



## SECTION OF MAJOR NORTHEAST ROAD PROJECT COMPLETED

*Protecting Environment and Storm Water  
 Management Prime Concerns*

IRVING, Texas - In October 2015 the New Hampshire Department of Transportation (NHDOT) achieved the milestone of widening and reconstructing a 1.3-mile-long northbound stretch of I-93 and a 1.8 mile southbound run at Exit 2, each direction now having three lanes. Costing some \$40.9 million, this is just one portion of the 20-mile I-93 project from Salem, N.H. at the Massachusetts border to Manchester, N.H. and is one the largest projects NHDOT has ever undertaken. Additional work includes portions of I-93 and other roads, some near ponds, lakes and estuaries, will be relocated.

I-93 provides a critical link between the communities in south central New Hampshire and the greater Boston metropolitan area. When completed in 2020, the project will dramatically improve this important stretch of highway, reducing congestion and increasing safety for decades to come. This section of I-93 was built in the early 1960's to accommodate 60,000 to 70,000 vehicles per day. Projections indicate that traffic will increase to 140,000 vehicles per day in Salem by 2020, prompting NHDOT and the Federal Highway Administration (FHWA) to decide to widen the highway.

The \$795 million project will add an additional two travel lanes in each direction over the entire 20 mile-long road and improve five interchanges south of Interstate 293 to the state line. Twenty bridges will be replaced and

23 will be rehabilitated or widened. New park-and-ride facilities have already been built at Exits 2, and 5, with another planned at Exit 3.



Corrugated HDPE pipe was selected for the storm water management system along I-93 due to its long life, ease of installation and cost effectiveness.

Rebuilding I-93 is more than just a roadway and bridge construction project. NHDOT and the Federal Highway Administration (FHWA) have invested in several other concurrent initiatives including protecting the environment through wetland mitigation and by managing storm water runoff.

According to NHDOT, the water quality permits for the I-93 project require strict standards for stormwater treatment. These include pre- and post-construction monitoring, as well as no net increase in total suspended solids, phosphorous and nitrogen. I-93 is one of the first projects to implement methods for meeting these new standards.

The Interstate winds past Canobie Lake and the 302-acre Cobbetts Pond plus numerous creeks, brooks and ponds. Near Exit 2 a 7.6 acre mitigation site and nine acre-feet of floodplain mitigation at Haige Avenue has been constructed. All along I-93, storm water



collection systems will gather runoff and direct it to series of treatment areas, helping to clean the water.



I-93 runs near lakes, ponds, creeks and streams. NDOT and FHWA invested in protecting the environment through wetland mitigation and by managing storm water runoff.

For the storm water drainage system, large diameter, corrugated high-density polyethylene (HDPE) pipe provided economic and labor savings in comparison to competitive products such as reinforced concrete pipe (RCP). A total of 190,360 feet in diameters from six to 36 inches of ADS N-12® pipe, a product of Advanced Drainage Systems, Inc., (ADS) (Hilliard, Ohio) (NYSE:WMS) will be used for the entire I-93 project.

The corrugated HDPE pipe was selected based on structural and durability performance, competitive costs and its ability to withstand the corrosive nature of the soil and any containments such as salt in the runoff.

Another benefit is protecting the environment by using pipe that would last the longest time possible and would not have to be excavated and replaced in just a few years.

According to Daniel Currence, P.E., director of engineering, CPPA Division, Plastics Pipe Institute, Inc. (PPI). "This major DOT project reaffirms the features and benefits of HDPE pipe. Wetlands and lakes that abut I-93 will also be protected by the pipe's inherent ability to withstand corrosive road salts used during the long and extreme winters experienced by the area. HDPE pipe was selected because of the low cost and ease of installation. HDPE pipe is structurally sound, cost competitive, unsurpassed in abrasion and corrosion resistance, long lasting, and less intrusive to the environment. The project also demonstrates the use of HDPE pipe on high-volume thoroughfares." PPI is the major trade association representing all segments of the plastic pipe industry. ADS is a member company of PPI.

According to PPI, corrugated HDPE pipe is a flexible pipe system that performs well in both high and low cover applications. It has the ability to support and distribute live and dead loads, enabling it to meet almost every installation condition.

HDPE resin is one of the most chemically inert of all plastics and therefore provides extreme chemical and corrosion resistance. HDPE is also very resistant to abrasion. These two characteristics give corrugated polyethylene pipe a significant long-term advantage over concrete and metal pipe.

Silt tight and water tight joints enable the pipeline to provide exfiltration and infiltration protection. This ensures that communities, citizens, ground water supplies and wildlife are safer and more secure in their environment. These integral joints meet the stringent standards mandated by the EPA and comply



with ASTM International and AASHTO specifications.

Additionally, PPI has initiated a stringent third-party certification program for manufacturers of corrugated HDPE pipe and resin. The certification program tests for the material, dimensional, and physical performance properties as specified in AASHTO M294/MP7.



Work is expected to continue on I-93 until 2020. It is the largest project ever undertaken by NHDOT.

"The NHDOT I-93 project demonstrates to other Departments of Transportation how corrugated HDPE pipe can be readily used on major road expansion projects and provide substantial savings and a long-life storm water drainage system," stated Tony Radoszewski, president, PPI. "This not only benefits the DOT but also taxpayers as HDPE pipe has a long use life and is less expensive to purchase and install than traditionally used reinforced concrete and corrugated steel pipe."



The gravel wetland detention basin at NHDOT I-93 Exit 2 Park-and-Ride is just one of the BMP techniques used to treat storm water runoff all along I-93.

Additional information can be found at the Plastics Pipe Institute's website:  
[www.plasticpipe.org](http://www.plasticpipe.org).

# # #

#### **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.