriate tamper method for compaction.

Compact the material in 100mm layers if manually compacting and 100 to 150mm for mechanical compaction.

In addition to the surface reinstatement down to a minimum level to satisfy the code of practice, reinstatement around poles which are considered as 'surround to apparatus', should be with the material excavated or as near as possible a match to it. If the material removed cannot be replaced for any reason, match the existing ground as closely as possible.

The final surface reinstatement is to match the existing surrounding at the base of the pole and comply with the SROH. Example shows re seeding the base to match existing turf.



Compaction of backfill is a key requirement in the reinstatement activity to ensure pole stability and mitigate the risk of long-term settlement. The excavated materials shall be placed around the pole and adequately compacted in maximum 100mm to 150mm layers.

Hand tamping/compaction may be easier due to the dimensions and nature of the excavation. A minimum of ten passes per layer with the hand tamper are necessary to ensure adequate compaction. If mechanical compaction is used a minimum of four passes per layer are required. When compacting always compact around the outside of the excavation first, then work inwards to the pole.

Where the excavated spoil from around the Pole is too wet to compact, Soil Stabilizing Agent (e.g., 'Perma-soil) may be mixed with existing spoil to provide a suitable backfill material. Exceptionally, Type 1 Granular Subbase may be used.

(Do not use Limestone granular backfill).

The code of practice will take precedent. Where the code does not ensure that the poles is stable, any gap around the pole should be filled with the excavated material (and stabilising agent where required). The material should be compacted in 100mm to 150mm layers.

## 3.5 Pole Post-Installation Checks

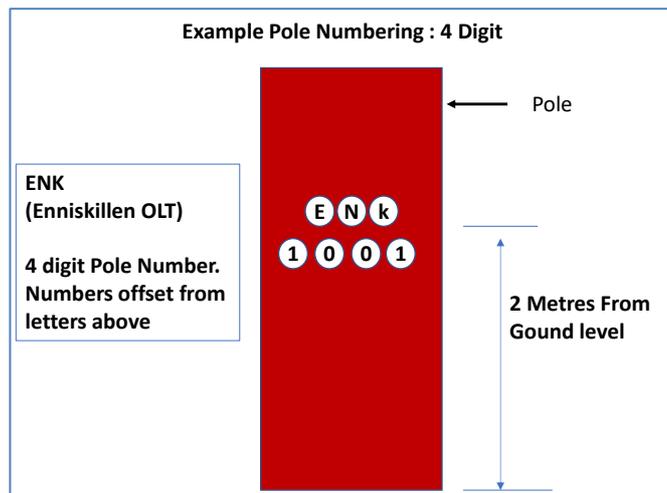
It is the operative's responsibility to ensure that the pole has been provided to meet or exceeds all the specifications listed in this document. The operative must ensure that the pole is within vertical limits and meets or exceeds the stability requirements as set out in Fibrus Pole Testing Specification document ACC/SPC/C006.

The Operative is to record the location of the pole, date of erection and photographs of reinstatement and forward to Fibrus Work Originator via agreed methods. The pole number should be attached to the pole and visible in the pictures provided. Where available, information on date of pole preservation, pole supplier, species, depot is also required to be captured and uploaded to Fibrus Asset management system/ Survey 123.

### Pole Number

The pole number should be positioned on the 'front' face of the pole that will be visible when approaching the pole. The number will be directly below the Universal Pole Bracket, or the head of the bolt that holds the pole ring in place. The numbering should be placed 2 metres from ground level.

Typical Pole Numbering and positions are shown below.



Fibrus Pole ID is made up of 3 letters and 4 numbers that are generated from the Fibrus\_ID attribute on ArcGis pole layer.

Pole number and letters such as Mills Limited Part Number S83-2810 (for Letter A), or equivalent should be used for numbering poles.

Steel pins No.2 eg Mills Limited Part Number S83-1746 or equivalent should be used to attach pin to pole. Each pole number must be secured using two steel pins positioned into pre stamped holes.

Fibrus will carry out sample quality checks of all pole installations and if any defects are found which do not meet or exceeds the documented specifications it will be the contractor's responsibility to remedy any defects at their own cost. It is recommended that operatives complete their own installation check and keep a record on the installation as post installation integrity checks will be assumed by Fibrus as the state of pole at time of erection.

**The quality checks are contained within Fibrus document CPL-CHK-A001. As a minimum standard, each pole should be erected to pass the quality checks.**

#### **Period between pole erection and initial inspection from Fibrus.**

The lifespan of a pole is expected to be in the region of 50 years, over which the ground conditions may change and the pole may deviate from being truly vertical and may become less stable.

Initial inspection of poles will normally be within 4 months of pole being erected, during which time there will be little or no change in the ground conditions.

Poles are expected to be erect and stable in accordance to previously stated tests within the 4 months period.

#### **Pole Sign-Off**

It is compulsory to complete both the Fibrus Pole Data Capture form and the Fibrus Pole QC form on the completion of each pole erection, see **(CPL-PRO-O002)** for guidance.

This can be completed using Survey 123.



## 4: REFERENCES

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This reference list is not exhaustive and is issued here for guidance only.

- New Roads and Street Work Act 1991 (NRSWA)
- Health and Safety at Work Act 1974
- Safety at Street Works – a Code of Practice
- Road Traffic Regulation (Northern Ireland) Order 1997
- Management of Health and Safety at Work Regulations 1999
- HSG47 – Avoiding danger from Underground Services
- Personal Protective Equipment at Work Regulations 1992 - (Amendment - from 6th April 2022)
- Specification for the Reinstatement of Openings in Highways – 4th Edition May 2020
- Manual Handling Operations Regulations 1992
- The Electronic Communications Code, Schedule 2 to the Telecommunications Act 1984 as amended by the Schedule 3 to the Communications Act 2003, (“the Telecoms Code”)
- Northern Ireland Road Authority & Utility Committees – Code of Practice