



Trenchless Technology Center Newsletter

October 1998

Municipal Forum Program Expands

A second municipal forum was held in Houston on August 19, and forums in Columbus and Kansas City are planned for September 16 and October 7 respectively. Each forum brings together 12 to 15 public works managers and engineers to share their experiences on trenchless technology-related issues and to establish better cooperation. The program is supported by industry donations to the TTC.

Each meeting begins with a morning session on general topics pertinent to the industry and includes a number of industry participants. After lunch, the municipal forum meets on its own to discuss issues in greater detail.

Topics of interest at the Houston forums have been the effect of the EPA regulatory efforts on the goals and management of sewer rehabilitation programs and several issues relating to the inflow and infiltration (I&I) associated with private laterals. Topics raised as information items or issues of concern at the meeting included:

- ◆ Legal mechanisms for dealing with lines on private property. (The group

agreed to share information through the TTC on how each municipality deals with this problem.)

- ◆ How to prevent missed service reconnections. Missed reconnections can take a significant time to show up if there is a long service and significant elevation difference.

- ◆ Early problems of movement of fold-and-formed pipe and plastic pipe replaced by pipe bursting seem to have abated, but what is being done differently is not quite clear. Municipalities would like to understand this so that they can prepare appropriate specifications

- ◆ Laterals filling with resin in CIPP processes has been a problem for some agencies.

- ◆ Municipalities are bombarded with new products. It is time consuming and difficult to determine which products to accept and who is qualified to do the work.

- ◆ Better assurance from industry on qualifications or suitability of products for application. Qualifications of installers/contractors is needed, but some states have restrictions on certi-

fiction/pre-qualification of contractors.

- ◆ It is difficult to find local contractors to do the work in many areas. This can be important in terms of creating local jobs with the money spent on rehabilitation.

- ◆ Cooperation on methods of prequalifying contractors, new product evaluation, and the improvement of technical specifications and standards would be very valuable.

- ◆ The plastics industry has done a poor job in promoting technology improvements made in recent years.

- ◆ Some cities are changing to ductile iron laterals to lessen the probability of damage from future excavation and drilling activities.

- ◆ Sewer systems are receiving more attention at present, but there are significant needs on the water side, also.

- ◆ It would be helpful if major national meetings such as WEF addressed more sessions to distribution/collection system rehabilitation.

- ◆ Trenchless methods are still not as widely known and understood as they should be.

Private Laterals

Municipalities have a wide range of responses to handling the need for repair of private laterals. These are prompted by different municipal concerns such as controlling I&I to lower treatment costs; controlling I&I to remove overflows under an EPA mandate; the condition and age of the sewer system; and regional conditions such as groundwater levels relative to the sewer laterals.

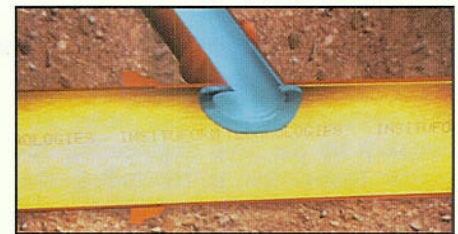
They are also affected by the administrative structure of the department/agency that is responsible for the sewer system; state or local laws that prohibit the use of public funds to improve private property; and evaluations of the cost/benefit ratio for improve-

ments to private laterals. The boundary of ownership between the sewer authority and the private owner may be at the edge of the right-of-way or at the connection to the sewer itself.

A sampling of the approaches that municipalities use in dealing with private laterals is outlined below:

- ◆ Relatively independent combined sewer and water agencies can threaten to turn off the water supply until the sewer lateral is repaired.

- ◆ Many agencies try to make it as easy as possible for the homeowners to repair their laterals by taking bids for private lateral repair as part of the main line work and offering homeowners the choice of this service or arranging



Lateral relining removes I&I from collection systems.
Photo courtesy of Insituform Technology Inc.

for the work by themselves.

- ◆ In low-income areas, the municipality may link the program to the availability of financial assistance for the repair work.

- ◆ If the homeowner does not comply after reminders, the issue may be referred to the legal department for enforcement.

- ◆ Some cities believe that legal enforcement is politically unacceptable in their communities.

Fatigue Life of HDD Drill Steel

A research project to evaluate drill pipes in mini-horizontal directional drilling construction has begun under the direction of Drs. Paul Hadala, Leslie Guice, William Jordan and Ray Sterling.

Funded by the Louisiana Board of Regents Support Fund, the project is supported by industry partners Seam-Mac Tube LLC, Advanced Directional Drilling Systems Inc., and Texas Pup Inc. NASTT is cooperating in the project. Matching support for the project is provided by the TTC and Louisiana Tech University. The total project budget is \$209,831.

Private Laterals continued

- ◆ Cities have arranged to temporarily buy the land over the private lateral, fix the lateral and then transfer the land back to the private owner.
- ◆ It is important to be able to demonstrate to homeowners that their laterals are a significant problem. This usually means being able to show that the mainline problems have been or are being addressed already.
- ◆ Showing the physical evidence of lateral problems to homeowners using field crews has been found more effective by some cities than using formal follow-ups at a later date.

Field Evaluation of SSET Nears Conclusion

The evaluation of the Sewer Scanner and Evaluation Technology being undertaken by the Civil Engineering Research Foundation is concluding the field trial phase of the evaluation.

Field trials have been undertaken in 13 cities participating in the evaluation: Sacramento, Santa Rosa, San Jose, Los Angeles, Albuquerque, Charleston, Virginia Beach, Norfolk, Washington, D.C., Boston, Toronto, Indianapolis,

The primary objective of this research is to investigate the stress distribution in drill pipes under simulated

field conditions and to study the interaction of torque, curvature and thrust

In some areas, private laterals are estimated to contribute 30 to 50 percent to the I&I problem and are an essential part of any program to lower I&I and reduce overflows. In other areas, it has been judged that the cost and effort involved in a private lateral repair and enforcement program is not worth the benefit.

As municipalities get their mainline systems under control, it is expected that a larger market will develop for low-cost, trenchless solutions to lateral rehabilitation.

and Honolulu.

In these field trials, the TTC has worked on behalf of CERF with the cities and CORE Corp. to monitor the field aspects of the process — speed of scanning, reliability of scanner, field problems in use, etc. In the final phase, the interpreted output from the SSET will be compared with the existing technology in use by each city.

A second meeting of the review panel will then be convened at which the evaluation report will be prepared.

Review panel for CERF SSET evaluation at its first meeting in Washington, D.C.

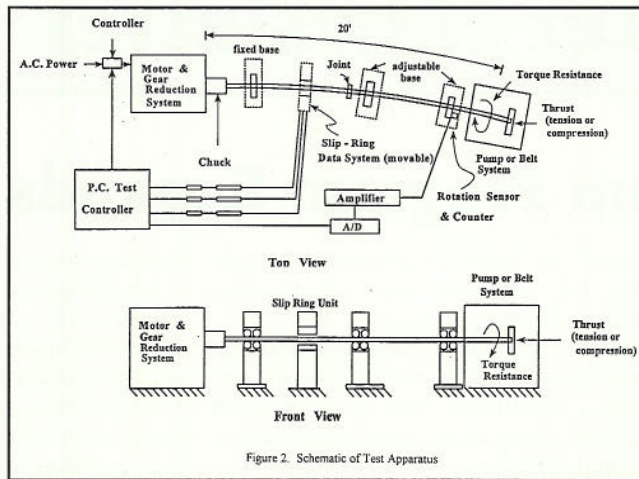


Figure 2. Schematic of Test Apparatus

Test apparatus for studying the fatigue life of HDD drill steel

on their fatigue life. This will be done by constructing a test apparatus that allows variable speed and torque to be applied to a drill rod while it is bent into a constant radius of curvature.

Measurement of actual field loadings on the pipe stem will be made to insure lab tests are within the appropriate range. Design guidelines will be developed to assist manufacturers and contractors in avoiding unnecessary failure.

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