Outside Plant Construction Worldwide Differences and Similarities

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Worldwide Differences and Similarities

Placement Methods

**Aerial**-
Generally cables are placed on poles or between buildings

**Underground**-
Cables are placed in conduits between pulling points such as manholes, handholes, pull boxes, building entrances, etc.

**Direct Buried**-
Cables are placed “directly” in the ground between points of access such as pedestals, cross connect boxes, or buildings
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AERIAL CABLING
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Underground Cable Placement
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Trenching to place direct buried cable
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**Similarities:**

- Most countries use those three installation methods.
- However, many countries use the term “buried cable” rather than “direct buried”
- In addition, some countries consider buried cables to be “underground” cables
- What’s important about terms? Consistency!
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Differences

- Methods for placing buried cables vary from the following:
  - ✔ Chain driven trenchers
  - ✔ Backhoes
  - ✔ Plows
  - ✔ Horizontal Directional Drilling (HDD)
  - ✔ Foot activated excavation devices
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Similarities

- Existing utilities “should” be located prior to doing any excavation
- Proper clearances over roads, driveways, sidewalks, etc. should be maintained
- Historical areas should be treated accordingly
- Environmental concerns should be considered
- All dielectric fiber optic cables should have some method to be located such as tracer wire, metallic warning tape, etc.
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Differences

• Minimum placement depths range from 609.6mm (24”) to 914.4mm (36”) to 990.6mm (39”) for fiber optic cables
• Concrete encasement may or may not be used to protect underground cables
• Sizes of outside plant copper cables vary significantly
• New copper cables are not placed in some countries
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Similarities

• Fiber optic cables are being placed to provide voice, data, video, energy management systems, security, building automation, etc.
• Fiber optic cable splicing is much easier than ever before
• Testing equipment for both copper and fiber is much more sophisticated
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Differences

- Poles can vary from typical wood poles, to concrete, to steel and can be round, square, rectangle, or multi-sided in shape
- Manholes can be concrete, glass reinforced plastic, fiber glass, or perhaps other composite materials
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Similarities

✓ Outside plant construction is inherently dangerous
✓ Outside plant design should rarely, if ever, be designed from your desk. Field surveys are a must
✓ Outside plant should be designed with the future in mind
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And finally,

Why is the acronym for outside plant, OSP? Why isn’t it OP since “outside” is one word?
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THANK YOU VERY MUCH