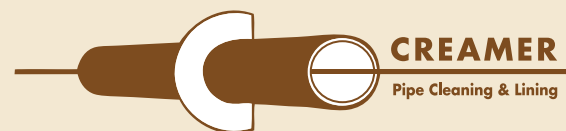


**J. Fletcher Creamer
& Son, Inc. Can
Give You Crystal Clear**

Water!



The Economic Alternative To Pipe Replacement...

Dependable

Backed up by dedicated personnel and the most modern equipment available, J. Fletcher Creamer & Son, Inc. takes pride in its record of dependability, achieved over more than 85 years. Creamer customers know the company will perform its work at a competitive price, promptly and efficiently.

Diverse

The Creamer organization is a full-service, multi-disciplined contracting company serving the business community, governmental agencies and utilities throughout the continental United States. We specialize in cleaning and lining of potable water mains and the installation of underground transmission lines for communication, cable TV, electric, gas and water systems, as well as rock excavation, highway construction, pile driving, bridges, demolition, boring, jacking and tunneling, directional drilling, slip-lining and pipe bursting.

Inquiries

The cost of each project differs depending on variables such as location of the project, plan and profiles, length and diameter of the pipeline, etc. If you are contemplating a project or need additional cost and technical information, we would be pleased to discuss it with you.

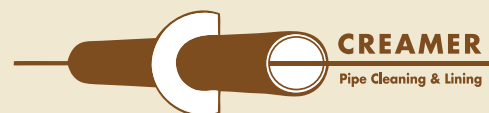


J. FLETCHER CREAMER & SON, INC.

CONTRACTORS

"Where expertise rises to the top"

101 East Broadway
Hackensack, New Jersey 07601-6846
Telephone: (201) 488-9800
Toll Free: (800) 327-8276
Fax: (201) 488-9845



A Partial List of the Companies We Serve in Cleaning and Lining of Potable Water Mains

- | | |
|------------------------------------------|------------------------------------------------|
| Aqua Pennsylvania, PA | Connecticut Regional Water Co., CT |
| Auburn Water District, ME | DeKalb County Water Authority, GA |
| Baltimore County, MD | Denver Water Department, CO |
| Baltimore Water & Waste, MD | Houston Lighting and Power, TX |
| Board of Water Works of Pueblo, CO | Livermore-Amador Valley Water Authority, CA |
| Borough of Highland Park, NJ | Louisville Water Co., KY |
| Borough of Sayreville, NJ | Los Angeles Department of Water & Power, CA |
| Borough of Spotswood, NJ | Macon-Bibb County Water & Sewage Authority, GA |
| Boston Water & Sewer, MA | Massachusetts Water Resources Authority, MA |
| Camden Municipal Utilities Authority, NJ | Metropolitan Water, TN |
| Chester Water Authority, PA | Middlesex Water Company, NJ |
| City of Anaheim, CA | Naval Support Activities, PA |
| City of Atlanta, GA | New Jersey American Water, NJ |
| City of Baltimore, MD | Omaha N.U.D., NE |
| City of Bayonne, NJ | Onondaga County Water, NY |
| City of Bloomfield, NJ | Passaic Valley Water Commission, NJ |
| City of Boston, MA | Rancho California Water District, CA |
| City of Carlsbad, CA | South Central CT Regional Water Authority, CT |
| City of Chicago, IL | St. Paul Regional Water Authority, MN |
| City of Everett, WA | Town of Mount Pleasant, NY |
| City of Glendale, CA | Town of Natick, MA |
| City of Greeley, CO | Town of New Castle, NY |
| City of Jersey City, NJ | Town of Oak Bluffs, MA |
| City of Lewiston, ME | Town of Scituate, MA |
| City of Meriden, CT | Town of Yorktown, NY |
| City of Minneapolis, MN | Township of Bloomfield, NJ |
| City of Mount Vernon, NY | Tulsa Municipal Water Authority, OK |
| City of New Brunswick, NJ | United Water Resources, NJ |
| City of New London, CT | Village of Ossining, NY |
| City of Norfolk, VA | Wannacomet Water, MA |
| City of Orangeburg, SC | Westchester Joint Water, NY |
| City of Rochester, NY | |
| City of St. Louis, MO | Regional Offices |
| City of San Francisco, CA | Linden, NJ |
| City of Seattle, WA | Folsom, NJ |
| City of Thousand Oaks, CA | Kokomo, IN |
| City of Trenton, NJ | Macon, GA |
| City of Waltham, MA | Los Angeles, CA |
| City of White Plains, NY | Beltsville, MD |
| City of Wilmington, DE | |
| City of Woburn, MA | |
| City of Yonkers, NY | |
| Clayton County Water Authority, GA | |
| Columbus Water Authority, GA | |
| Connecticut- American Water Co., CT | |

If You Have Cloudy and Murky



The Economic Alternative



PIPELINE REHABILITATION, PIPE CLEANING AND LINING SERVICES



Loss of capacity, low flows, leakage and red water are all warning signs of pipeline deterioration.

The most effective and economical alternative to pipe replacement is the in-place cleaning and cement-mortar lining service offered by **J. Fletcher Creamer & Son, Inc.**

In-place cleaning and cement-mortar lining permanently restores flow, eliminates red water complaints and it's all done without removing the pipe from the ground and without interruption of water service to the customer. There are no mass excavations and no disruption of traffic and business operations.

Our specialized cleaning and lining equipment, along with our experienced lining technicians, can place a cement-mortar lining in pipe diameters ranging in size from 4" to over 13'. We have lined distribution mains and new steel transmission mains, corrugated metal pipes, culverts, irrigation lines, hydroelectric penstocks and cooling lines in generating stations.

Protective Qualities Extend Pipe Life

In-place cement-mortar lining will extend pipe life. The unique protective qualities of cement-mortar inhibits the corrosion of ferrous materials and prevents future rust and tuberculation build up.

Increase Flows and Energy Savings

Substantial increases in the Hazen-Williams friction coefficient value occur as the result of in-place cement-mortar lining. The improved carrying capacity provided by in-place rehabilitation means lower pumping costs and improved fire protection.

Cleaning and Lining is Cost Effective

Pipeline rehabilitation is accomplished for about one half the cost of pipe replacement, in most locations.

Bypass System

While excavations are being made to prepare for cleaning and lining operations, temporary bypass pipe is installed along the curb line on both sides of the street to assure uninterrupted water service to all customers. Normal installation requires 2" and 4" diameter lines. For large diameter mains and special situations, in industrial plant areas, hospitals or schools, larger diameter pipe is installed. This procedure minimizes consumer service interruption and inconvenience.

Cleaning and Lining Procedures

Before lining, the pipe interior must be cleaned by one of these methods:

- **Hydraulic-** A steel frame with protruding metal scraper blades is propelled through the pipeline by water pressure.
- **Mechanical or Drag-** The cleaning scrapers are pulled through the pipe by a winch. Water is used to flush debris out of the pipe opening. The cleaner is pulled back and forth until the pipe wall is sufficiently clean for lining applications.

Cement-Mortar Lining

The premixed cement mortar lining is centrifugally applied to the pipe wall interior using our custom designed mortar application equipment. As the mortar lining is applied, a flexible troweling device follows behind to produce a smooth, hydraulically efficient surface.

Quality Assurance

The cement mortar application is strictly in accordance with American Water Works Standard AWWA C-602, latest revision. It is a 1:1 mixture of Portland cement and well-graded silica sand with water added for proper placement. The result is a uniform lining assuring many years of corrosion protection.

Flexible Contracting

J. Fletcher Creamer & Son, Inc. recognizes your need for flexibility and contracting based on budget

constraints. Whatever the situation, J. Fletcher Creamer & Son will work with you to customize a rehabilitation plan to meet your timeline, budget and desired results. Our in-house engineering staff is available to discuss and advise you on specific project requirements.

Pipe Rehabilitation Benefits Summary

- Less costly than pipe replacement
- Less local area inconvenience
- Savings in pumping costs
- Extends system life
- Eliminates red water
- Increases pressure and fire flow
- Decreases fire insurance rates
- Improves water quality

Representative Cleaning and Lining Projects

American Water Company, Haddon Heights, NJ
Cleaned and lined over 250,000 L.F. of 4"-20" water line.

Los Angeles Power and Water, Los Angeles, CA
Cleaned and lined over 3,000,000 L.F. of 4"-60" diameter cast-iron and steel water mains on numerous projects.

Macon-Bibb Water Authority, Macon, GA
Cleaned and lined over 200,000 L.F. of 6"-30" cast-iron pipe at various locations.

United Water Co., Harrington Park, NJ
Cleaned and lined over 300,000 L.F. of 6"-36" diameter cast-iron water mains at various locations.

