CORRUGATED HDPE PIPE RECEIVES ADDITIONAL APPROVAL FROM TENNESSEE DOT
Indicative of Continuing Trend by State DOT's

IRVING, Texas - The Tennessee Department of Transportation (TDOT) has approved the longitudinal installation of large diameter, corrugated high-density polyethylene (HDPE) pipe for storm water drainage systems. Approval came after its year-long field test completed in June 2012 that showed no notable defects, deflection or stress on the pipe buried with shallow cover and fill height depth of three to four feet. Since 2007 the TDOT has allowed the pipe to be used for cross drains, transverse median drains and storm drain systems with up to 18 feet of fill height. Previously, longitudinal use was limited, for example, to side drains under driveways.

"The Tennessee study and its subsequent additional approval of corrugated HDPE pipe is another confirmation of confidence for this durable product," stated Tony Radoszewski, executive director of the Plastics Pipe Institute, Inc. (PPI). "We estimate that longitudinal installation accounts for more than 80 percent HDPE pipe use in storm sewer drainage. This amendment to the TDOT design manual that expands the use of HDPE pipe will greatly benefit everyone in Tennessee. This is because HDPE pipe has a very long use life and is highly cost effective to purchase and install, which adds up to taxpayer savings." PPI is the major trade association representing all segments of the plastic pipe industry.

Under the direction of TDOT and installed by an independent contractor, the on-site test project used two runs of dual-wall, corrugated HDPE pipe that was manufactured to AASHTO M294 standard, "Corrugated Polyethylene Pipe 300 (12 inch) to 1200 mm (48-inch) Diameter". The test site used 84 linear feet of 24-inch (600-mm) and 90 linear feet of 36-inch (900-mm) diameter pipe manufactured by Timewell (Timewell, Illinois), a member company of PPI. Installation conformed to TDOT Standards 204.10(b) and 204.11(b), TDOT Standard Drawing D-PB-1, and appropriate notes in the construction documents.

The final inspection conducted by TDOT and Timewell engineers followed TDOT and AASHTO criteria, noting that deflection testing was to occur no sooner than 30 days after installation. Due to easy access and the large diameter pipe sizes, direct physical measurements and observations were taken from inside the pipe, and at regular intervals across the entire span of each pipe run. Vertical measurements for deflection of the pipe were taken at the beginning and terminus of each pipe run, at each joint, and generally at 10-foot intervals. Additional inspections were geared to observe the condition of the pipe, looking for material distress such as cracks, tears, or punctures. The standard length of an installed HDPE pipe section from Timewell is 20 feet, and all joints were examined for integrity.
"According to the inspection report," stated Radoszewski, "the pipe retained its shape, was on line and grade, without any imperfections, and showed no signs of distress. Any deflections were symmetrical about their corresponding horizontal and vertical axis and well within the allowable five percent maximum – no racking was observed. Each and every joint appeared well-seated."

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"The inspection concluded that the pipe was favorably installed, the bed and backfill were properly compacted and followed standard industry practices, such as those contained in PPI technical bulletins and the PPI Corrugated Polyethylene Pipe Design Manual and Installation Guide, which can be conveniently found on our website under 'publications'. Because there were no notable defects or stresses we can expect that future pipe installations using similar TDOT or industry approved methods will result in nearly identical positive results."

For more information, go to:  www.plasticpipe.org.