



EVERGLADES WATER CONTROL PROTOTYPE UNIT NOW ACTIVE

Plastic Pipe Key Component of Sluice Gate Structure; Wins Project of Year Award from Industry Group

IRVING, Texas - According to the Plastics Pipe Institute, Inc. (PPI), a relatively new type of large diameter polyolefin pipe is playing a pivotal role in the restoration of the Everglades. PPI is the major North American trade association representing all segments of the plastic pipe industry.

The water control project used ten runs each of 100 linear feet of 60-inch diameter polypropylene storm pipe in a structure equipped with vertical lift gates to provide east/west drainage through a levee. The unit has a maximum combined flow of 750 cubic feet per second (cfs) with velocities up to 1.8 inches (3 cm) a second to allow for pulse releases. Officially called the Water Conservation Area 3 Decompartmentalization & Sheetflow Enhancement Hydrologic Field Test L-67A Levee & Turn-Around project, it performed as intended, and more of these systems are to be installed along the entire levee.



"This is a significant ecological endeavor made possible by plastic pipe," stated Tony Radoszewski, president of the PPI. "No other pipe could provide the long-life, ease of installation, low-impact delivery plus the watertight joints or the strength needed."

The project was awarded the 2013 Project of the Year by PPI's Corrugated Plastic Pipe Division (CPPA). Radoszewski made the presentation to PPI member companies Advanced Drainage Systems, Inc. (ADS) (Hilliard, Ohio), the pipe manufacturer, and to distributor HD Supply Waterworks, Miami branch, during the association's annual meeting held in May 2014 in Palm Springs, California.

The pipe, called ADS HP (High Performance) Storm pipe, was used to build the prototype along a 3,000-foot stretch of levees and canals to determine how best to design and formulate plans for future Comprehensive Everglades Restoration Plan (CERP) projects. The purpose of the Plan is to restore and preserve south Florida's natural ecosystems while enhancing water supplies and maintaining flood control.

"The history of this area is fascinating," Radoszewski offered. "Most people would not be living in South Florida if it were not for the Central & Southern Florida Project (C&SF Project). Prior to the turn of the last century, the small number of people who lived in southern Florida were restricted to building on high ground near the coastal and central Florida ridges. It simply was too wet in the interior much of the time to live there."

"After devastating hurricanes in the late 1920's and the late 1940's, citizens and elected officials of Florida petitioned Congress to control the flood waters. At the time, it seemed



like the right thing to do. The C&SF Project was authorized by Congress in 1948 and the U.S. Army Corps of Engineers and the South Florida Water Management District constructed the most elaborate and effective water management system in the world. But eventually the project negatively affected the Everglades and the south Florida ecosystem. Now a new plan is underway to restore the ecosystem and meet south Florida's water needs for the next 50 years. This sluice structure is just one important step."

Located in Miami-Dade County it was designed to address scientific, water flow and water management uncertainties that require clarification prior to future planning and construction of Everglades restoration projects, authorized in the Water Resources Development Act of 2000.

"The strength of the plastic pipe was critical," stated Daniel Currence, P.E., director of engineering for PPI's CPPA division. "To control the water flow, large pipe had to be used. It was 60-inch diameter pipe used under 14 feet of cover. The structure itself is a creative way to control water flow in an environmentally sensitive area. The plastic pipe used instead of Corrugated Metal Pipe (CMP) or Reinforced Concrete Pipe (RCP) provided a cost-effective, long-life solution. The pipe also had the watertight seals desired by the U. S. Army Corps of Engineers. Additionally, the terrain posed another problem with delivery of product along a single lane, seven-mile-long road. The 20-foot long sections of lightweight pipe reduced the number of truckloads as compared to the number that would be needed to deliver eight-foot sections of RCP, which can weigh upwards of 10,000 pounds. This lowered the

carbon footprint and reduced wear and tear on all roads in this area.

"The pipe couples advanced polypropylene resin technology with a proven, dual-wall profile design for superior performance and durability," Currence continued. "The smooth interior wall offers additional strength as well as superior flow. It meets or exceeds typical standards for pipe stiffness and joint integrity and meets ASTM F2736, ASTM F2881 and AASHTO M330 for the respective diameters. Also, this polypropylene pipe is approved for use by the Corps of Engineers for storm drainage applications under Section 33 40 00 of the Unified Facilities Guide Specifications and has been rated with a 100-year use life by the Florida Department of Transportation. It all adds up to a very strong structure that will perform for a lifetime under extreme conditions, even hurricanes."

"By restoring east/west drainage using this structure, the natural ecosystem of the Everglades will be restored while maintaining flood control as designed in the original Everglades project in 1948," Radoszewski said. "We were pleased to present the Project of the Year award to our member companies, ADS, and HD Supply Waterworks for this excellent example of the durable use of large diameter polyolefin pipe."

For more information, visit the Plastics Pipe Institute website: www.plasticpipe.org.

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About PPI:

The Plastics Pipe Institute Inc. (PPI) is the major trade association representing all segments of the plastic pipe industry and is dedicated to promoting plastics as the material of choice for pipe applications. PPI is the premier technical, engineering and industry knowledge resource publishing data for use in development and design of plastic pipe systems. Additionally, PPI collaborates with industry organizations that set standards for manufacturing practices and installation methods.