

## Plastic pipe winning converts

Improved design has made plastic pipe a responsible choice for culverts and storm drains. It is light weight, less expensive per foot than concrete, and relatively easy to install. Because the plastic has a smooth surface with less flow resistance, you can use a smaller diameter pipe than concrete or metal.

"We have used it in sandy and clay soils, in swampy areas, and under roads as storm sewers," says Bill Phillips, City of Tomah Public Works Foreman. "You can lay the larger pipe with two workers: a backhoe operator and a person in the trench. You can lay 18 inch pipe without a machine. Two people can lift it and move it."

Phillips, who has been using the pipe for five years, says that it requires about the same compaction as concrete pipe. "When we first used it, we didn't compact around it like we should have and it pushed up," he says. The pipe comes in 20 foot sections which snap together with seal tight, just like sewer pipe.

This year plastic pipe cost Tomah \$10.31 per foot for 18 inch diameter (which is equivalent in carrying capacity to a somewhat larger metal or concrete pipe). Concrete 18 inch pipe cost \$11.80 per foot.

"We still use concrete," says Phillips. "But if we have at least a foot of cover, we like to use the plastic."

Specifications for polyethylene plastic pipe are listed in the WisDOT Facilities Development Manual, Procedure 13-1-17, *Storm Sewer Materials Selection*. AASHTO also has materials specs up through 36 inches.

"We've had a plastic pipe installation up in Door County for six years," says Ron Cook, WisDOT Standards Policy Development Engineer. "The published



**Lighter weight and lower cost make plastic pipe attractive for storm drains and culverts.**

guidelines are conservative," he says, "until we get more experience with the product." For example, plastic pipe is prohibited under pavements on high volume streets. The state for now also requires mandrel testing to check for roundness after the pipe is in place. This measure may be dropped if deflection proves not to be a concern.

Not everyone is sold on plastic pipe, however. Bob Sindelar, Dodge Co. Highway Engineer, says, "The new designs are probably better, but the old flexible style you couldn't give to us." They are using aluminized corrugated steel pipe which in some cases, he says, is less expensive than polyethylene plastic and is guaranteed to last twice as long as galvanized metal pipe.

*WisDOT's Facilities Development Manual is available by subscription. Copies should be available in your District office.*

## Calendar

### T.I.C. workshops

*Specific details and locations for workshops are in the announcements mailed to all Crossroads recipients. Don't forget the T.I.C.'s "Bring-a-Buddy" enrollment special.*

**Privatizing Public Works Services (teleconference)** This hot topic is the focus of a national satellite conference presented in Wisconsin by the T.I.C. and the Wisconsin Chapter of APWA. Hearing first hand from local government pioneers about real world case studies that highlight three different strategies will help you deal with privatization in your own organization.

**July 19 from 11:00 am to 2:30 pm** at four Wisconsin locations.

**Winter Maintenance** Your opportunity to rethink your operations, learn from others and tune up your approach to snow and ice control and other winter maintenance activities.

Sept 12	Green Bay	Sept 20	Cable
Sept 13	Brookfield	Sept 21	Eau Claire
Sept 14	Barneveld	Sept 22	Tomah
Sept 19	Rhineland		

### UW-Madison Seminars

*Local government officials are eligible for a limited number of scholarships for the following engineering courses in Madison. Use the form on page 7 for details or call 800/442-4615.*

**Work Zone Traffic Control**, July 26-28

**Cost Effective Drainage System Design**, August 21-24

**Traffic Engineering Fundamentals**, September 18-19

**Effective Detention Basin Design Techniques**, October 9-12

**Managing Snow and Ice Control Operations**, October 12-13

**Traffic Signal Design Software**, October 26-28

**Advanced Traffic Signal Design Using TEAPAC**, October 29-30

**Pavement Rehabilitation**, November 6-8