



Pokagon Band of Potawatomi

Utility Line Installation Specifications

Tracer wire that radiates compatible frequencies with our Radio Detection Utility Locator should be installed with all styles of utilities (Gas, Electric, Sanitary Sewer, Telecommunications (Fiber Optic), Water, Telephone and Storm Water Sewer).

The dialogue below includes the tracer wire specifications we would like utilized:

Minimum Open-Trench Installation Requirements:

- Must have tracer wire accessible for a direct connection at the origin of all utility lines.
- Placement of the Tracer Wire in Regards to Pipe - The tracer wire should be placed in the same orientation to all installed pipe. Using a spacer, taping the tracer wire to the pipe every 8-10 feet in the three o'clock position. Taping the wire to the pipe helps prevent damage to the wire during back filling or when digging around the pipe in the future. (Excluding Gas Lines)
- Proper Connections – When mainline or lateral tracer wire splices are needed, contractor shall utilize approved connector rated for direct burial use filled with silicone sealant to prevent corrosion at connection points and no wire nuts allowed. Examples of researched and approved connectors are included in the “Connectors” portion of the “Trace Wire Product Specification”.
- Trace wire systems must be installed as a single continuous wire, except where using approved connectors. No looping or coiling of wire is allowed.
- Non-Detectable Tape Installed Above all Utilities - Installation of color coded warning tape one foot above the pipe will enhance utility ID during excavation when repairs are needed. Once tape has been found, only hand digging should be allowed.
- Make sure the contractor or city inspector performs a locate or conductivity test prior to signing off on the project. It is much easier to correct any issues promptly as opposed to months or years later when a locate is required and the piping cannot be found.

Tracer Wire Access Points/Stations:

- All tracer wire termination points must have an approved tracer wire access box (above ground access box or grade level/in-ground access box) specifically manufactured for this purpose every 500 feet for easy accessibility. Tracer box is to be a minimum of 2 feet from curb stop (toward structure). Extra tracer wire should be brought up in the tracer box to allow for frost shift and removal of lid to access tracer wire in case of maintenance.
- All grade level access boxes shall be appropriately identified with the APWA color standard. (Red for Electric, Yellow for Gas, Orange for Communication, Blue for Potable



Water, and Green for Sewer). A minimum of 2 ft. of excess wire is required in all tracer wire boxes after meeting final elevation/grade.

Tracer Wire Grounding:

- Contractor shall install a 1 ½ LB drive in magnesium Anode with a 20 foot 14 gauge 30 mil HDPE insulation lead wire at all dead ends of the tracer wire system to complete the electrical circuit needed to enhance signal for locating purposes. All circuits need to be grounded for locating purposes. All dead ends not brought to surface will be connected to an anode. When splicing in use an approved connector with specifications that are included in the “Connectors” portion of the “Trace Wire Product Specification”. The arrangement of the anodes is then planned so as to provide an even distribution of current over the whole structure. Separate grounds are required to prevent the tracer wire from being looped.
- The tracer wire must be grounded at every dead-end/stub or termination point.
- When grounding the trace wire at dead ends/stubs, the grounding anode shall be installed in a direction 180 degrees opposite of the trace wire, at the maximum possible distance. When grounding the trace wire in areas where the trace wire is continuous and neither the mainline trace wire or the grounding anode wire will be terminated at/above grade, install grounding anode directly beneath and in-line with the trace wire. Do not coil excess wire from grounding anode. In this installation method, the grounding anode wire shall be trimmed to an appropriate length before connecting to trace wire with an approved connector. (Specification included in “Connectors” portion of “Trace Wire Product Specification”.)

General:

The best tracer wire system is connected with electrical current characteristics in mind. Electricity will take the path of least resistance. Good grounding and terminating of the wire will improve the quality of the signal. Using test stations to bring the tracer wire above ground for ease of terminating a signal is best. Grounding one or both ends of the wire or introducing a small anode may enhance signal strength.