

Why Dig[®]?

**VORTEX SERVICES
COMBINES DECADES OF
EXPERIENCE AND THE
LATEST IN TRENCHLESS
INFRASTRUCTURE
SOLUTION METHODS TO
QUICKLY AND COST-
EFFECTIVELY BRING
YOUR SEWER AND WATER
INFRASTRUCTURE BACK
TO LIFE!**

TRENCHLESS SERVICES OFFERED

- Geopolymer Culvert & Tunnel Relining
- Manhole Rehabilitation
- CIPP Main Line & Lateral Rehabilitation
- UV CIPP Lining
- Pipe Bursting & Slip Lining
- Inspection & Pipe Condition Assessment

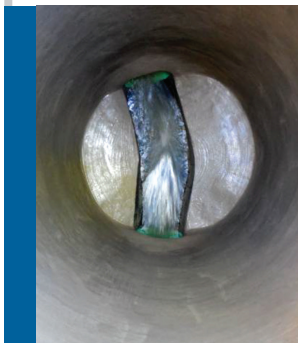
BENEFITS OF TRENCHLESS TECHNOLOGY

- 25-30% Less Expensive
- 50-60% Faster
- Less Disruptive
- More Environmentally Friendly
- Extends & Improves Operating Life of Assets



Vortex Services offers a broad range of proven trenchless solutions,

backed by years of experience, to best fit your project needs.



PIPE, CULVERT, TUNNEL & MANHOLE RENEWAL

Different conditions call for different product solutions. We will assess and provide the proper solution to address the service requirements of your large diameter pipe, culverts, tunnels and manholes.

- **Geopolymer Lining - Large Diameter Pipes and Structures**
- **Manhole Rehabilitation - Structural and Corrosion Protection**
- **Spin Casting and Spray Application Solutions**



PIPE RELINING

We reline sewer mains, laterals and vertical pipe using proven lining systems designed to deliver long-term, trouble free performance of your renewed pipe.

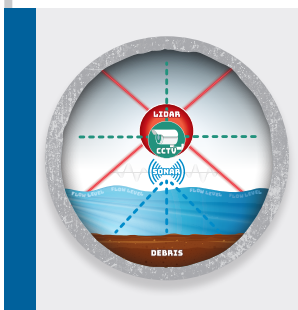
- **CIPP (Cured-In-Place Pipe) Lining**
 - Laterals up to 8", Pipe 8"-96"
- **UV CIPP**
 - For Colder and Environmentally Sensitive Areas
 - Pipe 6"- 63"
- **Brushed-In-Place-Pipe (BIPP)**



PIPE BURSTING & SLIP LINING

Pipe Bursting replaces and upsizes buried pipes without the need for traditional remove and replace methods. Best for areas with surface obstructions, traffic concerns, low flow or blockages.

- **Sanitary, Water and Storm Pipes**
- **Replaces a Wide Range of Host Pipe Materials: Clay, Concrete, Cast Iron, Ductile Iron, Plastics, Asbestos Cement, Truss (ABS)**



INSPECTION & PIPE CONDITION ASSESSMENT

A critical component to addressing pipe and manhole defects before they get out of hand is to understand exactly what is going on inside your assets.

- **Standard Condition Assessment**
- **Multi-Sensor Condition Assessment (MSI)**
- **Manhole Assessment**
 - Level 1 & Level 2
 - MACP & Non-MACP

VORTEX SERVICES IN ACTION

Quadex Lining System Used to Structurally Restore 6,600 LF of Sewer in Queens, NY

Problem: Hurricane Sandy wreaked havoc up and down the east coast. In addition to the visible surface damage, what was unseen — such as the water and sewer infrastructure — were also greatly impacted, especially the aging systems. A 6,600 LF section consisting of RCP and rounded bottom box culvert required a fully structural restoration.

Solution: The variance in sizes and shapes called for using a versatile and advanced lining technology. QLS®, featuring GeoKrete® geopolymer, was the answer. Requiring only a small construction footprint, GeoKrete can be spin cast, spray-applied and troweled. In this situation all three methods were used to successfully restore the box culvert, without the need for digging and replacing.

