



NCPI Training Workshops

From initial design through long-term maintenance, make sure your whole team understands all of the implications of sanitary sewer pipe material selection.

The core mission of the National Clay Pipe Institute is research and education. All of our workshops are based on extensive research and qualify for Professional Development Hours (PDH).

Training Workshop Module Outlines

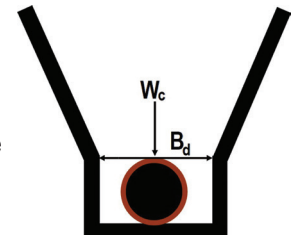
Manufacturing & Factory Testing

- Mining of Materials, Blending, Extrusion, and Kiln Firing
- Jointing & Types of Joints Available
- Factory Inspection & Pipe Tolerances
- Bearing Strength, Joint & Chemical Testing



Buried Rigid Pipe Trench Design

- Computing Predicted Earth and Live Loads on Buried Pipe
- Trench Width
- Bedding Classes, Load Factors & Design Factor of Safety
- Pipe Alignment & Slope



$$W_c = C_d \omega B_d^2$$

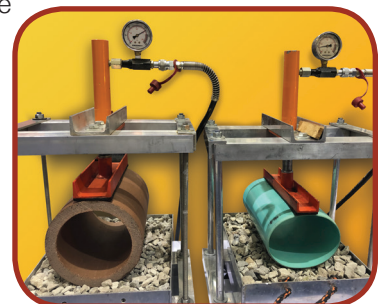
Installation & Inspection

- Pipe Inspection Upon Delivery
- Foundation
- Bedding Materials (granular aggregates, flowable fill (CLSM) and concrete)
- Haunching / Shovel Slicing
- Bell Holes
- Pipe Joining
- Backfill and Compaction
- Manhole / Structure Connections
- Repairs and Tapping
- Field Acceptance Testing
 - Low-Pressure Air Test
 - CCTV



Gravity Sanitary Sewer Pipe Material Comparison

- Structural Properties
- Material Sustainability & Service Life
- Corrosion Resistance
- Field Acceptance Testing
- Sewer Maintenance
- Jointing Systems
- Environmental Impacts



Operations, Maintenance and Field Training

Gravity Sanitary Sewer Maintenance

- Mechanical Cleaning Methods
 - Rodding Machines
 - Bucketing
- Hydraulic Cleaning Methods
 - Hydraulic Root Saw
 - Grinding
- Hydro-Jet Cleaning Methods
 - Static Nozzle Types
 - Rotating Nozzle Types
 - Jet Angle Configuration
 - Jet Pressures
- NOM (Nozzle Orientation Management)
- Mineral Deposit & Root Removal Techniques
- Aggressive Cleaning = SSO Reduction
- EPA / CMOM Compliance



Hands-On/Field Training of Classroom Concepts

- Hydro-Jet Nozzle Operations / Techniques
- Mechanical Cleaning Operations / Techniques
- Evaluation of Pressures and Flows When Applied to Nozzles
- Jet Types and Jet Angle Comparisons
- Root, Grease, Debris Removal Techniques

Trenchless Technologies

Pilot Tube Method (PTM) of Guided Boring

- Method of Installation
- Applicable Soil Types
- Completed Project Case Studies

Static Pipe Bursting

- Method of Installation
- Upsizing of Existing Pipelines
- Completed Project Case Studies

Slurry Microtunneling

- Method of Installation
- Applicable Soil Types
- Completed Project Case Studies

Vitrified Clay Jacking Pipe

- Mining of Materials, Blending, Extrusion, Kiln Firing and Jointing
- Precision Machining of the Pipe Ends
- Axial Loading and Design Safety Factors
- Factory Inspection & Pipe Tolerances
- Bearing Strength, Joint & Chemical Testing



Our Most Popular Workshops

Built on the Modules listed above

- Gravity Sanitary Sewer Pipe Material Comparison
- VCP Design, Installation & Inspection
- Operations & Maintenance
- Pilot Tube Method (PTM) of Guided Boring with Vitrified Clay Jacking Pipe

All of our workshops can be customized to meet the needs of your team and help them address the challenges they are currently facing.

Work with our representatives to tailor the topic(s) to serve the interests of your group.

Find Out More

Contact one of our member companies or our office at **262-742-2904** or **info@ncpi.org** to schedule an educational presentation.

Our Member Companies:

Gladding McBean	800-776-1133
Logan Clay Pipe LLC	800-848-2141
Mission Clay Products LLC	951-277-4600
NO-DIG Pipe	740-385-2184
Building Products Company LLC	602-269-8314



NATIONAL CLAY PIPE INSTITUTE
The VCP Authority Since 1917

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