

STATEMENT OF QUALIFICATIONS



VALUE

Murphy Pipeline's trenchless rehabilitation offerings **minimize disruption** to the public by reducing noise, traffic disturbances and road repair - and can be done within a **far shorter time frame, at less cost** than dig and replace.

- ✓ Lower cost
- ✓ Lowest risk
- ✓ Less disruption - no closures
- ✓ Service life of 100+ years
- ✓ Proven technologies
- ✓ Faster installation
- ✓ Minimal digging

AWARDS

2022 WEFTEC Top Project Award
2021 Trenchless Project of the Year Honorable Mention
2021 ASCE Florida Project of the Year
2021 PPI Municipal Project of the Year
2019 Trenchless Project of the Year Honorable Mention
2018 Trenchless Project of the Year Honorable Mention
2017 PE Alliance Leadership Award
2015 Trenchless Project of the Year
2014 Trenchless Project of the Year
2014 WEFTEC Top Project Award

COMPANY OVERVIEW

Murphy Pipeline Contractors, a PURIS Company, was established to bring the trenchless technologies of Europe to the United States. Our main focus is on pre-chlorinated pipe bursting, sliplining, and CompressionFit™ HDPE pipe lining for water and force main replacement from 2" through 78".

At Murphy Pipelines we help cities add value to their water and sewer pipeline replacement work using methods that are less intrusive to the community during construction compared to dig and replace installations. Our technologies expedite project schedules, provide new infrastructure with an ultra-long design life, and save tax dollars by reducing overall project costs.

With over 100 years of combined team member experience we can confidently manage large pipeline projects in high profile and environmentally sensitive areas. We have worked with municipalities, engineering firms, and contractors throughout North America to renew valuable underground infrastructure.

OUR CAPABILITIES

- + **Static Pipe Bursting:** 2-inch through 100-inch or more diameter water, gravity sewer, force main, gas
- + **Pre-Chlorinated Pipe Bursting:** 2-inch through 16-inch diameter water
- + **CompressionFit™ HDPE Pipe Lining:** 4-inch through 78-inch diameter water, sewer, mining, gas, hydrocarbons
- + **Sliplining:** 2-inch through 100-inch or more diameter water & sewer
- + **Directional Drill:** 1/2-inch to 42-inch water and sewer
- + **Design Build**

Pre-Chlorinated and Static Pipe Bursting



Product Highlights

- Eliminates need for temporary water services
- Disinfected and tested above ground
- Pipe installation completed in a single day
- 2-inch through 36-inch diameter

Pre-chlorination eliminates the need for temporary water services. The high-density polyethylene (HDPE) pipe is bacteriologically disinfected and pressure tested above grade prior to installation, allowing it to be placed into service immediately after installation.

The method utilizes HDPE pipe and entails the pre-assembly and testing of approximately 300 to 600 foot lengths of pipe above grade at a nearby staging location. This work is completed in advance of pipe bursting operations. Once the pipe string is proven to be sound by the testing and disinfection procedures, bursting operations can begin. In the area of water main being replaced, a series of small excavations are made and the new pipe is pulled into place by pipe bursting the existing main. A post-chlorination and flushing of the main is then performed and the new line is connected into the distribution system.

Ultimately, all services are connected into the new main and the surface area is backfilled to preconstruction grade. The entire process is completed within a single day, 6 to 8 hours, thereby minimizing the disruption to area residents.

Residents connected to the main being replaced that day only experience a 6- to 8-hour interruption in water service before being reconnected. Crews typically begin preparations around 7 a.m. and by noon the new pre-chlorinated HDPE is in place. Between 3 p.m. and 4 p.m., residents are reconnected to the water system. At the end of each day, pits are backfilled to grade. By the end of each week, a restoration crew completes final grass and road restoration.



Benefits for Our Customers

- Existing utility path followed (requires limited design)
- 92% less excavation vs. open cut
- Reduction in community impact
- Limited noise and dust
- No traffic disruption
- Residents drive in/out of driveways
- Water service maintained with temporary by-pass
- Expedited project schedules
- Increase pipe diameter up to two times larger



CompressionFit™ HDPE Pipe Lining

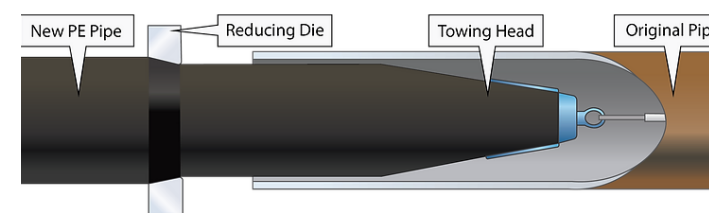
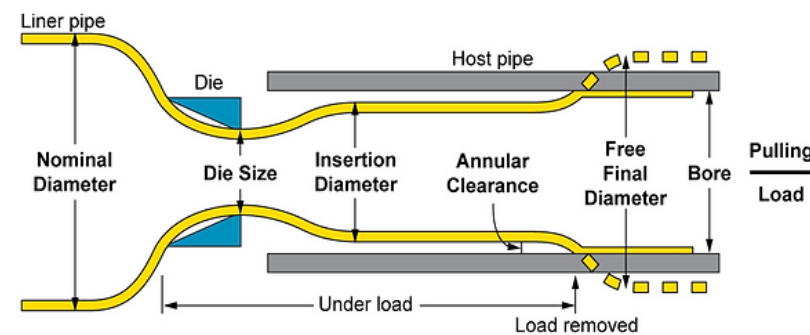


Product Highlights

- Increased Flow Rates over Slip Lining
- Tight fitting HDPE provides maximum Internal Diameter allowing greatest flow
- Smooth wall of HDPE (150 C-factor) reduces friction and pumping costs
- No grouting required due to compressive tight fit of new HDPE

Governed by ASTM F3508, the Compression Fit HDPE pipe lining technology specifies an HDPE pipe with an outside diameter larger in size than the inside of the host pipe to be renewed. After the HDPE is butt fused to correspond to the pull distance, the pipe is pulled through a reduction die immediately before entering the host pipe. This reduces the HDPE pipe temporarily below the ID of the host pipe allowing it to be inserted.

While the towing load keeps the HDPE under tension during the pull, the pipe remains in its reduced size. The HDPE remains fully elastic throughout the reduction and installation process. After installation, the pulling load is removed. The HDPE pipe expands until it is halted by the inside diameter of the host pipe. The effectively natural 'tight' or 'compression fit' is accepted as exchanging an existing failing pipeline with a composite pipe in its place.



Benefits for Our Customers

Solution to the Problem

- Fully structural HDPE can be installed if the host pipe has no integrity
- Semi-structural HDPE can be installed if the host pipe has some integrity, yet increase strength, span holes and provide corrosion protection
- Thin walled HDPE can be installed if the host pipe is sound, but joints are leaking or corrosion protection is required

Minimal Schedule and Impact

- Production rates of up to 5,000 feet in a single pull
- 91% less excavation than open cut

Superior Long-Term Design Life

- HDPE has a design life in excess of 100 years, unlike short term fixes

Existing Utility Path Followed

- No available easement? We won't need one
- Design hours reduced as utility relocations are irrelevant



ASTM F3508

Standard Practice for In-Situ Pipeline Re-Construction As Coupled Dual-Wall Composite Pipeline by Push/Pull Installation

Slipling



Product Highlights

- Proven technology
- 2-inch through 78-inch diameter water & sewer force main replacement
- Pre-fused pipe lengths
- Installation distances up to 5,000 ft

Slipling is completed by installing a smaller, carrier pipe into a larger host pipe, grouting the annular space between the two pipes, and sealing the ends. The trenchless method is generally a cost-effective rehabilitation method to replace water and sewer force mains.

Slipling is one of the oldest forms of trenchless technology. The most common material used to slipline an existing pipe is high-density polyethylene (HDPE).

Continuous slipling uses HDPE pipe that is fused into long lengths prior to installation. The HDPE pipe is pulled through the existing host pipe starting at an insertion pit and continuing to a receiving pit. Long installation distances of up to 5,000 feet are possible.

Potential limitations are the new pipe will generally have a reduced cross sectional area due to installing a smaller sized pipe, thus reducing flow rates and capacity. Hydraulic calculations need to be considered.

For pipeline projects that need to maximize final Internal Diameter, CompressionFit HDPE pipe lining can add value over slipling.

Benefits for Our Customers

- The slipling process uses the old pipe to protect the newly installed pipe.
- This method is cost effective and can be completed in a shorter time frame.



PURIS provides end-to-end water infrastructure renewal solutions, specializing in environmentally sustainable trenchless pipeline rehabilitation. PURIS is U.S.-based and vertically integrated. We perform turn-key installation services providing owners with a single source solution for all of their water infrastructure renewal needs. Our technologies operate within the existing infrastructure to minimize environmental impact and reduce community disruption.

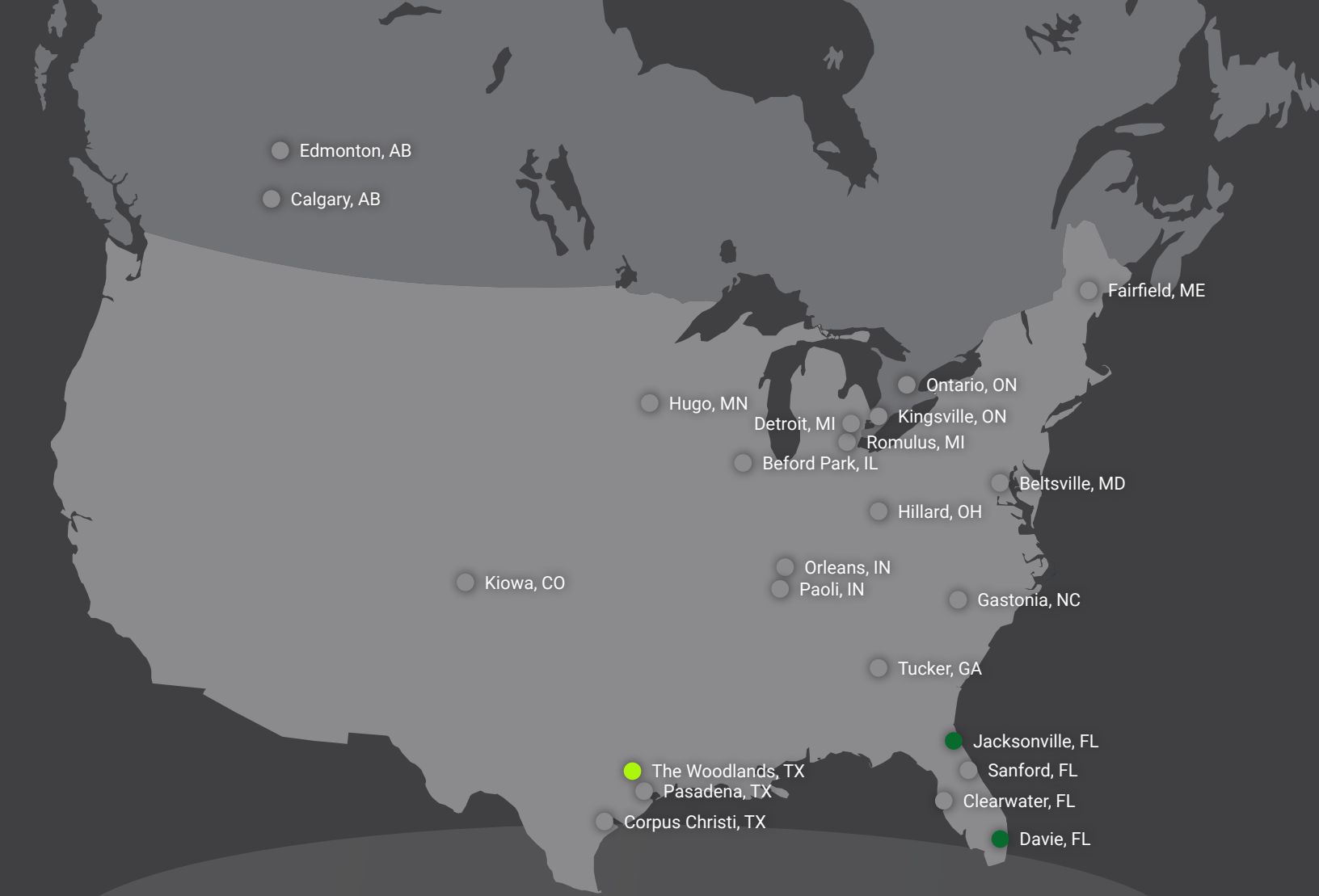
We are committed to investing in new product development and partnering with leading-edge technology companies to offer our customers the best solutions for their projects, budgets, and environmental conditions. Our solutions, proven service model, and 1,000-member strong workforce are focused on solving our communities water infrastructure challenges with minimal environmental impact.

Our goal is to have as positive of an impact above ground as we do below it.



FAMILY OF COMPANIES





Edmonton, AB

Calgary, AB

Fairfield, ME

Hugo, MN

Detroit, MI

Ontario, ON

Kingsville, ON

Romulus, MI

Bedford Park, IL

Beltsville, MD

Hillard, OH

Kiowa, CO

Orleans, IN

Paoli, IN

Gastonia, NC

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