Using Proper Installation Standards

It's Elementary, My Dear Watson!

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The names of the fictional Sherlock Holmes and his inquisitive sidekick, Dr. Watson, are synonymous with detective work and revealing the unexpected. Similarly, the front-line sales representatives of the concrete pipe industry can help end-users of buried pipeline products become super-sleuths by giving them the tools to ferret out hidden installation costs and to recognize the long-term risks associated with HDPE products when preparing their project specifications. Educating users has become a vital element of marketing and selling precast concrete drainage products. Through education, representatives can dispel the persistent misimpression that cheaper first-cost alternative products work just as well as concrete. A recent situation in Jefferson County, Missouri highlights the importance of educating users.

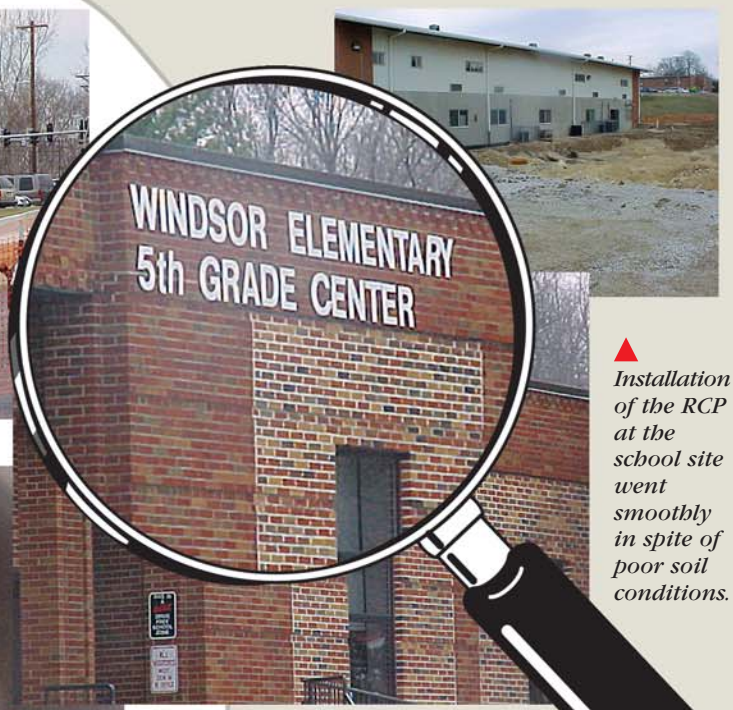
Windsor Elementary School, located 15 miles south of St. Louis, was undergoing an expansion to accommodate growth in the area. The expansion called for a new 48-inch diameter storm sewer to drain the site and discharge stormwater directly into a nearby creek over a distance of approximately 260 feet.

Independent Concrete and Pipe Company ("Independent"), a long-time member of the American Concrete Pipe Association, reviewed the speci-

Student safety was a major consideration with the open-cut pipe installation.

48-inch diameter Class III RCP ready for shipment from Independent Concrete Pipe's St. Louis, Missouri plant.

The RCP storm sewer is gun-barrel straight and performing as expected at Windsor Elementary School.



Installation of the RCP at the school site went smoothly in spite of poor soil conditions.

When all the options were considered, the choice of reinforced concrete pipe for the Windsor School District project become clear.

fications for the new storm sewer in preparing its bid for the contractor, Mahn Plumbing. The project specifications called for HDPE pipe, but the Independent representatives noted that the specifications were not in accordance with the installation procedures recommended by HDPE pipe manufacturers. For example, HDPE pipe manufacturers' specifications call for a 91-inch trench width with compactable rock placed in six-inch lifts, compacted until there is one foot of cover over the top of the pipe.

The Windsor Elementary project specifications, however, did not follow the manufacturers' guidelines and failed to protect against certain long-term risks. The Windsor Elementary specifications merely called for rock to the spring line, no compaction, and no mention of trench width. Moreover, the project specifications made no allowance for the exposure of the HDPE pipe outfall to sunlight that can impact the integrity of the product. Neither did the specifications appear to recognize the flammability of the HDPE product because the specifications made no provision for the inclusion of combustion retardants in the product. These omissions from the specifications would likely have resulted in the school district bearing additional costs.

Concerned about presenting an accurate bid on the project and recognizing the need to follow industry-approved and accepted installation specifications on all projects, Independent questioned the contractor about the apparent omissions. The contractor then went to the assistant superintendent of the school system, who, understandably, cared most that the installation be done correctly. Recognizing that the responsibility for the installation carried through to all parties, including the supplier, contractor and consulting engineer, the decision was made to change the storm sewer to reinforced concrete pipe, as there was little doubt about its long-term performance, structural integrity, installation specifications, and non-flammability.

Installation of the reinforced concrete storm sewer went smoothly despite poor soil conditions in the wet winter of 2001. Using 48-inch diameter Class III precast concrete pipe that arrived on-site with most of the structural integrity already built into the product provided value-added benefits by allowing the school district to avoid the greater costs that could have been incurred in the installation of the HDPE product. For instance, poor soils and wet conditions would have caused extra work for the contractor to ensure construction of a proper soil structure to accommodate HDPE pipe. Further, the contractor had to consider the soil integrity of an existing sanitary sewer line, and construction activities within a fenced construction site in close proximity to an occupied elementary school and the outdoor activities of children. The contractor, Mark Mahn commented, "It is very important to fully understand and apply the pipe manufacturers' recommended installation procedures of their products in constructing drainage systems that will perform to the expectations of clients."

The Windsor Elementary School project is just another case where once the client, the contractor, and the consulting engineer considered all the facts, the choice of product for the application became clear. If Sherlock had been on the case, he might have said "Why . . . Doctor Watson, using proper installation standards is elementary."

Owner:	Windsor C1 School District Imperial, Missouri Dr. Borman Assistant Superintendent
Designer:	Metropolitan Engineering
Contractor:	William Mahn Plumbing St. Louis, Missouri Mark Mahn
Quantities:	260 feet – 48-inch diameter Class III RCP
Producer:	Independent Concrete Pipe Company St. Louis, Missouri

Independent Concrete Pipe Company has seven plants located in Kentucky, Indiana, Missouri and Ohio. Established in 1912, the St. Louis, Mo. Plant supplies reinforced concrete pipe, precast concrete box units and Hy-Span™ bridges to the growing metropolitan area of St. Louis.